



City of Morro Bay  
Water Reclamation Project

## FINAL WATER RECLAMATION FACILITY PLAN

FINAL | April 2019









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## Abbreviations

AADF	Average Annual Daily Flow
ADD	Average Daily Demand
AF	Acre-Foot
AFY	Acre-Feet per Year
AOP	Advanced Oxidation Process
AWWF	Average Wet Weather Flow
BOD	Biochemical Oxygen Demand
BOD <sub>5</sub>	5-Day Biochemical Oxygen Demand
BWRO	Brackish Water Reverse Osmosis
CCR	California Code of Regulations
CCWA	Central Coast Water Authority
cfs	Cubic feet per second
CMC	California Men's Colony
CSD	Cayucos Sanitary District
DBP	Disinfection By Product
DDW	Department of Drinking Water
DNQ	Detected, Not Quantified
DPR	Direct Potable Reuse
DWR	Department of Water Resources
EC <sub>w</sub>	Electrical Conductivity of the Water
FMP	Facility Master Plan
GIS	Geographic Information Systems
GRRP	Groundwater Replenishment Reuse Project
hcf	Hundred cubic feet
IPR	Indirect Potable Reuse
JFR	John F. Rickenbach Planning and Environmental Consulting
LWA	Larry Walker and Associates
MBCSD	City of Morro Bay & Cayucos Sanitary District
MBR	Membrane Bioreactor
MCL	Maximum Contaminant Level
MDD	Maximum Daily Demand

mg/L	Milligrams per liter
MG	Million Gallons
MGD	Million Gallons per Day
mL	Milliliter
MKN	Michael K. Nunley and Associates
MMF	Maximum Monthly Flow
MPN	Most Probable Number
ND	Non Detectable
NOV	Notice of Violation
NPDES	National Pollution Discharge Elimination System
PDF	Peak Daily Flow
PHD	Peak Hourly Demand
PHF	Peak Hour Flow
PHDWF	Peak Hourly Dry Weather Flow
PHG	Public Health Goal
ppb	Parts per million
ppm	Parts per million
PPWTP	Polonio Pass Water Treatment Plant
PSDWF	Peak Seasonal Dry Weather Flow
RO	Reverse Osmosis
RWC	Recycled Water Contribution
RWQCB	Regional Water Quality Control Board
SAR	Sodium Adsorption Ratio
SBR	Sequencing Batch Reactor
SNMP	Salt and Nutrient Management Plan
SRWS	Self-Regenerating Water Softeners
SWP	State Water Project
SWRCB	State Water Resources Control Board
SWRO	State Water Resources Control Board
TOC	Total Organic Carbon
TDS	Total Dissolved Solids
TKN	Total Kjeldahl Nitrogen

TM	Technical Memorandum
TSS	Total Suspended Solids
UV	Ultraviolet
UWMP	Urban Water Management Plan
WDR	Waste Discharge Requirements
WPA	Water Planning Areas
WRF	Water Reclamation Facility
WRFP	Water Reclamation Facility Plan
WWTP	Wastewater Treatment Plant



# FORWARD

## ES.1 Forward

This Draft Water Reclamation Facility Plan (WRFP) was originally prepared by MKN & Associated (MKN) and submitted to the State Water Resources Control Board (SWRCB) in April 2017 under the title 'City of Morro Bay Master Water Reclamation Plan, Draft March 2017'. The SWRCB determined that the report was insufficient and did not meet all required criteria to be approved. The SWRCB provided the following comments:

- The Report should be organized by chapters, sections, and subsections as appropriate. Please refer to appendix B of the WRFP guidelines. All chapters, sections, and subsections of the WRFP Report outline should be utilized; if a subsection does not apply it should be noted within the Report.
- Please follow appendix B of the WRFP guidelines to complete the Construction Finance Plan chapter.
- Please select a project alternative between the 4 project alternatives and follow appendix B of the WRFP guidelines to complete.
- The WRFP planning grants pays for facility planning reports and are not intended to pay for Master Plans. Please ensure that the final draft is written as a facility plan with the goal to build a single project as outlined in the scope of study.
- Additionally, please change the name of the report from Master Water Reclamation Plan to Water Reclamation Facility Plan as was in the City's Study application.

Since receiving the SWRCB's comments, the report has been updated by Carollo Engineers, Inc. as described below. Carollo Engineers, Inc. (Carollo) has not changed, nor takes responsibility for the technical evaluation of the recycled water project alternatives that was performed by MKN. In April 2018, Carollo was awarded a contract for Program Management of the City of Morro Bay's (City's) Water Reclamation Facility (WRF) Program. As the City's Program Manager (PM), Carollo is modifying the 'City of Morro Bay Master Water Reclamation Plan' since MKN is no longer contracted with the City.

The report title has been changed to the 'City of Morro Bay Water Reclamation Facility Plan' and focuses only on the recycled water facility and associated distribution components of the City's overall WRF Program. Additionally, the report structure has been modified slightly to adhere to the outline in the SWRCB's Appendix B of the WRFP guidelines.

A recommended recycled water project alternative was not clearly identified in the previous version of this report. An entire chapter, Chapter 8, has been added which describes the recommended recycled water project, the associated project components, location, and costs. The recommended project is to implement indirect potable reuse (IPR). There are two identified project alternatives – Alternatives 3 and 4 – which include IPR and differ only in the location of the injection site. Therefore, until additional hydrogeological studies are performed to identify the best injection location, both of these alternatives are considered recommended alternatives. Cost estimates for the recommended recycled water project in Chapter 8 differ from those provided in Chapter 7, the Project Alternatives Analysis, as they were updated to reflect actual bid estimates obtained during the procurement of the design-build that will construct the new secondary and advanced treatment facilities at the South Bay Boulevard site.



Additionally, the State requested that the Construction Finance Plan chapter (Chapter 9) be updated to follow the WRF guidelines. This chapter has been updated and a financing plan has been developed specific to the recycled water project. Previously, costs for the overall WRF Program were provided which not only included costs associated with the proposed recycled water project, but also of the WRF lift station, pipelines, and secondary treatment facilities.

## Chapter 1

# INTRODUCTION

### 1.1 Purpose and Scope

Michael K. Nunley & Associates Inc. (MKN) was selected by the City of Morro Bay (City) to prepare a Water Reclamation Facility Plan (WRFP) with partial funding being provided through the State Water Resource Control Board (SWRCB) Recycled Water Planning Grant Program. This WRFP follows the suggested outline identified in Appendix B of the "Water Recycling Funding Program Guidelines" amended June 16, 2015 and prepared by California State Water Resources Control Board. The scope of services for this project included the following work:

- Review existing and future water demands and wastewater flows
- Summarize existing wastewater influent and effluent quality characteristics
- Identify opportunities and project alternatives for recycled water use in the community
- Assess the treatment requirements for the future water reclamation facility for the project alternatives
- Describe water recycling and potable water supply alternatives evaluated
- Perform a market assessment and assess user requirements
- Perform alternatives analysis, including quantitative and qualitative benefits, facilities needed for each project, and comparative preliminary cost estimates
- Select recommended project and provide further development and evaluation
- Evaluate the recommended project for effect on physical, biological, social and economic factors (environmental checklist), and for potential legal and institutional issues
- Develop construction financing plan

### 1.2 Data Collection and Review

The data collection and review effort involved working with City staff to collect the following information:

- Existing water supply permit from California State Water Resources Control Board, Division of Drinking Water
- Consumer Confidence Reports for the last five years
- Wastewater Treatment Plant (WWTP) influent, effluent, and receiving water monitoring results
- City water billing and production data, including State Water deliveries
- Current City Geographic Information Systems (GIS) data
- Central Coast Water Authority Information Concerning City of Morro Bay
- Past cost of water analyses

The following reports, studies, and other material were reviewed during preparation of this Recycled Water Study.

1. City of Morro Bay Cayucos Sanitary District WWTP NPDES Permit No. CA0047881 Order No. R3-2008-0065
2. San Luis Obispo County Master Water Report (Carollo Engineers, May 2012)
3. 2012 Recycled Water Feasibility Study Prepared for the City of Morro Bay and Cayucos Sanitary District Wastewater Treatment Plant Upgrade Project (Dudek, 2012)
4. Water Quality Control Plan for Ocean Waters of California (State Water Resources Control Board California Environmental Protection Agency, 2012)
5. Morro Bay New Water Reclamation Facility – Water Reuse Opportunities (MKN, Draft May 2014)
6. Regulatory Implications of Discharge Options for the Future City of Morro Bay Water Reclamation Facility (Larry Walker & Associates, October 2014)
7. Hydrologic evaluation of the potential benefits to the City water supply from increasing wastewater discharge to Chorro Creek, San Luis Obispo County (Cleath-Harris Geologists, Inc., November, 2014)
8. Central Coast Water Authority 2015 Urban Water Management Plan (Central Coast Water Authority, 2015)
9. City of Morro Bay Water & Sewer Rate Studies (Bartle Wells Associates, May 2015)
10. Morro Bay Water Reclamation Facility Project Status of Salinity Source Identification and Control Plan (MKN, January 2016)
11. Water Quality Control Plan for the Central Coast Basin (Regional Water Quality Control Board Central Coast Region, March 2016)
12. City of Morro Bay 2015 Urban Water Management Plan (MNS Engineers, July 2016)
13. City of Morro Bay Salinity Control Program Development (Larry Walker & Associates, July 2016)
14. Effluent Disposal Feasibility Alternatives Study (GSI Water Solutions, July 2016)
15. Assessment of the Hydrogeologic Characteristics of the Chorro Valley (GSI Water Solutions, Inc., August 2016)
16. City of Morro Bay Draft Water Reclamation Facility Master Plan (Black & Veatch, November 2016)
17. Draft Lower Morro Valley Basin Screening-Level Groundwater Modeling for Injection Feasibility (GSI Water Solutions, Inc., January 2017)
18. OneWater Morro Bay Plan (Carollo, October 2018)
19. Draft Financial Plan and Rate Analysis for a New Water Reclamation Facility (Bartle Wells Associates, July 2018)

### 1.3 Recycled Water Market and Community Goals

The City's proposed Water Reclamation Facility (WRF) Project could provide recycled water to customers within the Morro Bay service area for a number of uses, including urban irrigation, commercial uses, agricultural irrigation, and to augment groundwater supplies if feasible. The proposed WRF was analyzed in the Black & Veatch November 2016 Draft Facilities Master Plan (FMP). The components included in the Draft FMP included the WRF, conveyance facilities, and offsite recycled water facilities. This WRFP provides a more detailed analysis of the recycled water facilities component of the FMP. This WRFP will investigate requirements for recycled water usage in the area and identify the best possible alternative for recycled water usage.

The City Council's Community Goals for the WRF include:

- Produce tertiary, disinfected water in accordance with Title 22 requirements for unrestricted urban irrigation in a cost effective manner for all ratepayers
- Design to be able to produce reclaimed wastewater for potential users, which could include public and private landscape areas, agriculture, or groundwater recharge. A water reclamation facility plan should include a construction schedule and a plan for bringing on recycled water customers in a cost effective manner.
- Allow for onsite composting.
- Design for energy recovery
- Design to treat contaminants of emerging concern in the future.
- Design to allow for other possible municipal functions, i.e. City Corporation Yard on site, as well as other uses such as a public park and education center.
- Ensure compatibility with neighboring land uses.
- Have a new WRF operational within five years.

These goals establish a minimum effluent quality for the WRF and indicate the WRF will be designed to be able to produce reclaimed wastewater. Table 1-1 lists the community goals and how they relate to the WRF and recycled water projects. The market analysis and alternatives assessment will review previously identified recycled water opportunities, investigate additional potential opportunities (including utilizing recycled water in lieu of imported water for irrigation and/or commercial uses, and environmental uses), develop conceptual projects, and compare the conceptual projects using qualitative and quantitative criteria to identify the recommended project.

Table 1-1 WRF Project Community Goals

Community Goal	Applicability for WRF	Applicability for Recycled Water
Produce tertiary disinfected recycled water	WRF project is to be designed accordingly	Allows for multitude of recycled water uses and provides basis for advanced treatment
Produce reclaimed wastewater cost-effectively	Draft FMP considered costs in treatment evaluation	Project alternative assessment will include capital and operating costs and consider total amount of recycled water produced
Allow for onsite composting	Reviewed as part of Draft FMP. Onsite composting is not recommended, regional facility composting will be more cost effective and more compatible for neighbors	Not Applicable
Design for energy recovery	Draft FMP considered energy recovery for WRF	Project alternatives analysis will consider energy usage
Design to treat for contaminants of emerging concern (CECs)	Draft FMP included consideration in treatment evaluation	Advanced treatment would provide additional treatment for CECs
Allow for other municipal uses	Draft FMP considered for WRF site planning	Not Applicable
Ensure compatibility with neighboring land uses	Draft FMP considered for WRF site planning	Consideration for major infrastructure siting
Operational WRF within five years	WRF project is on schedule	Project alternatives analysis will consider potential challenges that could delay the project.



## Chapter 2

# STUDY AREA CHARACTERISTICS

This chapter provides an overview of the City's existing and future population's estimates, land uses, and hydrologic conditions.

### 2.1 Service Area

The City of Morro Bay is a coastal City along Highway 1 located in western San Luis Obispo County. The City provides water treatment and distribution, as well as wastewater collection, treatment, and disposal services to residential and commercial customers within their service area. According to the 2015 City of Morro Bay Water and Sewer Rate Studies ("Rate Study", Bartle Wells Associates, May, 2015) the City currently provides 5,424 residential units, including 11 outside the City limits under legacy agreements, and 341 commercial units with water supply, treatment and distribution services and approximately 5,468 residential and 494 commercial units with wastewater collection and disposal services. The water and wastewater treatment facilities and service area are shown in **Figure 2-1**. The potential WRF location is currently outside the City limits and service area. The City is considering annexation of the property, in which case permitting would occur through the City. If the property is not annexed, permitting would be performed through the San Luis Obispo County's process. The City's General Plan Update, currently underway, will consider the proposed WRF property.

### 2.2 Population

The City of Morro Bay is a general law city with a potential buildout population of 12,200. According to the Rate Study, there are currently 4,200 single family dwellings, 308 condominiums, and 960 multi-family dwellings (Bartle Wells Associates, 2015). **Table 2-1** provides a summary of the estimated existing population served by the City. The City also has a high vacancy rate of 23.2 percent, which suggests many homes are vacation rentals with inconsistent occupation throughout the year.

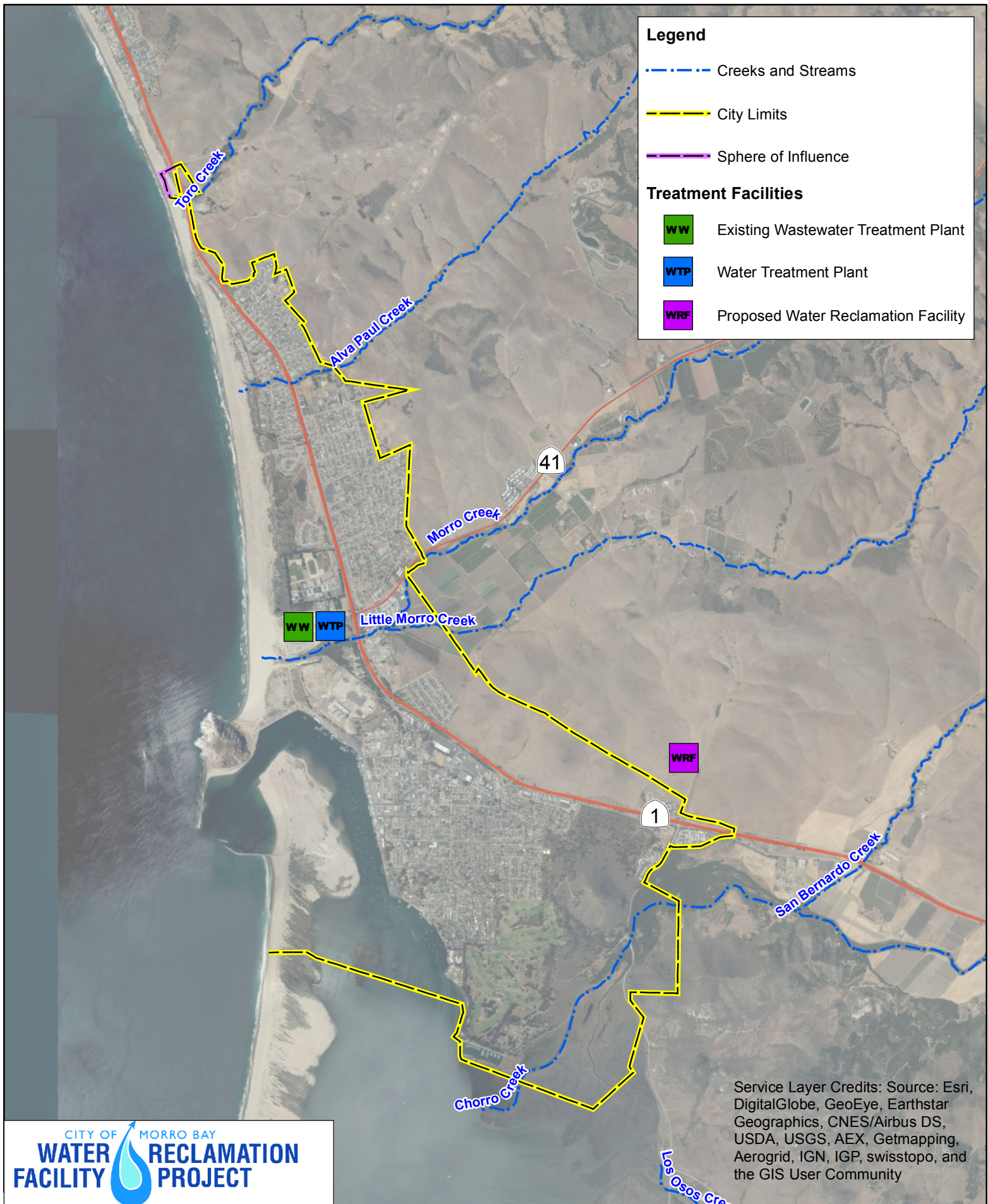
Table 2.1 Estimated Existing Population

Customer Base	Number of Residential Units	Estimated Population
Water	5,424	10,244
Wastewater	5,468	10,224

The Draft FMP for the WRF provided a population projection up to the year 2040 for the City's influent wastewater characteristics, flow projections, and effluent discharge requirements. Current and projected populations are listed in **Table 2-2** (Black and Veatch, November 2016) It is important to note that while vacancy rate is high, the occupancy of these homes is accounted for in the population projections.

Table 2.2    Current and Projected Population for Morro Bay

2015	2020	2025	2030	2035	2040
10,284	10,606	10,939	11,282	11,636	12,200





## 2.3 Land Use

The City's service area includes a variety of land uses. Table 2-3 and Figure 2-2 provide an overview of the existing land uses based on the City's available Geographic Information Systems (GIS) data. The City's 1988 General Plan is currently being updated.

Table 2.3 Land Use Categories within City's Service Area

Land Use	Acres
Agriculture	174.1
Coastal Development	99.6
Commercial / Recreational Fishing	20.2
District	79.9
Environmentally Sensitive Habitat	813.6
General (Light)	74.8
Harbor / Navigational Ways	402.9
High Density	51.7
High Density	51.7
Low Density	147.7
Medium Density	274.3
Medium Density / Neighborhood Commercial	10.7
Mixed Use	179.0
Mixed Uses (Harbor)	11.6
Moderate Density	504.5
Open Space / Recreation	797.6
Service	21.9
Visitor Serving	74.3
Total	3790.2

Based on review of the City's historical growth, it is assumed that the existing overall land use pattern is likely to stay similar in the future.

## 2.4 Hydrologic Features

The County of San Luis Obispo Master Water Report (Carollo, May 2012) divides the County of San Luis Obispo into three sub-regions: North Coast, South Coast, and Inland; and 16 Water Planning Areas (WPA) to collect, organize and summarize information for existing/future water sources, supplies and demands for water purveyors throughout the County. The WPAs were delineated based on existing watershed boundaries, groundwater basin boundaries, urban growth boundaries and water supplies. The City is located within Morro Bay WPA 4 (North Coast Sub-Region). The City lies over two groundwater basins: Chorro Valley and Morro Valley. Both groundwater basins have been classified as shallow alluvial basins.

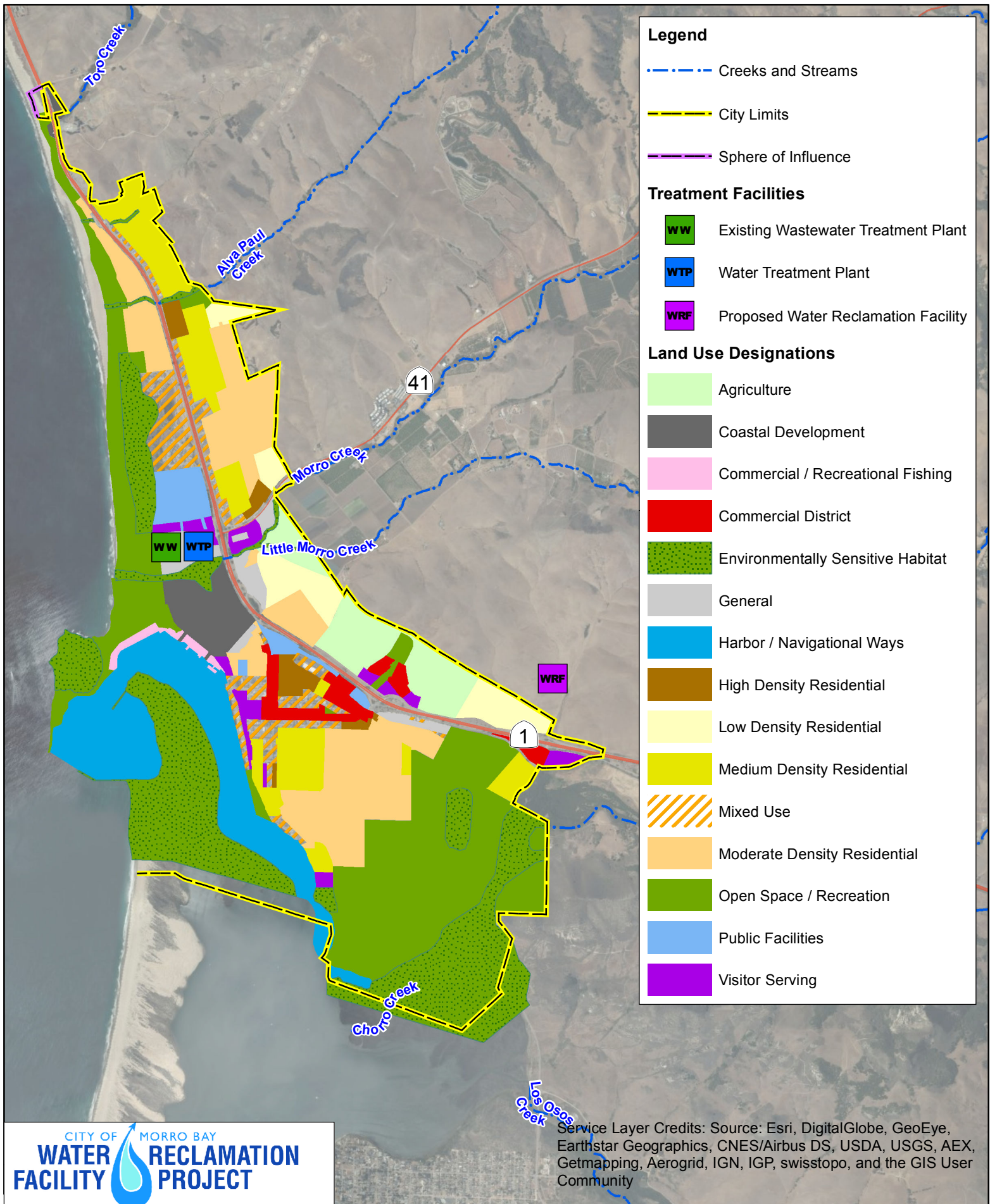
Treated effluent from the City's wastewater treatment system is discharged 2,900 feet offshore to Estero Bay and henceforth the Pacific Ocean.

Known beneficial uses of Estero Bay per the Water Quality Control Plans for Ocean Waters of California (the Ocean Plan) and Central Coast Basin (the Basin Plan) are as follows:

- Industrial Water Supply (IND).
- Water Contact and Non-Contact Recreation, including Aesthetic Enjoyment (Ocean Plan REC, Basin Plan REC-1 and REC-2).
- Navigation (NAV).
- Commercial and Sport Fishing (COMM).
- Mariculture (MARI).
- Preservation and Enhancement of Designated Areas of Special Biological Significance (ASBS).
- Rare and Endangered Species (RARE).
- Marine Habitat (MAR).
- Fish Migration (MIGR).
- Fish Spawning and Shellfish Harvesting (Ocean Plan SPWN, Basin Plan SHELL).

**Figure 2-3** and **Figure 2-4** provide an overview of the topography and hydrologic features within and adjacent to the City's service area. Additional information about the City's water supply and water quality is included in Chapter 3 of this report.





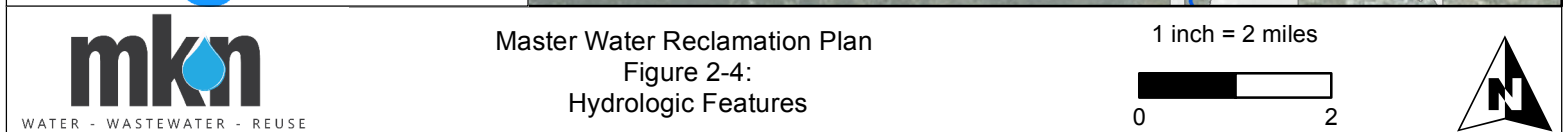














## Chapter 3

# WATER SUPPLY CHARACTERISTICS

This chapter provides an overview of the water supply, water quality, and existing and future projected water demands within the District's service area.

### 3.1 Water Supply

The City of Morro Bay provides water services to City residents and other users. The City water supply currently consists of an appropriative permit to withdraw water from two local groundwater basins (associated with Morro Creek and Chorro Creek) and water imported by the State Water Project (SWP). The City also has the capability to supplement water supply with a seawater and brackish groundwater desalination facility.

#### 3.1.1 State Water Project

According to the City's 2015 Water Quality Consumer Confidence Report, in 2014, 87 percent of the City's water was supplied by the SWP and the remaining 13 percent was supplied via groundwater treated at the City's Brackish Groundwater Desalination Plant. The City is entitled to 1,313 acre-feet per year (AFY) of State Water from the County of San Luis Obispo, plus an additional 174 percent "drought buffer" to ensure reliability during drought years. This additional drought buffer ensures that the City receives its full allowance of 1,313 AFY when the SWP deliveries are reduced to 36.5 percent due to drought conditions. In years of minimal delivery, which has been as low as 5 percent allocation from the SWP, the City receives 216 AFY. In order to satisfy demand, water is made up from SWP water in storage at San Luis Reservoir and treated local groundwater.

#### 3.1.2 Groundwater

Prior to the SWP, the City relied on groundwater from the Morro Valley and Chorro Valley Groundwater Basins for its primary source of water. These basins are shallow alluvial basins that behave similar to an underground stream. Rainfall in the watershed percolates into the ground and flows underground to the ocean. Currently, approximately 13 percent of the City's water supply is provided from the Morro Valley Groundwater Basin. The Chorro Valley Groundwater Basin serves as a secondary source of groundwater, but currently there is no infrastructure in place to treat this groundwater.

Use of groundwater resources is controlled by the State Water Resources Control Board (SWRCB). In 1972, the SWRCB issued findings that the Chorro Valley and Morro Valley Groundwater Basins are supplied by riparian underflow. The City of Morro Bay applied for appropriative water rights and the SWRCB approved rights in 1995 for withdrawal of up to 1723.5 AFY of groundwater. The City is allowed an instantaneous withdrawal of up to 1.2 cubic feet per second (cfs) and annual withdrawal of 581 AFY from the Morro Valley Groundwater Basin and up to 3.171 cfs and 1,142.5 AFY from Chorro Creek underflow. In accordance with the SWRCB permits, the City may pump up to only 1,150 AFY in severe drought years. Pumping from the Chorro Valley Groundwater Basin is limited to times when Chorro Creek has a minimum flow



rate of 1.4 cfs. Due to their relatively small size and number of users, the groundwater basins can reach overdraft conditions during droughts.

Both the Morro Valley and the Chorro Valley Groundwater Basin are high in nitrate due to the agricultural industry's over-application of nitrogen fertilizers within the watershed. Because of this contamination, the water must be treated by blending or processing through the City's brackish water reverse osmosis treatment system co-located at the City's desalination plant. Additionally, pumping may be limited when groundwater from both basins can exceed the primary drinking water standard for nitrate.

Groundwater pumped from the Morro Valley is treated at the City's Brackish Water Desalination Plant before it is sent to a storage tank prior to distribution. As mentioned, there is currently no infrastructure in place to treat Chorro Valley groundwater.

### **3.1.3 Seawater**

In the event of a drought, SWP supply reductions, or service outages, seawater can be treated in Morro Bay's desalination plant and provide a backup and emergency water supply. The desalination plant can produce up to 645 AFY, although this amount has never been produced due to influent water quality issues and the high treatment operating expenses.

## **3.2 Water Production Facilities**

As previously stated, the City receives the majority of its potable water from the SWP. The water delivered is diverted from the California Aqueduct through the Coastal Branch Extension where it is treated at the Central Coast Water Authority (CCWA) operated Polonio Pass Water Treatment Plant (PPWTP). Morro Bay receives the treated water from PPWTP via the Chorro Valley Pipeline.

Morro Bay's desalination plant, originally constructed in 1992, was intended to provide desalinated seawater in a drought emergency. The desalination treatment train is served from five seawater wells. The treatment system can produce up to 645 AFY, but has never produced this amount of water because of influent water quality issues and the expense of operating the treatment system. Seawater intake wells are currently being evaluated for well capacities. The plant served as a primary source of water for a few months in 2010 and currently is used on a very limited basis. In case of SWP supply reductions or service outages, the plant provides a backup and emergency water supply.

In 2009, the City expanded the desalination plant to treat brackish groundwater. Groundwater from the Morro Valley groundwater basin that is pumped by the City is treated at the Brackish Water Reverse Osmosis (BWRO) plant. Chorro Valley groundwater cannot currently be treated at the BWRO facility. Groundwater in the Morro Valley and Chorro Valley basins can exceed primary drinking water standard for nitrates and is also high in total dissolved solids. The location of the wellfields make them potentially susceptible to seawater intrusion. The BWRO plant treatment train can produce up to 581 AFY, enough to treat the annual permitted allowance from the Morro Valley basin. The facility can currently only operate one treatment process (seawater reverse osmosis (SWRO) or BWRO) at a time, but the City may pursue upgrades to be able to bring both systems online simultaneously. In the future, planned upgrades could allow the plant to produce water at a rate of 1350 GPM from both supplies.

**Figure 3-1** summarizes the various City water sources and how they are treated.

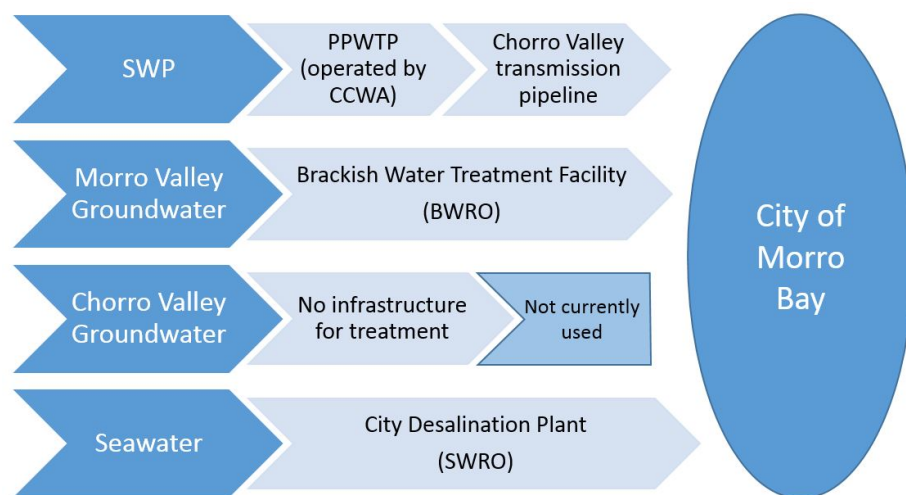


Figure 3-1 City Water Sources and Treatment

### 3.3 Water Distribution System and Storage

The City's distribution system consists of approximately 72 miles of pipeline ranging from 1-inch to 16-inches in diameter, the majority being 8-inch diameter. Currently the city has no recycled water distribution pipelines.

Water distribution systems rely on stored water to help equalize daily fluctuations between supply and demand, to supply sufficient water for firefighting, and to meet demands during an emergency or an unplanned outage of a major source of supply. The City currently has ten active treated water reservoirs at five different sites totaling 3.25 million gallons (MG) of water storage. Based on hydraulic modeling analysis of the existing storage capacity performed for the 2018 OneWater Morro Bay Plan, there is currently a City-wide storage capacity of approximately 0.4 MG (Carollo, 2018). However, the modeling analysis showed that some zones within the City have storage deficiencies and/or have aging storage tanks that require upgrades or need to be replaced. The 2018 OneWater Morro Bay Plan recommends that two City storage tanks be replaced to ensure sufficient capacity to meet the projected 2040 water demands.

### 3.4 Water Quality

The City receives SWP water through the California Aqueduct diverted to the Coastal Branch Extension. The water is treated at the PPWTP before a portion flows through the Chorro Valley Pipeline to Morro Bay. Groundwater pumped from the Morro Valley basin by the City is treated through the BWRO plant. The City does not currently have the infrastructure (pipelines or treatment facilities) to treat groundwater from the Chorro Valley basin.

All drinking water must be in compliance with the following California Title 22 Code of Regulations, among other state and federal standards and requirements, including:

- Total Coliform Rule
- Lead and Copper Rule
- Safe Drinking Water Act

- Primary Drinking Water Standards
- Secondary Drinking Water Standards
- Stage 2 Disinfection Byproducts Rule

Groundwater aquifers in the area are vulnerable to seawater intrusion during dry periods and are subject to impacts from regional and agricultural operations, namely increased nitrate concentrations. The groundwater wells in the Morro Valley and Chorro Valley basins have experienced elevated levels of salinity during dry periods, with total dissolved solids (TDS) levels as high as 4,000 milligrams per liter (mg/L). The Morro Valley wells experience elevated nitrate concentrations as high as 110 mg/L as nitrate. The City's BWRO plant is designed to remove TDS and nitrate from groundwater pumped out of the Morro Valley groundwater basin. Water entering the plant is run through cartridge filters before entering reverse osmosis treatment. Permeate from the reverse osmosis process is remineralized through calcium carbonate contact to reduce corrosivity and is disinfected and sent to the distribution system. Concentrate is discharged to an ocean outfall separate from the existing WWTP outfall.

It is important to note that SWP water delivered to Morro Bay has seen an increase in TDS concentrations in recent history. In 2011, the average TDS concentration was 190 mg/L, in 2013 the concentration was 336 mg/L, and in 2014 the concentration was 428 mg/L. As the drought has reduced available water supply, water from lower elevations in SWP reservoirs, which tend to have higher salt concentrations, has been delivered. Increased salinity in source water results in increased salinity in the City's wastewater effluent, as conventional wastewater treatment technologies do not address salinity. Recycled water with high salinity content has limited uses, and would need further treatment to increase opportunities for reuse.

**Table 3-1** below provides a summary of the City's historical water quality monitoring data from 2011 through 2015 as reported in the City's annual consumer confidence reports. During this time period the City drinking water was not in violation at any time other than missing a sampling deadline in 2014 for Hexavalent Chromium. The City had sampled for this constituent before the State of California issued a Maximum Contaminant Level (MCL) in July of 2014, but the previous testing missed the cut-off by a few months. The testing done in February 2014 yielded results well below the detection level of 10 parts per billion (ppb).



Table 3-1    Historical Water Quality Results

Primary Drinking Water Standards												
Constituent	Maximum Contaminant Level (MCL)	Public Health Goal (PHG)	Maximum Level Detected									
			SWP 2011	Well 2011 <sup>1,2</sup>	SWP 2012	Well 2012 <sup>2</sup>	SWP 2013	Well 2013 <sup>1,2</sup>	SWP 2014	Well 2014 <sup>1,2</sup>	SWP 2015	Well 2015 <sup>1,2</sup>
Aluminum (ppm)	1	0.6	130	ND	0.12	0.01	0.15	0.01	0.069	0.01	0.11	0.01
Barium (mg/l)	1	2	ND	100	ND	0.128	ND	0.128	ND	0.128	ND	3.24
Fluoride (ppm)	2	1	ND	0.3	ND	0.2	ND	0.2	ND	0.2	ND	0.3
Nickel (ppb)	100	12			ND	10	ND	10	ND	10	ND	8
Nitrate (as Nitrogen) (ppm)	10	10	0.41	20.34	0.48	36.09	ND	37.41	0.08	36.09	0.43	35.70
Selenium (ppb)	50	30	ND	0.012	ND	13	ND	13	ND	13	ND	19
Secondary Drinking Water Standards												
Chloride (ppm)	500	n/a	78	64	146	162	136	162	170	162	205	1480
Color	300	n/a	ND	20	ND	ND	ND	ND	ND	ND		
Manganese (ppb)	50	n/a	ND	20					ND	NA	ND	30
Specific Conductance (microohms)	1600	n/a	467	1080	706	1490	715	1490	969	1490	1160	5050
Sulfate	500	n/a	38	93.9	71	121	36	121	120	121	97	149
Total Dissolved Solids (ppm)	1000	n/a	277	637	417	910	423	910	572	910	708	2870
Turbidity	5	n/a	0.1	11.2	0.1	1	0.17	1	0.11	1	0.14	11.7
Secondary Drinking Water Standards (Unregulated)												
Hardness (ppm)	None	None	96	533	156	585	15	585	182	585	206	1800
Sodium (ppm)	None	None	32	48.7	62	94	42	94	130	94	84	317
Total Coliform Rule, Sampled from Distribution System												
Fecal Coliform	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or E. coli	0								No Exceedance		No Exceedance
Total Coliform Bacteria	More than 1 sample in a month with detection	0								No Exceedance		No Exceedance



Table 3-1    Historical Water Quality Results (continued)

Primary Drinking Water Standards								
Lead and Copper Rule, Sampled from Tap Water Throughout Distribution System, 90th Percentile								
Copper (ppm)	1.3 (Regulatory Action Level)	0.3	0.18	0.13	0.13	0.13	0.13	0.12
Lead (ppb)	15 (Regulatory Action Level	0.2	11	3.4	3.4	3.4	3.4	6.7
Stage 2 Disinfection Byproducts Rule, sampled from Distribution System								
Chloramines (as Cl2) (ppm)	4	4	2.2	2.2	2.2	2.2	2.2	2.2
Haloacetic Acids (HAA5) (ppb)	60	n/a	28	19	22	13	13	17
Total Trihalomethanes (TTHM) (ppb)	80	n/a	33	59.1	63.7	61.2	61.2	69.3

Notes:  
ND = Non detect, sampling from Well water is from 2012.  
(1) Well Water results are from previous year.  
(2) Sampling from raw water prior to treatment or blending.  
(3) Tap water samples collected from homes throughout system, 90<sup>th</sup> percentile.



### 3.5 Historical Water Demand

Metered water usage is outlined in both the City's Urban Water Management Plan ("UWMP", MNS Engineers, July 2016) and the 2015 Morro Bay Rate Study. **Table 3-2** and **Table 3-3** detail the historical water produced and metered usage. Due to conservation efforts mandated by the State of California, demand has decreased in recent years.

Table 3-2 Historical Water Production

Year	Chorro Valley Basin	Morro Valley Basin	SWRO and BWRO	State Water	Total
2006	257	80	25	1009	1371
2007	276	35	19	1116	1446
2008	184	52	28	1175	1439
2009	235	80	64	1069	1448
2010	74	54	258	873	1259
2011	18	101	84	1144	1347
2012	Sampling water for testing only	109	70	1130	1310
2013		151	107	1139	1397
2014		59	41	1140	1240
2015			138	950	1088

Table 3-3 Historical Water Use (Acre Feet)

Residential	2009	2010	2011	2012	2013	2014
Single Family	615.8	583.1	603.6	615.4	624.7	410.0
Single Family Condo	19.7	21.8	22.6	22.9	22.9	14.5
Multi-Family	104.3	99.3	100.5	102.9	101.7	66.3
Single Family- outside city	0.7	0.6	0.4	1.7	1.5	0.9
<b>Non Residential</b>	<b>511.4</b>	<b>549.4</b>	<b>439.7</b>	<b>419.3</b>	<b>434.5</b>	<b>291.4</b>
Total	1,251.9	1,254.3	1,166.8	1,162.1	1,185.2	783.0

### 3.6 Existing Water Demands

The City's UWMP included details on existing water demands in 2015. These details are shown in **Table 3-4**. Use of "Vacant Land", "Industrial", and "Hydrant Flushing/Testing" were less than 1 acre-foot (AF) and not included in this summary table. Based on the potable and raw water demands in 2015, the average daily demand (ADD) was determined to be 0.96 million gallons per day (MGD).

Table 3-4 Potable and Raw Water Demand in 2015 (Acre Feet)

Use Type	Volume
Single-Family	562
Multi-Family	128
Commercial	250
Institutional/Governmental	97
Losses	97
Total	1,074

### 3.7 Future Water Demands

Based on future population projections, the City prepared a Rate Study in 2015 for water and wastewater users in order to evaluate necessary customer rates to avoid deficit. **Table 3-5** presents the projected potable and raw water demands from the City's UWMP, which were used in the Rate Study to help determine future billing rates.

Table 3-5 Projected Demand for Potable and Raw water (Acre Feet)

Use Type	2020	2025	2030	2035	2040
Single Family	683	699	718	738	759
Multi-Family	156	159	164	168	173
Commercial	304	311	320	328	337
Institutional/Government	118	121	124	127	131
Losses	37	37	37	37	37
Total	1,298	1,327	1,363	1,398	1,437

Notes:

Projected use was scaled from 2013 demands based on future population projections relative to 2015 population.

### 3.8 Water Production Costs

The City's water production costs vary depending on the source. SWP costs are based on the City's contract with CCWA. The City's contract has take-or-pay stipulations which make it financially desirable to maximize use of State Water. According to City staff, the City will spend approximately \$2,400,000 for 1,140 acre-feet of State Water in 2016/2017, which amounts to \$2,100 per acre-foot. It is anticipated that State Water costs will increase due to inflation and additional infrastructure projects related to the State Water Project.

City staff estimate the cost for seawater desalination is estimated at \$1,600/AF, which includes extraction of water through the seawater wells and treatment through the SWRO system. Total cost for extraction and treatment of Morro Valley groundwater is approximately \$1,000/AF.

Table 3-6 Comparison of Water Production Costs by Source

Source	Current Estimated Cost (\$ per AF)
State Water Project	2,100
Seawater Desalination	1,600
Morro Valley Groundwater	1,000

## Chapter 4

# WASTEWATER CHARACTERISTICS AND FACILITIES

This chapter provides an overview of the existing wastewater treatment and disposal systems and effluent water quality requirements, the anticipated new WRF treatment facilities, existing and future wastewater flows, and historical influent water quality.

### 4.1 Description of Existing Facilities

The City and the Cayucos Sanitary District (CSD). The existing WWTP operates under a 301(h) modified National Pollutant Discharge Elimination System (NPDES) permit, which waives full secondary treatment requirements for biochemical oxygen demand and total suspended solids. The City's NPDES permit allows discharge of treated wastewater into Estero Bay through an ocean outfall/diffuser 2,900 feet offshore, which is owned by both the City and CSD. The City and CSD reached a settlement agreement with the Regional Water Quality Control Board (RWQCB) to upgrade the jointly-owned WWTP to full secondary treatment in anticipation of losing the 301(h) waiver for ocean discharge. The agreement allowed the City and District to pursue secondary treatment on a schedule that was mutually agreed upon by both agencies and the RWQCB. The proposed upgraded facility at the current WWTP location was denied a Coastal Development Permit by the California Coastal Commission for various reasons including a failure to avoid coastal hazards such as tsunamis, location within a designated sensitive view area, and failure to include a sizable recycled water component. Since then, both the City and CSD have independently investigated possibilities for WRFs. The existing treatment processes at the WWTP include:

Liquid treatment processes:

- Headworks fine screening.
- Grit removal.
- Primary clarifiers.
- Trickling filters.
- Secondary clarifiers.
- Disinfection (sodium hypochlorite.)

Solids treatment processes:

- Anaerobic digestion.
- Drying beds and on-site composting.

A process flow diagram illustrating the existing wastewater treatment technology can be seen below in Figure 4-1.

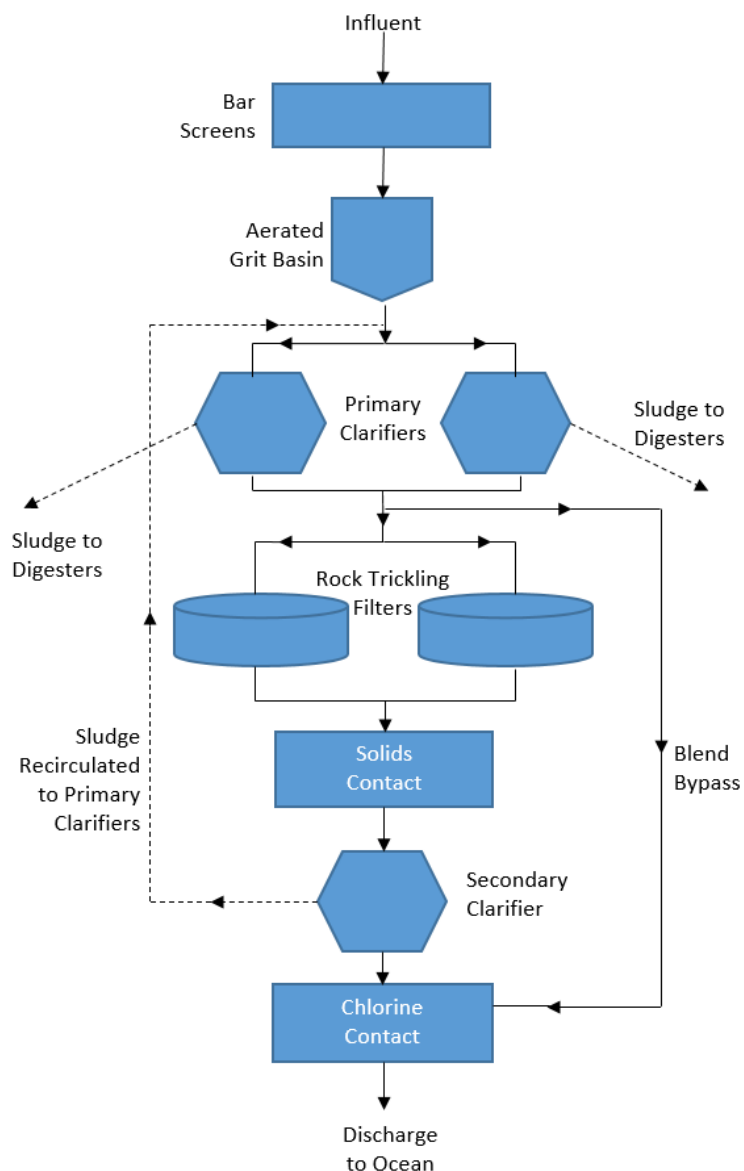


Figure 4-1 Existing City WWTP Treatment Train

## 4.2 Existing Effluent Limitations and Discharge Requirements

As of March 2017, when this report was initially submitted to the SWRCS, the City's WWTP discharge was permitted through the California RWQCB with Waste Discharge Requirements (WDR) Order No. R3-2008-0065 / NPDES Permit CA0047881 with full secondary treatment requirements for BOD<sub>5</sub> and total suspended solids (TSS) waived by a Clean Water Act Section 301 (h) waiver. The permit authorized discharge of up to 2.36 MGD of treated wastewater on an average monthly basis to a 27-inch diameter ocean outfall ending in a 170-foot-long diffuser designed to achieve the required minimum dilution of 133 parts seawater for every part effluent. The diffuser is located 2,900 feet offshore under 50 feet of water.

Effluent limitations for total suspended solids (TSS), 5-day biochemical oxygen demand (BOD<sub>5</sub>) and other monitored constituents are listed in Table 4-1. The Permit required removal, as a



30 day average, of at least 75 percent of suspended solids and 30 percent of biochemical oxygen demand. The Permit also required effluent pH to remain within 6.0 and 9.0 at all times. Effluent pH has been monitored daily since 1993, and has never gone below 6.9 or above 8.2.

Table 4-1 Effluent Discharge Requirements for Selected Pollutants

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instant Minimum	Instant Maximum	6-Month Median
5-day BOD	mg/L	120			180		
	lb/d	2,062			3,092		
	% removal	30					
Suspended Solids	mg/L	70			105		
	lb/d	1,203			1,804		
	% removal	75					
Grease and Oil	mg/L	25	40		75		
	lb/d	430	687		1,288		
Settleable Solids	ml/L	1.0	1.5		3.0		
Turbidity	NTU	75	100		225		
pH	S.U.			6.0 - 9.0 at all times			
Ammonia	mg-N/L			322		804	80.4
Total Residual Chlorine	ug/L			1.07		8.04	0.27
	lb/d						
Chronic Toxicity	TUc			134			

Notes:

- (1) BOD = biological oxygen demand
- (2) mg/L = milligrams per liter
- (3) lb/d = pounds per day
- (4) ml/L = milliliters per liter
- (5) NTU = nephelometric turbidity unit
- (6) mg-N/L = milligrams as nitrogen per liter
- (7) ug/L = microgram per liter
- (8) TUc = chronic toxicity unit

In addition to the limits noted in the table above, the NPDES permit includes discharge limits for metals, cyanide, phenolic compounds, endosulfan, endrin, hexachlorocyclohexane, and radioactivity for the protection of marine aquatic life; and limits for carcinogens and non-carcinogens, regulated for the protection of human health.

The Permit also designates that the effluent must be essentially free of:

- Material that is floatable or will become floatable upon discharge.
- Substances that may form sediments or settleable material which will degrade aquatic life or benthic communities.
- Substances that will accumulate to toxic levels in marine waters, sediments, or biota.
- Substances that significantly decrease natural light available to benthic communities.
- Materials that result in undesirable discoloration of the ocean surface.

In December 2017, the City received a new NPDES permit and WDR for the WRF and the ocean outfall (WDR Order No. R3-2017-0050 / NPDES Permit CA0047881). The new permit for ocean discharge requires full secondary treatment. In June 2018, the City also received Time Schedule Order (TSO) No. R3-2018-0019 requiring compliance with the current WDR by February 28, 2023.

New effluent limitations for total suspended solids (TSS) and 5-day biochemical oxygen demand (BOD<sub>5</sub>) are listed in Table 4-2. The Permit required removal, as a 30 day average, of at least 85 percent of suspended solids and 85 percent of biochemical oxygen demand.

Table 4-2 New Effluent Discharge Requirements for Selected Pollutants

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Monthly	Average Monthly
5-day BOD	mg/L	30	45	
	lb/d	515	773	
	% removal	85		
Suspended Solids	mg/L	30	45	
	lb/d	515	773	
	% removal	85		

Notes:

- (1) BOD = biological oxygen demand
- (2) mg/L = milligrams per liter
- (3) lb/d = pounds per day

## 4.3 Wastewater Treatment Plant Flows

### 4.3.1 Wastewater Flow Conditions

The Draft FMP reviews past studies, historical population, and flow and water quality data from the existing WWTP to provide baseline information and develop sizing criteria for the new WRF. Historical flows from the 2007 Facility Master Plan and the 2010 Facility Master Plan were reviewed and compared, and an independent analysis of historical flow data from 1995 through 2014 was performed. The flow conditions used to prepare preliminary design criteria for the WRF project as presented in the draft FMP are defined below.

### 4.3.2 Average Annual Daily Flow (AADF)

AADF is the average daily wastewater flow over the course of a year and is generally obtained by averaging the flows conveyed to a WWTP. The AADF was determined using annual average flows for 2002-2014. The existing AADF is estimated at 0.84 MGD. The ADF factor is defined as

the gallons of wastewater generated per capita per day (gpcd). An ADF factor of 81 will be used to project the future ADF for the City.

#### 4.3.3 Maximum Month Flow (MMF)

MMF is the average daily flow during the month with the maximum cumulative flow. MMF is often the regulated flow limit in a WWTP's discharge permit. The current waste discharge requirements for the District's WWTP limits plant effluent to a maximum month flow of 2.36 MGD. Using the flow from the max month of 2014 the existing MMF is estimated at 0.82 MGD based on plant flow records. An assessment of the MMF for 1995 through 2014 resulted in a 20-year average MMF peaking factor of 1.19.

#### 4.3.4 Peak Seasonal Dry Weather Flow (PSDWF)

The PSDWF is the highest average monthly flow between the months of July and August, which encompass traditional peak tourist season for the City. Using data from calendar years 1995 to 2014, the existing PDDWF factor is 1.05, which will be used to project future PSDWF.

#### 4.3.5 Peak Day Flow (PDF)

PDF is the maximum daily flow rate experienced at the WWTF and is used to design or evaluate hydraulic retention times for certain treatment processes. PDF factor is used as a multiplier to estimate PDF. The PDF factor was estimated using data from 2010-2014 to be 2.75. The City has reported that influent wastewater becomes surcharged during high flow events or during unusual operation situations which as a result does not provide accurate measurements during those periods. Due to these inaccuracies, the City should pursue flow measurements in the collection system upstream of the existing WWTP in coming months to gather data to determine PDF and PDF factor to be used during future system design.

#### 4.3.6 Peak Hour Flow (PHF)

PHF is the maximum one-hour flow experienced by the system, and is typically used for sizing collection system piping, lift stations, flow meters, interceptors, and headworks systems. Peak hour flow is typically derived from WWTF influent records, flow monitoring, or empirical equations used to estimate PHF based on service area population. For this WRFP, a PHF factor of 8.37 which corresponds to previous high flow events. It is recommended that the City gather more data via flow monitoring to gather additional data.

### 4.4 Existing Wastewater Flows

Currently the City and CSD wastewater flows are both treated at the City WWTP. Historically, CSD has contributed on average 25percent of the total flow through the facility. The WWTP is currently designed for an average annual daily flow of 1.5 MGD, average daily maximum flow in peak month of 2.9 MGD, and peak season dry weather flow of 2.7 MGD. The secondary treatment design capacity of the facility is 0.97 MGD. Flows in excess of 0.97 MGD receive primary treatment and are blended with secondary effluent, disinfected, and discharged to the Pacific Ocean. The current average annual daily flow is 1.25 MGD, therefore the majority of the WWTP effluent receives secondary treatment throughout most of the year.

Figure 4-2 and Figure 4-3 show the seasonal and hourly variations in wastewater flow from the WWTP. Figure 4-2 shows average monthly dry weather flow from 2013 to 2017. The hourly flow

variation shown in Figure 4-3 were based off average dry weather flows monitored from January 2017 through July 2017 for the 2018 OneWater Morro Bay Plan.

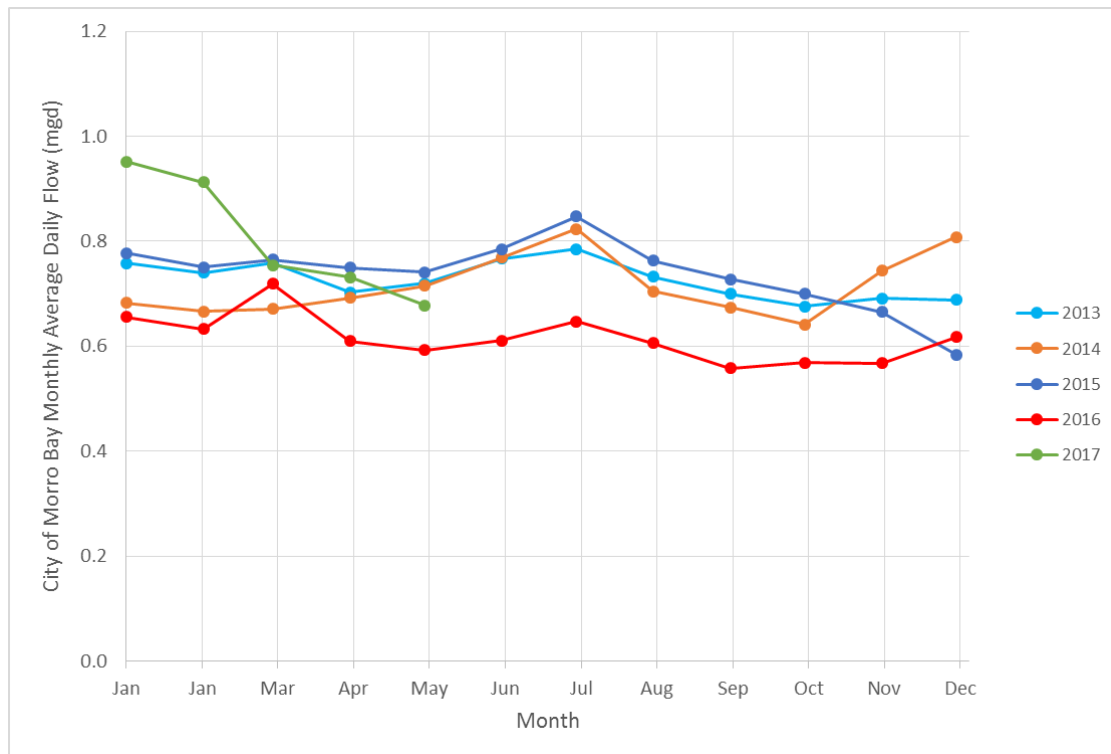


Figure 4-2 City of Morro Bay Monthly Average Daily Flow 2013 – 2017

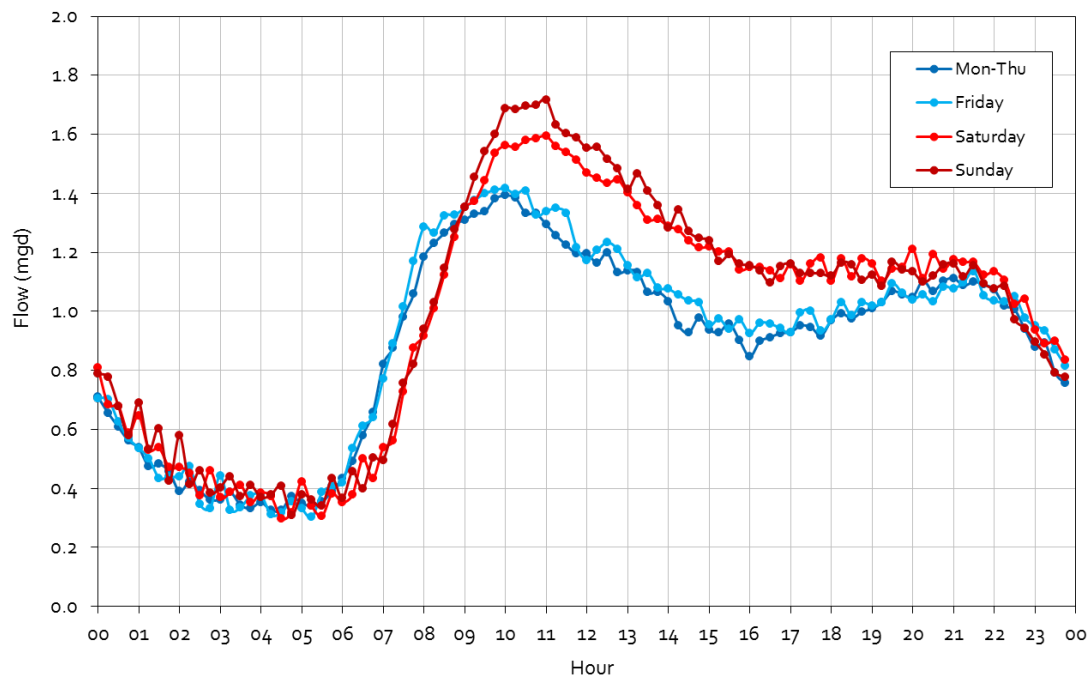


Figure 4-3 Average Dry Weather Daily Flow Variation

#### 4.4.1 Future Water Flows

Projected design flows for the WRF as reported in the Draft FMP are presented in Table 4-3. The start-up flows were determined for a population of 10,542 people as the facility is expected to begin treatment between 2018 and 2020. Currently, the City and CSD are both individually pursuing WRFs in their respective service areas. With the absence of CSD contributing to the City's new WRF, initial projected flows are lower than current WWTP flows.

Table 4-3 Projected Wastewater Flows

Flow Condition	Start-Up <sup>1</sup> WRF Flow Rate (MGD)	Buildout <sup>2</sup> WRF Flow Rate (MGD)
Minimum 2 Hour Flow	0.28	0.32
Minimum Average Daily Flow	0.64	0.67
Annual Average Daily Flow (AADF)	0.85	0.97
Maximum Monthly Flow (MMF)	1.02	1.16
Peak Day Flow (PDF)	2.35	2.75
Peak Hour Flow (PHF)	6.16	7.03

Notes:

(1) Start-up population estimated to be 10,542 people (Black & Veatch, 2016).

(2) Build-out population estimated to be 12,200 people (Black & Veatch, 2016).

#### 4.5 Influent Wastewater Characteristics

Table 4-4 through Table 4-5 summarize the biochemical oxygen demand (BOD), total suspended solids (TSS), and nitrogen loading analysis included in the Draft FMP for calendar years 2010 through 2014. BOD analyses were performed on 24-hour composite samples taken about once every eight days. In 2010 and 2012, samples were collected for three to four consecutive days over the holidays of Memorial Day, Fourth of July, and Labor Day. The loads on these days were usually above the average, which may influence analysis, albeit conservatively.

Table 4-4 Historical BOD Loading

Year	Annual Average (lb/day)	Annual Max Month		Annual Max Day	
		Load (lb/day)	Peaking Factor	Load (lb/day)	Peaking Factor
2010	3,600	4,300	1.18	6,300	1.68
2011	3,200	4,300	1.32	4,900	1.52
2012	3,100	4,100	1.33	4,700	1.52
2013	2,600	3,400	1.28	4,700	1.79
2014	2,700	3,200	1.17	4,600	1.68
5-year	3,100	4,300	-	6,300	-

TSS was analyzed typically every eight days. It was also sampled for the three to four-day sampling periods on the same holidays as mentioned above.

Table 4-5 Historical TSS Loading

Year	Annual Average (lb/day)	Annual Max Month		Annual Max Day	
		Load (lb/day)	Peaking Factor	Load (lb/day)	Peaking Factor
2010	4,000	5,400	1.36	9,700	2.46
2011	3,500	4,500	1.28	5,500	1.57
2012	3,700	5,100	1.40	7,000	1.90
2013	2,800	4,000	1.42	4,900	1.73
2014	2,900	3,500	1.18	5,400	1.84
5-year	3,400	5,400	-	9,700	-

There are currently no NPDES permit requirements for nitrogen species in the MBCSD WWTP influent. The influent Total Kjeldahl Nitrogen (TKN) load is estimated below in Table 4-6 using the effluent ammonia concentration and various assumptions surrounding nitrogen removal mechanisms at the facility. The existing WWTP removes nitrogen exclusively via assimilation by heterotrophic biomass engaged in BOD oxidation. Using assumptions for amount of nitrogen assimilated per biomass produced by BOD oxidation, the Draft FMP provides nitrogen loading estimates.

Table 4-6 Historical Nitrogen Loading

Year	Annual Average (lb/day)	Annual Max Month		Annual Max Day	
		Load (lb/day)	Peaking Factor	Load (lb/day)	Peaking Factor
2010	580	680	1.20	960	1.68
2011	510	680	1.32	750	1.52
2012	490	650	1.33	740	1.52
2013	420	540	1.28	750	1.79
2014	440	510	1.17	740	1.68
5-year	490	680	-	960	-

#### 4.6 Projection of Future Influent Loads

Projected loads for BOD, TSS, and Total Kjeldahl Nitrogen (TKN) are presented in Table 4-7 were established in the Draft FMP using peaking factors and projected population. TKN refers to the total concentration of organic nitrogen and ammonia.

Table 4-7 Projected Future Wastewater Loads

Parameter	Annual Average	Maximum Month	Maximum Day
Flow (mgd)	0.97	1.16	2.75
<b>Biological Oxygen Demand (BOD)</b>			
Concentration (mg/L)	440	470	-
Load (lb/d)	3,600	4,500	5,900
Load Peaking Factor	-	1.26	1.65
<b>Total Suspended Solids (TSS)</b>			
Concentration (mg/L)	490	540	-
Load (lb/d)	4,000	5,300	7,500
Load Peaking Factor	-	1.33	1.90
<b>Total Kjeldahl Nitrogen (TKN)</b>			
Concentration (mg/L)	70	74	-
Load (lb/d)	570	720	940
Load Peaking Factor	-	1.26	1.65

#### 4.7 Anticipated Future Effluent Limitation and Discharge Requirements

The Draft FMP was prepared based on the community goals, including the goal to produce disinfected tertiary recycled water. Implementation of a recycled water project will require a Title 22 Engineering Report and inclusion of recycled water requirements in the City's NPDES permit and WDR.

The City examined probable regulatory stipulations for the ocean outfall, percolation ponds, and inland surface water discharge for the future WRF, as summarized in the technical memorandum titled "Regulatory Implications of Discharge Options for the Future City of Morro Bay WRF" (Larry Walker and Associates (LWA), 2014). The evaluation of discharge to percolation ponds and inland surface waters is summarized in Chapter 5.

The LWA report identified constituents detectable in the 2014 wastewater effluent that may require future effluent limitations for ocean discharge. These compounds were cadmium, copper, cyanide, nickel (salts), total zinc, and dioxin. Numeric limits for salts other than nickel salts will not be applied. It is important to note that for the existing ocean outfall, a dilution credit of 133 parts seawater to 1 part wastewater is currently granted. This value is very likely to remain the same or even increase in future permits. Effluent limits for the discharge are determined by applying the dilution factor of 133 to the water quality objectives outlined in the Basin Plan, Ocean Plan, Thermal Plan, and ultimately the NPDES permit. Effluent limits for pathogens, nutrients, and salts, are not expected to change. Historical treated effluent quality from the existing WWTP based on monthly and annual reports available on the California Integrated Water Quality System (CIQWS) is summarized in Appendix A.

Water quality requirements for reuse alternatives are included in Chapter 5.

#### 4.8 Description of Anticipated New WRF Treatment Facilities

It is anticipated that the City's proposed WRF will treat wastewater to provide tertiary disinfected recycled water based on the community project goals. Depending on the end use,

this may include advanced treatment. At a minimum, the new WRF will provide full secondary treatment to meet the anticipated NPDES permit requirements. The City plans to maintain its ocean outfall but will be substantially increasing extent of treatment and, pending implementation of a recycled water project, will be reducing total volume discharged annually upon construction of the WRF. Recycled water produced from the WRF may initially all be diverted to the ocean outfall depending on the schedule of implementing recycled water project(s). To offset potable water use, it is in the City's best interest to maximize its use of recycled water and minimize the amount sent to the ocean outfall.

The Draft FMP evaluated potential liquid and solids treatment technologies and provides recommendations for the WRF (Sections 4 and 5 of the Draft FMP, respectively). Evaluation criteria, based on community project goals and feedback from City technical staff, included comparative capital and operating costs, odor mitigation, technical complexity, reliability, staff requirements, scalability, product water quality, beneficial reuse opportunities, flexibility for Title 22 redundancy, and visual impact/footprint.

The report recommends two liquid treatment process train options, with potential for future expansion to advanced treatment. One alternative (Option A) is a conventional treatment process option consisting of screening, grit removal, flow equalization, secondary treatment with sequencing batch reactor (SBR), tertiary treatment achieved through microfiltration, and disinfection by ultraviolet radiation. SBR is a well-established batch operation activated sludge technology, which has been widely used since the later 1970s. SBR technology is well-suited to smaller communities where flows can vary widely, and the units are relatively compact and energy efficient. The SBR provides clarification and biological steps. Subsequent filtration and disinfection processes are required to provide tertiary treatment. The basic process flow diagram for this option is provided in **Figure 4-4**.

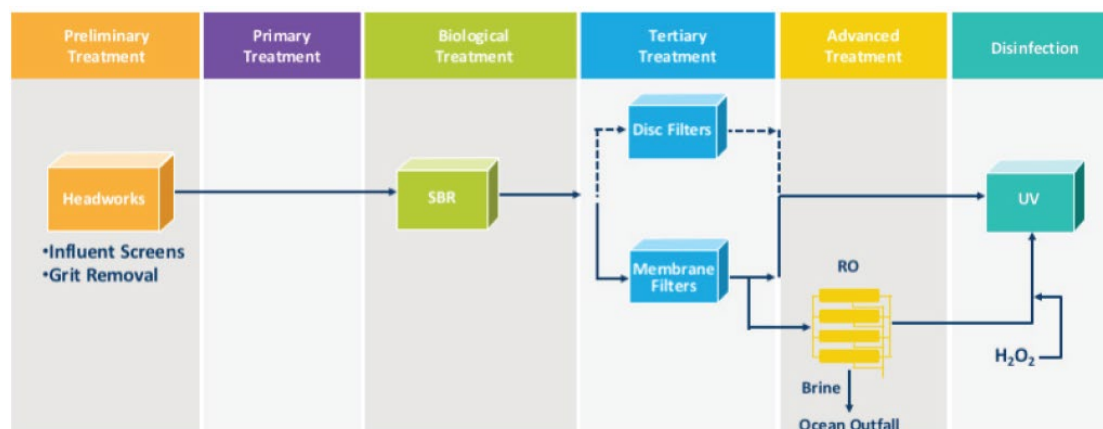


Figure 4-4 Conventional Treatment Alternatives

The second alternative (Option B), a combined secondary and tertiary treatment option, involves screening, grit removal, flow equalization, secondary and tertiary treatment through a membrane bioreactor process, and disinfection by ultraviolet radiation. The membrane bioreactor (MBR) acts as both a biological treatment process and a filtration process. The MBR provides the primary biological, and filtration steps of the process, and is more compact than SBR since additional filters are not required. The basic process flow diagram for the MBR option is provided in **Figure 4-5**.



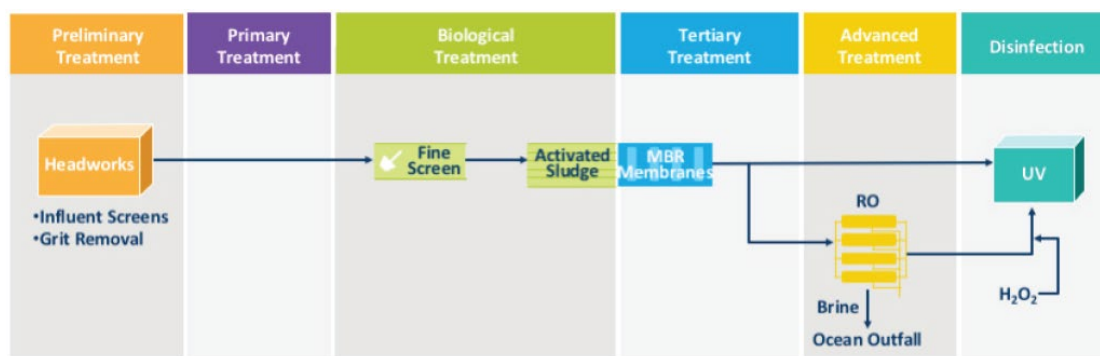


Figure 4-5 Combined Secondary/Tertiary Treatment Alternative

Advanced treatment will likely be required for the recycled water projects under consideration, as discussed further in Chapter 5. Both systems would be adequate biological treatment for reverse osmosis, but the conventional treatment option would require addition of membrane filters as a pretreatment step to reverse osmosis. The ultraviolet disinfection process can also be coupled with hydrogen peroxide treatment to provide an advanced oxidation process (AOP). AOPs involve generation of highly reactive free radical intermediates which are applied for the destruction of various contaminants. An AOP is required for indirect potable reuse via groundwater injection, and are anticipated to be required by future direct potable reuse legislation.

Section 5 of the Draft FMP summarizes the evaluation and recommendations for solids management and treatment. Biosolids are produced in the liquid treatment process when solids and liquids are separated. These biosolids must be either disposed of in a landfill or composted and prepared for beneficial reuse. Biosolids handling includes collection from the liquid treatment process stream, and water separation to reduce weight and volume. Treatment is also involved, but may occur at offsite facilities. The Draft FMP evaluated the potential to perform composting or energy recovery using biosolids, but determined that it would not be cost effective. It is anticipated that the City will continue its current practice of hauling dewatered biosolids to a regional facility, Liberty Composting in Kern County, where the biosolids are further processed and sold for agricultural reuse.

#### 4.9 Salinity Control Program

As previously mentioned, salinity and TDS concentrations seen in both source water and wastewater have gradually increased in recent years. To facilitate reuse of future effluent for crop irrigation or other recycled water uses, the City is seeking to reduce the amount of salts discharged into the wastewater collection system. In 2015, the City conducted a Salinity Source Identification Study and determined that the two largest sources within the City's control were discharges from residential self-regenerating water softeners (SRWS) and discharges from Culligan's water softening facility. To address these issues, the City is developing a source control program focusing on these two sources. The main focus of the source control program is to reduce loading of salts and nutrients to the wastewater treatment facility to facilitate reuse of effluent for crop irrigation or other alternatives. Salts removal at the treatment plant is not cost effective as removal requires reverse osmosis or other costly treatment technologies. The study aims to identify sources of salinity in the community that can be managed or reduced.

The City evaluated salinity in the collection system in the Morro Bay Water Reclamation Facility Project Status of Salinity Source Identification and Control Plan (MKN, Draft January 4, 2016). The report determined that self-regenerating water softeners (SRWS) and brine discharge from the Culligan water softening facility were the main controllable contributors to salt in influent wastewater. Currently, the main motivation to use SRWS is due to the City's water supply having high hardness. Citizens use SRWS to prevent hardness deposits on water fixtures and to use less detergent when cleaning. The Culligan water softening facility regenerates water softeners that do not have the capability to self-regenerate. The facility has a low discharge flow of around 1,000 gallons per day but contributes around 14 percent of total salt load to the WWTP, according to the City of Morro Bay Salinity Control Program Development (Larry Walker and Associates, Draft August 2016). A breakdown of salinity sources in the wastewater stream is summarized in Table 4-8.

Table 4-8 Salinity Loads from Identified Sources

Source	TDS	
	Lbs/yr	%
Water Supply	4,159	46
Residential and Commercial Uses	2,498	28
Self-Regenerating Water Softeners	1,118	12
Culligan Water Plant	1,269	14
Total	9,044	

Regulation of SRWS is being investigated as a possible option to reduce the use of SRWS and resulting salt loading to the collection system, or to remove them altogether. The City of Morro Bay Salinity Control Program Development (ibid) provides a detailed background on regulation of SRWS with various examples of regulation in California. The program is under development, but would likely include a phased local ordinance, implementation of a buyback or financial incentive program for decommissioning SRWS. While such a program would require the City to budget for said financial incentive, communities that have implemented this two-pronged approach, even with strictly voluntary buyback programs, have seen significant reduction of chloride in influent wastewater. The aforementioned Salinity Control Program Development (ibid) contains multiple case studies demonstrating efficacy of the two-pronged approach. A reduction in influent chloride concentrations could directly result in reduced capital and operating costs, by reducing overall advanced treatment requirements.

The City is currently exploring the option to allow discharge of a water softener exchange tank regeneration (Culligan) facility brine as non-domestic waste such that it could bypass the main treatment of the wastewater treatment facility and be discharged through the outfall. The City will need to obtain clearance from the Coastal Commission for this discharge and may have to conduct studies showing the combined discharge is not toxic nor will impair beneficial uses in Estero Bay.

#### 4.10 Existing Recycled Water System

Currently the City has no recycled water system or recycled water customers.

#### **4.11 Existing Rights to Treated Effluent**

The Morro Bay and Cayucos WWTP holds the rights to the treated effluent which is discharged to the Pacific Ocean. No other entities hold rights to the treated effluent at this time.



## Chapter 5

# TREATMENT REQUIREMENTS FOR DISCHARGE AND REUSE

This chapter provides an overview of the water quality and regulatory requirements for potential recycled water opportunities for the City. Chapter 6 summarizes the market assessment of the various alternatives and Chapter 7 evaluates the resulting recycled water project alternatives.

### 5.1 Potential Recycled Water Opportunities

MKN has investigated a variety of alternatives for use of the City's recycled water. One of the main objectives when analyzing the best alternative or alternatives was net benefit to potable water source for the City. This is due to the unreliability of SWP water and environmental impacts to groundwater basins during drought periods and periods of high demand due to crop irrigation and tourism. Based on previous studies and current research, possible recycled water project alternatives considered for this study include the following:

- Discharge using existing ocean outfall (No project alternative)
- Agricultural irrigation
- Urban reuse (commercial uses, irrigation of parks, schools, and playground)
- Delivery of recycled water to agricultural users in exchange for reduced groundwater pumping (in-lieu recharge program)
- Delivery of recycled water to agricultural users in exchange for riparian rights to withdraw groundwater
- Delivery of recycled water to agricultural users in exchange for pumped groundwater delivered to the City
- Indirect potable reuse: Groundwater replenishment using surface application (percolation basins)
- Indirect potable reuse: Groundwater replenishment using subsurface application at the Narrows (injection wells)
- Indirect potable reuse: Groundwater replenishment using subsurface application near bike path adjacent to Lila Keiser Park (injection wells)
- Streamflow augmentation at Morro Creek, Little Morro Creek, or Chorro Creek
- Groundwater injection for seawater intrusion barrier

The City prepared the Effluent Disposal Feasibility Alternatives Study (October 2016, GSI Water Solutions) to assess different reuse alternatives. Information from this study is included in the analysis of alternatives below.

## 5.2 Water Quality Goals for Discharge to Ocean Outfall (No Project Alternative)

As previously mentioned, the City recently received a new NPDES permit that requires full secondary treatment. Discharge requirements from the existing NPDES permit are summarized in Table 5-1. Included in the NPDES permit are regulations based on the Ocean Plan, Basin Plan, and Thermal Plan.

Table 5-1 Effluent Discharge Requirements for Selected Pollutants

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
5-day BOD	mg/L	30	45	
	lb/d	515	773	
	% removal	85		
Suspended Solids	mg/L	30	45	
	lb/d	515	773	
	% removal	85		
Grease and Oil	mg/L	25	40	45
	lb/d	430	687	1,289
Settleable Solids	ml/L	1.0	1.5	3.0
Turbidity	NTU	75	100	225
pH	S.U.	6.0 - 9.0 at all times		

Notes:

- (1) BOD = biological oxygen demand
- (2) mg/L = milligrams per liter
- (3) lb/d = pounds per day
- (4) ml/L = milliliters per liter
- (5) NTU = nephelometric turbidity unit

In addition to the limits noted in Table 5-1, the NPDES permit includes discharge limits for metals, cyanide, phenolic compounds, endosulfan, endrin, hexachlorocyclohexane, and radioactivity for the protection of marine aquatic life; and limits for carcinogens and non-carcinogens, regulated for the protection of human health. The complete NPDES permit is provided in Appendix E.

Receiving water limits, based on the Ocean Plan, are also specified in the existing NPDES permit, including bacterial limits and the requirements that parameters such as temperature, pH, sulfides, organics, and sediment are not changed significantly from ambient conditions.

## 5.3 Overview of Title 22 Requirements for Reuse Alternatives

The California Code of Regulations (CCR) Title 22, Division 4, Chapter 3, Sections 60301 through 60355 lists regulations pertaining to recycled wastewater. Requirements are administered by California Department of Health Services and RWQCB. In the City's case, Title 22 regulations and the Basin plan are the main regulatory documents pertaining to reuse of recycled water. Title 22 requirements describe acceptable uses of recycled water, acceptable area uses and set-backs for the use of recycled water, groundwater replenishment requirements for surface and subsurface

applications, sampling and analysis requirements, engineering design, and reliability requirements. The recycled water requirements are implemented by the State Water Resources Control Board and the local Regional Water Quality Control Boards.

Four treatment levels are defined in Title 22 for various recycled water uses in California: disinfected tertiary recycled water, disinfected secondary-2.2 recycled water, disinfected secondary-23 recycled water, and undisinfected secondary recycled water. These are summarized in Table 5-2 along with allowable irrigation uses as examples.

Table 5-2 Title 22 Recycled Water Types and Allowable Uses

Recycled Water Type	Required Treatment	Median Total Coliform (MPN/100 mL) <sup>1</sup>	Maximum Total Coliform (MPN/100 mL) <sup>2</sup>	Allowable Irrigation Uses
<b>Disinfected Tertiary</b>	Oxidized, Coagulated <sup>3</sup> , Filtered, Disinfected	2.2	23 <sup>4</sup>	Surface irrigation for food crops including edible portion, parks and playgrounds, schoolyards, unrestricted access golf courses, roadway landscaping, and residential & commercial landscaping
<b>Disinfected Secondary-2.2</b>	Oxidized, Disinfected	2.2	23	Irrigation of food crops where edible portion is above ground and not contacted by recycled water (ex. Drip irrigation is used)
<b>Disinfected Secondary-23</b>	Oxidized, Disinfected	23	240	Irrigation of cemeteries, freeway landscaping, restricted access golf courses, pasture for milk animals
<b>Undisinfected Secondary</b>	Oxidized	NA	NA	Irrigation for orchards and vineyards where edible portion does not contact recycled water (ex. Drip irrigation is used), non-food bearing trees, fodder crops and fiber crops, seed crops not eaten by humans, ornamental nursery stock

Notes

- (1) Based on bacteriological results of the last 7 days for which analyses were completed.
- (2) Does not exceed in more than one sample in any 30 day period.
- (3) Coagulation is not typically required if membrane filtration is used and/or turbidity requirements are met.
- (4) No sample shall exceed 240 MPN/100 mL.
- (5) Reference: California Code of Regulations, Title 22, Division 4, July 16, 2015 Edition

## 5.4 Water Quality Goals for Reuse Alternatives

Various options are being considered for immediate water reuse upon the completion of the City's WRF, including supplementing the water supply through indirect potable reuse (groundwater recharge or surface water augmentation), agricultural water exchanges, agricultural reuse for irrigation, urban irrigation and commercial reuse, streamflow augmentation, and injection to produce a seawater intrusion barrier. Water quality objectives vary for different uses, as summarized in the following sections.

### 5.4.1 Water Quality Goals for Agricultural Irrigation

There have been multiple studies to determine constituents of concern in reclaimed water used for irrigation. Suitability of water for irrigation is directly related to the concentration and kind of chemical constituents present. Some water constituents that most commonly affect recycled water suitability for irrigation include electrical conductivity of the irrigation water (ECw), sodium adsorption ratio (SAR), bicarbonates, chlorides, and boron. General irrigation water quality guidelines from the Basin Plan are shown in Table 5-3.



Table 5-3 Water Quality Guidelines for Irrigation

Problem and Related Constituent	References	No Problem	Increasing Problems	Severe Problems
<b>Salinity<sup>1</sup></b>				
EC <sub>w</sub> of irrigation water (mmhos/cm)	1,2	<0.75	0.75 - 3.0	>3.0
TDS (mg/l) or (ppm)	2	<450	450 - 2000	>2000
<b>Permeability</b>				
EC <sub>w</sub> of irrigation water (mmhos/cm)	1	>0.5	<0.5	<0.2
adj.SAR <sup>2</sup>	1	<6.0	6.0 - 9.0	>9.0
<b>Specific ion toxicity from root absorption<sup>3</sup></b>				
Sodium (evaluated by adj. SAR)	1,2	<3.0	3.0 - 9.0	>9.0 <sup>4</sup>
Chloride (meq/l)	1	<4	4.0 - 10.0	>10
Chloride (mg/l)	1,2	<142	142 - 355	>355
Boron (mg/l)	1	<0.5	0.5 - 2.0	2.0 - 10.0
<b>Specific ion toxicity from foliar absorption<sup>5</sup> (sprinkler irrigation)</b>				
Sodium (meq/l)	1	<3.0	>3.0	--
Sodium (mg/l)	1,2	<69	>69	--
Chloride (meq/l)	1	<3.0	>3.0	--
Chloride (mg/l)	1	<106	>106	--
<b>Miscellaneous<sup>6</sup></b>				
Total Nitrogen (NH <sub>4</sub> -N + NO <sub>3</sub> -N) (mg/l)	1,2	<5	5 - 30	>30
<b>(The following apply only for irrigation by overhead sprinklers)</b>				
Bicarbonate (HCO <sub>3</sub> ) (meq/l)	1	1.5	1.5 - 8.5	>8.5
Bicarbonate (HCO <sub>3</sub> ) (mg/l)	1,2	<90	90 - 520	>520
Residual Chlorine (mg/l)	2	<1.0	1.0 - 5.0	>5.0
pH	1,2	Normal range = 6.5-8.4		

## Notes:

- (1) Assumes water for crop plus needed water for leaching requirement will be applied. Crops vary in tolerance to salinity.
- (2) adj. SAR (adjusted sodium absorption ratio) is calculated from a modified equation developed by U.S. Salinity Laboratory to include added effects of precipitation or dissolution of calcium in soils and related to CO<sub>3</sub> + HCO<sub>3</sub> concentrations. Permeability problems related to low EC or high adj. SAR of water can be reduced if necessary by adding gypsum.
- (3) Most tree crops and woody ornamentals are sensitive to sodium and chloride. Most annual crops are not sensitive.
- (4) Shrinking-swelling type soils (montmorillonite type clay minerals); higher values apply for others.
- (5) Leaf areas wet by sprinklers may show a leaf burn due to sodium or chloride absorption under low - humidity / high- evaporation conditions. (Evaporation increases ion concentration in water films on leaves between rotations of sprinkler heads).
- (6) Excess N may affect production of quality of certain crops (i.e., sugar beets, citrus, avocados, apricots, and grapes).
- (7) HCO<sub>3</sub> with overhead sprinkler irrigation may cause a white carbonate deposit to form on fruit and leaves.

## References:

Reference 1: Ayers, Robert S., Quality of Water for Irrigation, Journal of the Irrigation and Drainage Division, ASCE, June 1977. (Table 1, page 136).

Reference 2: Irrigation with Reclaimed Municipal Wastewater – A Guidance Manual, California State Water Resources Control Board, Report Number 84-1 WR, July 1984. (Table 3-4, page 3-11)

Note: Interpretations are based on possible effects of constituents on crops, soils or both. Guidelines are flexible and should be modified when warranted by local experience or special conditions of crop, soil, and method of irrigation.

A summary of the treated effluent quality from the existing WWTP is presented in Table 5-4. It is assumed the mineral content of the new WRF will resemble that of the existing treatment facility since a higher level of secondary and tertiary treatment will have a negligible impact on those parameters. Relative salt tolerance of various agricultural crops is presented in Table 5-5.

The Basin Plan outlines water quality specifications for Agricultural Supply water. The guidelines for water quality of water for irrigation are listed above in Table 5-3, as interpreted from the

University of California Agricultural Extension Service guidelines. The purpose of the limits in Table 5-3 are to preserve agricultural beneficial use. Additional constraints for irrigation and livestock watering are listed below in Table 5-6.

Table 5-4 Existing Morro Bay/Cayucos Sanitary District WWTF Effluent Quality

Constituent	Units	1999 Effluent Quality <sup>1</sup>	2011/2012 Effluent Quality <sup>2</sup>	Comparison to Quality Guidelines presented in Table 5-5 <sup>3</sup>
Bicarbonate	mg/L	294	330	Increasing problems for carbonate deposits on fruit and leaves
Boron	mg/L	0.5	0.4	Low end of increasing problems for salinity
Chloride	mg/L	300	369	Increasing problems for root and foliar absorption
Total Nitrogen	mg/L	36.7	37.5	Potential for severe quality production problems for certain crops, including citrus, avocados, apricots, and grapes
pH	--	7.6	NA	Within normal range
TDS	mg/L	887	942	Increasing problems for salinity
EC	mmhos/cm	1.7	NA	Increasing problems for salinity; no problems for permeability
Sodium	mg/L	210	223	Increasing problems for foliar absorption

Notes:

NA = Data not available.

- (1) Averages based on data collected July 8 through July 15, 1999 (Carollo Engineers, Inc., 1999).
- (2) Data was obtained from lab results from six 24-hour composite samples taken between February 8, 2012 and February 14, 2012. Tests were conducted by FGL Environmental and Agricultural Analytical Chemists. (Dudek, 2012).
- (3) Crops vary in tolerance to the constituents above in Table 5-5. Table 5-4 summarizes general irrigation water guidelines as published by the quoted references. Care should be taken in interpretation and application of this data.

The majority of crops in the immediate vicinity of the City are avocado with limited orange groves, all of which are sensitive to salts. Dilution by blending with a water source of lower salinity of salts reduction through microfiltration and reverse osmosis will likely be required to provide the appropriate quality of water for irrigation of these salt-sensitive crops. Based on the recorded chloride tolerance for the most sensitive avocado variety, a TDS target of 300 mg/L is sufficient to avoid crop damage (Dudek, 2012).

Table 5-5    Relative Salt Tolerance of Agricultural Crops

Crop Type	Tolerant	Moderately Tolerant	Moderately Sensitive	Sensitive
Fiber, Seed, and Sugar Crops	Barley, Cotton, Jojoba, Sugarbeet	Cowpea, Oats, Rye, Safflower, Sorghum, Soybean, Triticale, Wheat, Durum Wheat	Broad, Castorbean, Maize, Flax, Millet (foxtail), Groundnut/Peanut, Rice (paddy), Sugarcane, Sunflower	Bean, Guayule, Sesame
Grasses and Forage Crops	Alkali grass (nuttall), Alkali sacaton, Bermuda grass, Kallar grass, Saltgrass (Desert), Wheatgrass (fairway crested), Wheatgrass (tall), Wildrye (altai), Wildye (Russian)	Barley (forage), Brome (mountain), Canary grass (reed), Clover (hubam), Clover (Sweet), Fescue (meadow), Fescue (tall), Harding grass, Panis grass (blue), Rape, Rescue grass, Rhodes grass, Ryegrass (Italian), Ryegrass (perennial), Sudan grass, Trefoil (narrowleaf), birdsfoot, Trefoil (broadleaf), Wheat (forage), Wheatgrass (various), Wildrye (beardless & Canadian)	Alfala, Bentgrass, Bluestem (Angleton), Brome (smooth), Buffelgrass, Burnet, Clover (various), Corn (forage), Cowpea (forage), Dallis grass, Foxtail (meadow), Grama (blue), Lovegrass, Mulkvetch (Cicer), Oatgrass (tall), Oats (forage), Orchard grass, Rye (forage), Sesbania, Siratro, Spharophysa, Timothy, Trefoil (big), Vetch (common)	
Vegetable Crops	Asparagus	Artichoke, Beet (red), Zucchini squash	Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Celery, Corn (Sweet), Cucumber, Eggplant, Kale, Kohlrabi, Lettuce, Muskmelon, Pepper, Potato, Pumpkin, Radish, Spinach, Squash (scallop), Sweet Potato, Tomato, Turnip, Watermelon	Bean, Carrot, Okra, Onion, Parsnip
Fruit and Nut Crops	Date Palm	Fig, Jujube, Olive, Papaya, Pineapple, Pomegranate	Grape	Almond, Apple Apricot, Avocado, Blackberry, Boysenberry, Cherimoya, Cherry (sweet), Cherry (sand), Currant, Gooseberry, Grapefruit, Lemon, Lime, Loquat, mango, Orange, Passion fruit, Peach, Pear, Persimmon, Plum (prune), Pumello, Rose, Apple, Sapote (white), Strawberry, Tangerine

Notes:  
(1)    Reproduction of table presented in Water Quality for Agriculture FAO Irrigation and Drainage Paper 29 Rev 1 (Ayers and Westcot, Reprinted 1989 and 1994). Data taken from: Maas E.V. 1984 Salt tolerance of plants. In: The Handbook of Plant Science in Agriculture. B. R. Christie (ed). CRC Press, Boca Raton, Florida.  
(2)    These data serve only as a guide to the relative tolerance among crops. Absolute tolerances vary with climate, soil conditions, and cultural practices.



According to CCR Title 22 Section 60304, recycled water used for irrigation is required to be treated to tertiary disinfected standards for food crops including all edible root crops where the recycled water comes into contact with the edible portion of the crop. If the edible portion of the food crop is not contacted by the recycled water, the treatment requirement is at least disinfected secondary - 2.2 recycled water. Orchards and vineyards where recycled water does not come into contact with the edible portion of the crop, vineyards where recycled water does not come into and food crops that must undergo commercial pathogen-destroying processing before being consumed by humans can be irrigated with undisinfected secondary water.

Table 5-6 Basin Plan Requirements for Irrigations and Livestock Watering

Element	Maximum Concentration (mg/L)	
	Irrigation Supply	Livestock Watering
Aluminum	5.0	5.0
Arsenic	0.1	0.2
Beryllium	0.1	--
Boron	0.75	5.0
Cadmium	0.01	0.05
Chromium	0.1	1.0
Cobalt	0.05	1.0
Copper	0.2	0.5
Fluoride	1.0	2.0
Iron	5.0	--
Lead	5.0	0.1
Lithium	2.5	--
Manganese	0.2	--
Mercury	--	0.01
Molybdenum	0.01	0.5
Nickel	0.2	--
Nitrate + Nitrite	--	100
Nitrite	--	10
Selenium	0.02	0.05
Vanadium	0.1	0.10
Zinc	2.0	25

Pasture for animals producing milk for human consumption must be irrigated with at least disinfected secondary-23 recycled water. Fodder crops, fiber crops, and pasture for animals not producing milk for human consumption may be irrigated with water treated to at least undisinfected secondary recycled water standards. Water used for livestock watering must also conform with the requirements in Table 5-3 and Table 5-6.

#### 5.4.2 Water Quality Goals for Urban Reuse

According to CCR Title 22 Section 60304, all recycled water used for irrigation of parks, playgrounds, schoolyards, residential landscaping, and unrestricted access golf courses must be treated to disinfected tertiary recycled water standards. Recycled water used to irrigate cemeteries, freeway landscaping, restricted access golf courses, ornamental nursery stock and

sod farms with unrestricted access, and nonedible vegetation with controlled access so the area cannot be used as if it were a park, playground or schoolyard must be treated to at least disinfected secondary-23 recycled water standards. Nonfood-bearing trees and ornamental nursery stock, provided no irrigation with recycled water occurs for period of 14 days prior to harvesting, retail sale, or allowing access by general public, can be irrigated by recycled water treated to at least undisinfected secondary recycled water standards.

Regulations for unrestricted urban use are primarily driven by public safety and suitability for application. Title 22 requirements include standards for effluent coliform concentrations and usage restrictions. Usage restrictions include pipeline distance from potable water pipelines, proximity to groundwater, prevention of cross-connection between potable and non-potable systems, and restrictions near eating facilities/drinking fountains. In order to comply with these requirements, potential customers may need to reconfigure either their irrigation or potable water systems.

There are other uses for water in the urban setting other than irrigation. Some of such uses include structural firefighting, decorative fountains, consolidation of backfill around potable water pipelines, and commercial car washes where the general public is excluded from the washing process. These uses require disinfected tertiary recycled water. Other uses include nonstructural firefighting, backfill consolidation around nonpotable piping, soil compaction, and mixing concrete, dust control, cleaning of roads, sidewalks, and outdoor work areas, all of which require recycled water treated to at least disinfected secondary-23 recycled water.

#### **5.4.3 Water Quality Goals for Groundwater Recharge**

One recycled water project alternative that has the potential to augment the City's potable water supply is indirect potable reuse (IPR) via groundwater recharge. IPR involves taking highly treated wastewater and passing it through an environmental barrier, in this case the groundwater aquifer's soil, and removing the water after a period deemed safe by SWRCB Department of Drinking Water (DDW) to be withdrawn for treatment and distribution as potable water. The environmental buffer provides opportunity for water purveyors to address public health concerns if problems occur in the wastewater treatment process, as well as diluting the treated wastewater with naturally occurring water sources. This section outlines general water quality goals for IPR, including specific water quality criteria for surface application and subsurface application methods.

Articles 5.1 and 5.2 of CCR Title 22 pertain to groundwater replenishment through both surface and subsurface application, respectively. Both of the alternatives fall under the distinction of Groundwater Replenishment Reuse Projects (GRRPs), which require permitting from the SWRCB DDW. Prior to operation of a GRRP, the project sponsor (in this case, the City), shall obtain DDW approval of the plan describing steps that the project sponsor will take to provide an alternative source of drinking water supply to all users of a producing drinking water well or a Department approved treatment mechanism the project sponsor will provide to all owners of a producing drinking water well that as a result of the GRRP's operation violates a California or federal drinking water standard, has been degraded to the degree that is no longer a safe source of drinking water, or receives water that fails to meet pathogenic microorganism standards. In the City's case, State Water, desalinated seawater, or treated groundwater could serve as the alternative water supply aforementioned.

Groundwater replenishment using recycled water requires the recycled water source, in this case the WRF, have industrial pretreatment and source control programs. For the Morro Valley and Chorro Valley groundwater basins this would be especially important as elevated nitrate and TDS concentrations are already issues. The City is in the process of developing a Salinity Control Program to address source water dissolved solids and other constituents relevant to recycled water projects.

#### 5.4.3.1 Pathogen Removal

Recycled water used for groundwater replenishment must also demonstrate removal of pathogens through log removal values (LRV). LRV is defined as follows:

$$LRV = \log\left(\frac{\text{initial pathogen concentration}}{\text{final pathogen concentration}}\right)$$

One LRV, or 1-log reduction is equivalent to 99 percent reduction, two LRV, or 2-log reduction is equivalent to 99.9 percent reduction and so on. Title 22 requires that GRRPs achieve LRVs of at least 12-log enteric virus reduction, 10-log giardia cyst reduction, and 10-log cryptosporidium oocyst reduction. The treatment train must also have at least three separate treatment processes and meet the minimum recycled water treatment level listed below. Each separate treatment process may be credited for no more than 6-log reduction, with at least three processes each being credited with no less than 1.0-log reduction. Dependent on the type of study performed to estimate retention time to the nearest drinking well, specific log-removal credits are granted per month the recycled water is retained underground. Log reduction credits are outlined below in Table 5-7.

Table 5-7 Log Reduction Credits

Method Used to Estimate Retention Time to the Nearest Downgradient Drinking Water Well	Virus Log Reduction Credit per Month
Tracer study utilizing an added tracer	1.0 log
Tracer study utilizing an intrinsic tracer	0.67 log
Numerical modeling consisting of calibrated finite element or finite difference models using validated and verified computer codes used for simulating groundwater flow	0.50 log
Analytical modeling using existing academically-accepted equations such as Darcy's law to estimate groundwater flow conditions based on simplifying aquifer assumptions	0.25 log

#### 5.4.3.2 Response Retention Time

Underground retention time is an important parameter, not just for log removal of viruses and other pathogenic organisms, but also to allow sufficient time to identify treatment failure and implement actions required for protection of public health. Retention time required must be approved by DDW, and shall be no less than two months. Demonstration of retention time is performed by a tracer study or by modeling, much like for the virus log reduction credit. If numerical modeling is used to estimate retention time, the response time credit is 0.5 months. Therefore a minimum of four months retention time must be demonstrated. The allocation of response time credits is outlined below in Table 5-8.

Table 5-8 Response Time Credits

Method Used to Estimate Retention Time	Response Time Credit per Month
Tracer study utilizing an added tracer	1.0 month
Tracer study utilizing an intrinsic tracer	0.67 month
Numerical modeling consisting of calibrated finite element or finite difference models using validated and verified computer codes used for simulating groundwater flow	0.50 month
Analytical modeling using existing academically-accepted equations such as Darcy's law to estimate groundwater flow conditions based on simplifying aquifer assumptions	0.25 month

#### 5.4.3.3 Nitrogen Removal

Recycled water applied for groundwater recharge cannot contain more than 10 mg/L of total nitrogen.

#### 5.4.3.4 Other Regulated Contaminants

Selected organic and inorganic chemicals, radionuclides, disinfection byproducts, and secondary drinking water MCLs are regulated and should be monitored in a GRRP.

#### 5.4.3.5 Additional Monitoring

Monitoring for California priority toxic pollutants, any constituents specified by the DDW based on the prepared engineering report, and emerging contaminant indicators must be performed. It should be noted that GRRP projects require substantial testing, modeling, reporting and development of operating and monitoring plans prior to operating a GRRP. The groundwater basin, proposed recycled water treatment processes, and proposed diluent water (if used) must be thoroughly studied and demonstrated to DDW as meeting the regulatory requirements through reports prior to approval and operation.

### 5.4.4 Groundwater Recharge Using Surface Applications

#### 5.4.4.1 Minimum Treatment

Recycled water used for surface application must be at minimum tertiary disinfected recycled water.

#### 5.4.4.2 Pathogen Removal

Recycled water that is treated to disinfected tertiary standards or has undergone advanced treatment outlined in Section 5.4.3 of this WRFPP that also demonstrates at least 6 months of retention underground will be credited with 10-log *Giardia* cyst reduction and 10-log *Cryptosporidium* oocyst reduction.

#### 5.4.4.3 Recycled Water Contributions (RWC)

The recycled water contribution (RWC), defined as the fraction of volume of recycled water used in surface application calculated from the total volume of recycled water and diluent water used, for surface application differs from subsurface application. DDW ultimately determines the allowable RWC, but initially the RWC is typically no greater than 0.20. The RWC can be increased if either the project can be demonstrated to achieve total organic carbon (TOC) concentrations



no greater than 0.5 mg/L divided by the proposed RWC or if in the last 52 weeks, the 20 week running average of TOC has not exceeded 0.5 mg/L divided by the proposed maximum RWC.

#### 5.4.4.4 Soil Aquifer Treatment

Soil-aquifer treatment involves a combination of physical, chemical, and biological processes that naturally occur in groundwater environments. The main objective of soil aquifer treatment is to remove residual organic material, nutrients, and pathogens. In surface applications of recycled water, it is especially important if advanced treatment technologies are not specifically required. By mandate, soil aquifer treatment is required to reduce concentrations of three indicator compounds specified by the project sponsor by 90 percent between the point of application and a location no more than 30 days downgradient. The initial TOC concentration in the water upon application must be below 0.5 mg/L divided by the running monthly average RWC.

### 5.4.5 Groundwater Recharge Using Subsurface Application

#### 5.4.5.1 Minimum Treatment

If recycled water is to be injected into the groundwater aquifer for intents of indirect potable reuse, it must first be treated to disinfect tertiary standards and undergo full advanced treatment including reverse osmosis and an advanced oxidation process. The reverse osmosis process must meet the requirement that each reverse osmosis element achieves rejection of sodium chloride no less than 99 percent and average rejection of no less than 99.2 percent. Also, no more than 5 percent of samples during the first twenty weeks of operation may have TOC concentrations above 0.25 mg/L.

The AOP chosen must demonstrate 0.5 log removal of 1,4 dioxane or removal of select indicator compounds outlined in Table 5--.

Table 5-9 Advanced Oxidation Process Removal Criteria

0.5 Log Removal of Indicator Compound for Each Group	0.3 Log Removal of Indicator Compound for Each Group
Hydroxy Aromatic	Saturated Aliphatic
Amino/Acylamino Aromatic	Nitro Aromatic
Nonaromatic with carbon double bonds	
Deprotonated Amine	
Alkoxy Polyaromatic	
Alkoxy Aromatic	
Alkyl Aromatic	

#### 5.4.5.2 Recycled Water Contribution (RWC)

The RWC allowable for subsurface application can be up to 100 percent if TOC concentrations are less than 0.5 mg/L, and with approval from DDW.

### 5.4.6 Water Quality Goals and Potential Regulation for Streamflow Augmentation

While the water quality requirements and goals for landscape and agricultural irrigation are relatively well defined, the potential requirements for stream augmentation can be difficult to predict. Surface water discharges are regulated through the NPDES permitting process based on

protection of existing and potential future beneficial uses as defined in the RWQCB Basin Plan. The Basin Plan is an ever-changing document with amendments made yearly and updates (at a minimum every three years) required through the Clean Water Act and California Water Code. The implementation of SNMPs is expected to further update water quality requirements for sub-basins.

A relevant example for potential regulatory implications for streamflow augmentation is the California Men's Colony (CMC) WWTP which currently produces recycled water for the Dairy Creek Golf Course and discharges effluent to Chorro Creek. The permit for the CMC WWTP was updated in 2012, and was reviewed to provide insight on recent requirements for discharge to Chorro Creek. Effluent Limitations include organics, solids, oil and grease, chlorine residual, toxics, and nitrogen compounds. The permit includes limitations for the receiving water (Chorro Creek), which requires monitoring stations upstream and downstream of the discharge point. Receiving water limitations for several parameters are set based on amounts or concentrations that cause a nuisance or adversely affect beneficial uses. Some of the parameters include coloration, taste or odor-producing substances, floating material, suspended material, settleable material, oils, greases, waxes, biostimulatory substances, suspended sediment, toxic metals, and inorganic chemicals. The permit specifies limits for changes in turbidity, pH, and temperature based on the natural levels in the receiving water, and specifies that dissolved oxygen concentrations shall not be reduced below 7.0 mg/L at any time. There are also limitations regarding salinity based on agricultural beneficial uses and water quality objectives defined for Chorro Creek in the Basin Plan. In addition to influent and effluent monitoring, CMC monitors five points along Chorro Creek, from just downstream of the reservoir dam to just upstream of the discharge into Morro Bay Estuary.

Regulations for discharge into streams and other inland surface waters are expected to increase, especially in the realm of nutrients. In wadeable streams, eventual thresholds for nitrogen may be as low as 1.0 mg/L as total nitrogen and limits for phosphorous may be as low as 0.1 mg/L. Scientific work produced by the Southern California Coastal Water Research Project suggests that future nutrient thresholds would not be attainable without the use of reverse osmosis processes. ("Regulatory Implications of Discharge Options for the Future City of Morro Bay WRF" (Discharge Options), LWA, 2014)

Additionally, diverting treated effluent from a surface water to another application has its own implications. Changes to discharges that decrease flow in a watercourse must be approved by the SWRCB Division of Water Rights via a Change Petition. A Change Petition would involve providing sufficient evidence that the change would not injure any other legal user of water and would not impact fish and wildlife. A relevant local example of this is the San Luis Obispo (SLO) WRF, which must dedicate a portion of its effluent to maintain a minimum flow of 2.5 cfs in SLO Creek. If the City were to discharge recycled water from the WRF to Chorro Creek or Morro Creek, future use of that water may be restricted to surface water discharge depending on the NPDES permit.

Chorro Creek and Morro Creek are assigned the beneficial use of Municipal and Domestic Supply (MUN) in the Basin Plan which requires Title 22 MCLs be met for any discharge to the water body. The Discharge Options report investigated effluent data from the current City WWTP between January 2010 and January 2014 for conformity with Basin plan, California Toxics Rule, and Title 22 objectives. Concentrations of ten constituents in the effluent were found to be above the lowest applicable water quality objective. Concentration of Ammonia-N exceeded the

total nitrogen limit for the 2012 CMC permit. Criteria for the California Toxics Rule were updated in 2014 for 90 constituents. Only three of the updated constituents that are monitored in the City WWTP effluent were detected, two of which exceeded the updated criterion. The concentration of these two constituents, cyanide and bis (2-ethylhexyl) phthalate, exceeded the criteria before its update in 2014. The current WWTP receives a significant dilution credit for its effluent via the ocean outfall and diffuser. This dilution credit will likely not carry over to inland surface water discharges therefore treatment to address constituents listed above will be necessary for discharge to Chorro Creek or Morro Creek.

Discharging to Chorro Creek requires the most regulatory involvement. The creek has TMDLs defined in the Basin Plan for nutrients, sediment, and bacteria. The nutrient TMDL for Chorro Creek contained a reopener provision that gives opportunity for regulators to implement new restrictions from state policy on nutrients and biointegrity. Salt and Nutrient Management Plan development for the Chorro Valley Basin may also complicate discharge requirements as a large number of stakeholders, including regulatory agencies such as NOAA Fisheries and California Department of Fish and Wildlife would be involved. Chorro Creek itself is named as critical habitat for federally listed Steelhead trout and California red-legged frog. The Creek discharges into state-protected estuarine habitat that provides for dozens of federally listed species. Accordingly, permitting for discharge to Chorro Creek or changes to the discharge in the future could be heavily scrutinized by state and federal agencies.

Discharging to Morro Creek involves many of the same regulatory implications as Chorro Creek. Toxicity, nutrient, and bacteria policies pertaining to Chorro Creek will also apply to Morro Creek, as well as the biological integrity assessment. Since Morro Creek does not discharge into a sensitive estuary it is not expected to be as heavily scrutinized as Chorro Creek by state and federal agencies. There are also no TMDLs for Morro Creek in the Basin Plan that can potentially be reopened and revised with new goals for discharges.

#### **5.4.7 Water Quality Goals for Injection for Seawater Intrusion Barrier**

If used to augment the City's water supply it is very likely that water quality goals for a Seawater Intrusion Barrier would match that of a GRRP using subsurface application (see Section 5.4.3).

#### **5.4.8 Water Quality Goals for Future Direct Potable Reuse**

Direct potable reuse (DPR) differs from IPR by removing the environmental buffer involved, but typically requiring a higher degree of treatment. DPR can be achieved by either introducing advanced treated wastewater into a raw water supply immediately upstream of a drinking water treatment facility or by introducing the water directly into the potable water distribution system, downstream of the water treatment facility. The lack of the environmental barrier must be made up by the use of treatment technologies that address a broad variety of contaminants. Reverse osmosis technology is frequently used, and often produces effluent of higher quality than conventionally treated drinking water in terms of TOC, TDS, and trace contaminants. The need for rapid adjustment and redundancy in the treatment train is also paramount.

DPR is not currently permitted in the State of California. It is possible that regulations may change in the future, as DPR projects in other parts of the United States and the world are currently operating successfully. One such project, operational since spring of 2013, is presented in the Draft FMP. The system is located in Big Spring, Texas and treats filtered secondary treated effluent using microfiltration, reverse osmosis, and an ultraviolet advanced oxidation process.

The treated water is blended with raw water supplies in a transmission line to one of several drinking water facilities before it is distributed. This project, as well as another DPR project in Texas, received approval on a case-by-case basis without the benefit of all-encompassing resources addressing any issues related to DPR.

Regulations have not been specifically developed for DPR projects at either the state or federal level. California Water Code Section 13560-13569, enacted in February 2009, directs the SWRCB DDW to investigate and report on feasibility of developing uniform water recycled criteria for DPR and IPR. IPR regulations have already been developed and gone into effect for surface and subsurface applications to groundwater. The DDW convened an Expert Panel and tasked them with advising DDW on technical, scientific, and public health issues regarding development of water recycling criteria for IPR through surface water augmentation as well as investigating feasibility of developing uniform recycling criteria for DPR. Uniform water recycling criteria for IPR through surface water augmentation was to be adopted before December 31, 2016. The feasibility of developing recycling criteria for DPR will also be reported before the same date. The report on DPR feasibility was anticipated to incorporate: availability of treatment technologies necessary to protect public health, treatment processes that may be appropriate for DPR applications, any information on health effects associated with DPR, mechanisms to protect public health if problems are found in the recycled water being used as a potable water supply, monitoring needs for protection of public health, and other scientific or technical issues.

The DDW Expert Panel published a report titled, "Evaluation of the Feasibility of Developing Uniform Water Recycled Criteria for Direct Potable Reuse" in August 2016. The report found that it is feasible to develop uniform water recycling criteria for DPR that would provide a degree of public health protection better or equal than conventional drinking water supplies, IPR using groundwater replenishment, and proposed IPR using surface water augmentation. DPR projects will not incorporate an environmental buffer as IPR project do, so this discrepancy in level of protection must be addressed by other means such as reliability of mechanical systems or plant performance. The report includes recommendations for additional research that is needed to establish uniform water regulatory criteria for DPR, and recommended approach for accomplishing the additional research that is needed.

The Draft FMP outlines critical elements that are anticipated as necessary to develop a DPR program in the future using disinfected tertiary effluent from the proposed Morro Bay WRF. These elements include: a multi-barrier process train that removed contaminants and pathogens, redundant processes that consist of multiple unit operations which target removal of a given contaminant or pathogen such that if one process fails the integrity of treatment remains intact, and a robust and resilient treatment train designed to achieve removal of a wide variety of contaminants and pathogens, including pharmaceuticals and emerging contaminants. A wide range of technologies are available to achieve these treatment requirements, such as RO and AOPs which are widely used in IPR projects.

#### 5.4.8.1 OTHER ISSUES/NEEDED STUFF FOR RW

Unrestricted urban use is primarily driven by public safety and suitability for application. Title 22 requirements include standards for effluent coliform concentrations and usage restrictions. Usage restrictions include pipeline distance from potable water pipelines, proximity to groundwater, prevention of cross-connection between potable and non-potable systems, and

restrictions near eating facilities/drinking fountains. In order to comply with these requirements, potential customers may need to reconfigure either their irrigation or potable water systems.



## Chapter 6

# RECYCLED WATER MARKET ASSESSMENT

### 6.1 Market Assessment Procedures

The recycled water market assessment performed in this WRFP analyzes the feasibility of utilizing recycled water to reduce the City's potable water demand or augment the City's potable water supply. The City's 2012 Recycled Water Feasibility Study prepared by Dudek identified various recycled water opportunities around the City. At the time the study was prepared, the City and CSD were jointly pursuing upgrades to the existing WWTF, so the analysis encompasses opportunities for reuse in Cayucos as well. The proposed upgrades to the facility at the time included filtration and disinfection to meet Title 22 disinfected tertiary treated recycled water with the upgrades having 0.4 MGD capacity. Advanced treatment including RO and AOPs was also considered. Potential recycled water users that were identified in the Dudek study were further investigated as part of this WRFP, and considered in conjunction with the new WRF.

The methodology used to determine review potential recycled water opportunities is described below:

- Identification of recycled water uses for investigation
- Review of proximity to the proposed WRF site near the intersection of HWY 1 and South Bay Boulevard
- Review of past and present property owners interested in receiving recycled water. Various potential users were identified in the 2012 Dudek study and updated in "Morro Bay New Water Reclamation Facility – Water Reuse Opportunities" (MKN, 2014).
- Evaluation of nearby water supplies for recharge or augmentation. These potential opportunities would include the Chorro Valley and Morro Valley groundwater basins as well as Chorro Creek and Morro Creek.
- Feasibility to serve each potential recycled water user based on the following criteria:
  - Regulatory requirements.
  - Water quality requirements.
  - Water demand.
  - Ability to offset potable water supply.
  - Reliability.

## 6.2 Potential Uses of Recycled Water

As **described in Chapter 5**, there are various allowable uses of recycled water for the City, including:

- Agricultural uses,
- Urban uses ,
- Groundwater augmentation, and
- Surface water augmentation.

Information from various reports prepared for the City, including Effluent Disposal Feasibility Alternatives Study (GSI Water Solutions, Inc.), Morro Bay Recycled Water Feasibility Study (Dudek, 2012), and the Cayucos/Morro Bay Comprehensive Recycled Water Study (Carollo Engineers, 1999) is summarized in this chapter to describe each potential opportunity.

Potential reclamation opportunities were considered in conjunction with the siting studies performed for the new WRF and summarized in the draft technical memorandum “Morro Bay New Water Reclamation Facility – Water Reuse Opportunities” (MKN, May 8, 2014) (Appendix C). At this time, the location of the new WRF was undetermined and several sites were under consideration. The memorandum reviewed reclamation opportunities identified in previous reports, developed a comprehensive map of the opportunities, and a summary of the potential demands and general water quality requirements. Once the planned new WRF location was determined, the results of this Technical Memorandum became the starting point for refreshing the market assessment described herein.

Recycled water project opportunities in the Chorro Valley were reviewed and summarized in the report “Assessment of the Hydrogeologic Characteristics of the Chorro Valley” (GSI Water Solutions, Inc., August 2016). Groundwater in the Chorro Valley basin is high in nitrates and the City wells that draw from the basin are susceptible to seawater intrusion. The City does not currently have the infrastructure, including a nitrate removal facility and pipelines, to treat and deliver water from the Chorro Valley groundwater basin. The report concluded the most feasible opportunities were percolation in the active channels of Chorro Creek and/or tributaries and in-lieu recharge exchange with agricultural users. The report also noted the legal and water rights issues that could arise if the City recharges Chorro Valley groundwater directly or receives a water supply benefit through in-lieu exchange. There are many agricultural users that could extract that water with no assurance the City wells would physically be capable of withdrawing the full recycled water portion deposited even though it can be presumed the City has rights to most of the water it recharges. Unlike the lower Morro Valley groundwater basin, the aquifer is not constrained and many property owners could extract the City’s recycled water. Preventing the loss of this water would require active basin wide groundwater management and agreements among users.

Another report titled “Hydrologic evaluation of the potential benefits to the City water supply form increasing wastewater discharge to Chorro Creek, San Luis Obispo County” by Cleath- Harris Geologists, Inc. in 2014 found that the annual water supply benefit of discharging to Chorro Creek and recovering at existing City wells during a normal year would be up to 515 acre feet (AF) and during years of exceptional drought, the water supply benefit would reach as high as 900 AF. The project evaluated would involve discharging into Chorro Creek upstream of the City wells in the Chorro Valley and withdrawing Chorro Creek underflow using the City wells.



The report did not take into account any regulatory issues, which are significant in evaluating a recycled water alternative. As previously stated in **Chapter 5 Section 5.4.6**, if the City were to discharge into Chorro Creek, a minimum flowrate would need to be met in Chorro Creek before being able to divert any additional recycled water to other applications. Permitting include an NPDES permit from RWQCB, and recycled water requirements from DDW as the alternative would likely be considered an indirect potable reuse project since it aims to augment the potable water supply. Finally, the long-term benefit of recycled water opportunities in the Chorro Valley would not be guaranteed as future agricultural development or environmental regulation could limit the amount of water available to withdraw from the aquifer both physically and legally. It is anticipated that agricultural development will occur between the City's two wellfields in Chorro Valley. Due to these reasons, previously identified recycled water uses in the Chorro Valley were not investigated further.

Recycled water project opportunities in the Morro Valley were reviewed and summarized in the report "Effluent Disposal Feasibility Alternatives Study" (GSI Water Solutions, Inc., July 2016). The City extracts and treats groundwater from the Morro Valley groundwater basin to supplement potable supply, so implementing a recycled water project in the Morro Valley basin would more directly impact potable water supply. In addition, the City has existing wells and an existing treatment system that can remove nitrate. Other than the City, there are no other users in the lower Morro Valley groundwater basin.

A summary of the potential reuse opportunities reviewed is included in Table 6.1. Projects evaluated further are indicated and brief comments on the feasibility and anticipated efficacy of each alternative are provided. More complete descriptions of each alternative and the rationale are included below in Sections 6.2.1-6.2.13.

Table 6-1 Summary of Reuse Opportunities

Recycled Water Use Alternative	Evaluated Further	Comments
No Recycled Water Project	✓	No water supply benefit to the City Lowest treatment requirements of all alternatives
Urban Reuse	✓	Distribution system to urban irrigation opportunities within the City Limits would need to be constructed by the City Potential to offset City potable water demand and fertilizer costs Generally lower treatment requirements than agricultural irrigation
Agricultural Irrigation		Costly distribution system would need to be constructed by the City Does not increase City's potential water supply, only increases likelihood of withdrawing full allocation from Morro Valley Initial outreach indicated general unwillingness to participate Additional treatment for removal of salts necessary
Exchange of Recycled Water with Agricultural Users in Exchange for Reduced Groundwater Pumping		Distribution system to Morro Valley would need to be constructed by the City Basin-wide groundwater management plan would be required to receive full benefit Does not increase City's potential water supply, only increases likelihood of withdrawing full allocation from Morro Valley Initial outreach indicated general unwillingness to participate Additional treatment for removal of salts necessary
Exchange of Recycled Water with Agricultural Users for Riparian Rights to Withdraw Groundwater		Distribution system to Morro Valley would need to be constructed by the City Complex legal issues surrounding Riparian Rights Initial outreach indicated general unwillingness to participate Additional treatment for removal of salts necessary

Table 6-1 Summary of Reuse Opportunities (continued)

Recycled Water Use Alternative	Evaluated Further	Comments
Exchange of Recycled Water with Agricultural Users in Exchange for Pumped Groundwater Delivered to the City	✓	Distribution system to Morro Valley and return pipeline to water treatment facilities would need to be constructed by the City Initial outreach indicated agricultural users would only be interested if delivered water was less expensive than their current costs or higher quality Additional treatment for removal of salts necessary
Indirect Potable Reuse, Groundwater Replenishment Using Surface Application		Limited water supply benefit, especially during wet years City must acquire land for percolation ponds City must staff and maintain percolation ponds Higher treatment requirements than all alternatives but groundwater injection
Indirect Potable Reuse, Groundwater Replenishment Using Subsurface Application at the Narrows	✓	Injection wells at the Narrows Pilot testing and additional modeling required for permitting and refined supply benefit estimates Highest mandated treatment requirements of all alternatives Highest potential water supply benefit
Indirect Potable Reuse, Groundwater Replenishment Using Subsurface Application at the Narrows Near Bike Path Adjacent to Lila Keiser Park	✓	Injection wells near the bike path near Lila Keiser Park Pilot testing and additional modeling required for permitting and refined supply benefit estimates Highest mandated treatment requirements of all alternatives Highest potential water supply benefit
Groundwater Injection for Seawater Intrusion Barrier		City would likely need to install new injection wells Limited water supply benefit as majority of injected water lost to ocean Highest mandated treatment requirements of all alternatives
Streamflow Augmentation		Regulatory challenges in present and future Long term or permanent commitment to dedicated stream discharge Requires expansion of water treatment facilities to treat surface water Majority of streamflow in Chorro Creek goes to ocean with minimal percolation
Direct Potable Reuse		Not currently legal in California Future regulatory challenges

### **6.2.1 Non Recycled Water Project Alternative**

The No Recycled Project Alternative would consist of constructing a new WRF and either deferring or removing the recycled water component from the overall project. A treated effluent discharge pipeline would be constructed from the WRF to the existing ocean outfall. This line would be installed with any of the project alternatives, as it is planned for operational or wet weather discharge, during times when recycled water could not be delivered, and to transport brine discharge from reverse osmosis treatment.

### **6.2.2 Urban Reuse**

Water quality regulations (CCR Title 22) require that unrestricted irrigation of commercial landscapes, parks, and playgrounds must be tertiary disinfected recycled water. Some of the commercial uses may only require secondary disinfected recycled water. However, the required treatment will be dictated by the highest quality required for the recycled water users. It is anticipated that salts removal (reverse osmosis) will be needed to reduce chlorides and other dissolved solids. The use of recycled water for public landscaping and other urban applications can reduce City expenditures on water and fertilizer. Since recycled wastewater commonly has nutrient content that can be beneficial to landscaping and turf grass, use of recycled water can achieve optimum growth without contributing to potable water demand or purchase of fertilizer. Statewide, nearly 20% of recycled water use is attributed to landscape irrigation involving parks, playgrounds, golf courses, freeway landscaping, open space, and various other applications. This alternative would require the installation of a separate recycled water distribution system.

### **6.2.3 Agricultural Irrigation – Not Evaluated Further**

Agricultural irrigation has been recognized as one of the most promising recycled water opportunities for the area due to the number of irrigated agricultural properties concentrated along Highway 41, just east of the City. However, these properties are outside the City's service area and currently irrigate using existing private groundwater wells. While it is conceivable that delivery of recycled water could decrease groundwater pumping in the Morro Valley, without contracts with the recycled water users to do so (so the City will realize a water supply benefit), such a project could be treated as a supplemental water source and increase agricultural cultivation. Recent outreach has indicated general unwillingness to enter into contracts to reduce groundwater pumping. Additionally, pricing recycled water to be competitive with existing groundwater pumping costs would require that the project be subsidized by the City. This alternative does not provide substantial water supply benefit to the City and was not evaluated further in this study.

### **6.2.4 Exchange of Recycled Water with Agricultural Users in Exchange for Reduced Groundwater Pumping (In-Lieu Groundwater Recharge) – Not Evaluated Further**

This alternative would provide agricultural users in the mid- and upper-Morro Valley with a constant irrigation supply of recycled water in exchange for reduced pumping. Such a reduction in pumping could conceivably result in a greater volume of groundwater available to the City by extraction from the existing downstream City wells. However, such a program would require a valley-wide basin management plan with cooperation agreement by virtually all growers, whether or not they were receiving recycled water. Currently, many of the growers only reduce pumping when their wells begin to dry up. Based on outreach to the agricultural community to date, there is little or no interest in entering into agreements with the City to reduce

groundwater pumping. In addition, the City's groundwater pumping rights would not likely change as a result of this alternative. The current allowable withdrawal of 581 AFY from the Morro Valley basin would not meet the City's potable water demands without SWP deliveries even if groundwater levels and quality would allow for regular extraction. This alternative also requires an extensive distribution system to growers in the Morro Valley. Consequently, this alternative is considered not feasible due to water rights concerns, lack of benefit to agricultural users for reduced pumping, and no real water supply benefit to the City.

#### **6.2.5 Exchange of Recycled Water with Agricultural Users for Riparian Rights to Withdraw Groundwater – Not Evaluated Further**

Exchange of recycled water for riparian water rights would involve providing recycled water to landowners with riparian water rights in exchange for rights to pump groundwater. To take advantage of the pumping rights, the City would require agricultural groundwater pumpers to name the City as a trustee to their water rights as a part of this alternative. As with the previously discussed alternative, this project would require significant participation by agricultural growers in the Morro Valley in order to see any potable water supply benefit. Based on outreach to the agricultural community to date, there is little or no interest in entering into agreements with the City to assign or share users' pumping rights. This alternative also requires an extensive distribution system to growers in the Morro Valley.

#### **6.2.6 Exchange of Recycled Water with Agricultural Users in Exchange for Pumped Groundwater Delivered to the City**

Exchanging recycled water with agricultural users for delivery of groundwater pumped from their private wells is an opportunity that could benefit the City by augmenting water supply while also reducing groundwater pumped for irrigation. It is anticipated that the City would receive a fraction of the volume of recycled water delivered in return, likely 50%. Advantages of this alternative include in lieu groundwater recharge by agricultural users in the Morro Valley, increasing the available groundwater supply for users and growers in the lower regions of the aquifer near the Narrows. The existing City wells also lie near this area, so it is possible that they could also see higher groundwater elevations resulting in lower pumping costs and a severely reduced risk of over drafting the aquifer or inducing seawater intrusion. For irrigation applications, it is expected that the recycled water will undergo reverse osmosis treatment to achieve suitable TDS concentrations. In contrast to the other agricultural irrigation alternatives, this project could provide potable water supply benefit to the City with participation from one to three major water users in the Morro Valley.

#### **6.2.7 Indirect Potable Reuse, Groundwater Replenishment Using Surface Application (Percolation Ponds) – Not Evaluated Further**

Groundwater replenishment using surface application (percolation ponds) involves acquisition of large plots of land to use as infiltration basins. The optimal location would be upstream of the "Narrows", east of the City near HWY 41 where Morro Creek and Little Morro Creek converge. It is estimated that the City could gain a water supply benefit in the range of 100 to 300 AFY during drought conditions, and less to none during wet weather conditions (GIS Water Solutions, July 2016). Since this is significantly lower than the amount of water being produced, particularly during average or wet years, as well as the ability for other pumpers to extract this water without it reaching City wells, this alternative was not preferred.

### **6.2.8 Indirect Potable Reuse, Groundwater Replenishment Using Subsurface Application at the Narrows (Injection Wells)**

This alternative involves injection of recycled water at the Narrows for recovery at the City's potable water wells. Preliminary groundwater modeling by GSI Water Solutions presented in "Draft Lower Morro Valley Basin Screening-Level Groundwater Modeling for Injection Feasibility" (GSI Water Solutions, Inc. January 2017) suggests that all recycled water (up to 825 AFY) could be injected and volume equal to the full annual State Water allocation could be withdrawn from the City wells with little risk of seawater intrusion. Recycled water would be conveyed to the injection wells via a recycled water pipeline alignment that lays along the east side of Highway 1.

### **6.2.9 Indirect Potable Reuse, Groundwater Replenishment Using Subsurface Application near Bike Path Adjacent to Lila Keiser Park (Injection Wells)**

This alternative involves injection of recycled water near the bike path adjacent to Lila Keiser Park for recovery at the City's potable water wells. Preliminary groundwater modeling by GSI Water Solutions presented in "Draft Lower Morro Valley Basin Screening-Level Groundwater Modeling for Injection Feasibility" (GSI Water Solutions, Inc. January 2017) suggests that nearly the full volume of recycled water (804 AFY) could be injected and volume equal to the full annual State Water allocation could be withdrawn from the City wells with little risk of seawater intrusion. Recycled water would be conveyed to the injection wells via a recycled water pipeline alignment that lays along the west side of Highway 1. Depending on recycled water project schedule, it may be possible for the recycled water pipeline to the injection wells to be installed during installation of the raw influent and brine disposal pipelines as the alignments generally follow the same path.

### **6.2.10 Groundwater Injection for Seawater Intrusion Barrier – Not Evaluated Further**

Groundwater injection to develop a seawater intrusion barrier would consist of injecting recycled water into either the existing coastal seawater wells located along the Embarcadero, or into new injection wells somewhere between there and the City's existing potable water wells in the Morro Valley. The injected water would create a fresh water barrier and prevent seawater intrusion during periods of increased pumping from the City's wells, and thereby increase the volume that the City can withdraw from their wells without inducing seawater intrusion. However, a considerable quantity of the water would be lost to the ocean and prevention of seawater intrusion could also be achieved by a groundwater recharge and extraction system.

### **6.2.11 Streamflow Augmentation – Not Evaluated Further**

Streamflow augmentation did not prove to be a preferred alternative from both the regulatory and water supply benefit perspectives. The primary concern regarding this alternative is that committing a portion of flow to the stream would be ultimately binding in the long term, meaning the City would need to maintain its contribution regardless if a much more beneficial recycled water opportunity were to arise (Larry Walker and Associates, October, 2014). Along with the long term commitment, potential future regulations are expected to be very restrictive to discharge of treated wastewater to surface waters, resulting in additional advanced treatment requirements and costs. Additionally, during average and wet years most of the streamflow in Chorro Creek and Morro Creek goes out to the ocean with minimal percolation into the groundwater aquifers, which does not help to offset potable water use. Also the City does not

currently treat surface water so the only potential benefit would be percolation to groundwater for increased supply. Alternatively, it is possible the City could use recycled water discharge to Chorro Creek to maintain the minimum required stream flow of 1.4 cfs, which would allow additional seasonal pumping from the Chorro wells. However, as described in the report by Cleath (ibid.) it is not anticipated to significantly increase the amount of water the City would have rights to extract and additional treatment infrastructure would be required for the high-nitrate groundwater in the Chorro Valley. Additionally, permitting would likely require both RWQCB for the surface water discharge and DDW, since it may be considered indirect potable reuse (IPR). With the level of treatment required for IPR, it is economically advantageous to maximize the amount of water reclaimed. Due to these reasons, this alternative is not preferred.

#### **6.2.12 Direct Potable Reuse – Not Evaluated Further**

Since DPR is not currently legal in California, it is not assessed in depth in this study as a project alternative. Relevant information for potential DPR regulations can be found in Chapter 5 **Section 5.4.8**. It is expected that regulations will be coming forth in the next few years, as the DDW Expert Panel found that it is feasible to develop uniform water recycling criteria for DPR that meets or exceeds a degree of public health protection than what is currently provided.

#### **6.2.13 Summary of Feasible Reuse Opportunities**

The reuse opportunities that appear feasible and are further analyzed herein include urban reuse (commercial and irrigation uses), agricultural exchange, and indirect potable reuse.

### **6.3 Evaluation of Potential Users**

Based on the discussion in Section 6.2, the list of reclamation opportunities was narrowed to three main options: urban reuse (irrigation and commercial use), exchange of recycled water for delivery of pumped groundwater from agricultural wells, or indirect potable reuse via groundwater injection. A summary of water quality guidelines for each of these alternatives is included below in Table 6-2. As discussed in previous sections, minimum treatment levels required to meet regulation may be less than the water quality required for a specific use. This pertains mainly to crops irrigation opportunities for reuse in which the crops to be watered are sensitive to salts. Consequently, some applications may require water treated by reverse osmosis or blending to achieve the desired salinity content.

Table 6-2 Water Quality Requirements for Top Reuse Alternatives

	Indirect Potable Reuse: Groundwater Recharge via Injection (Either Location)	Exchange of Recycled Water for Agricultural Delivery	Urban Reuse (Irrigation and Commercial Use)
Anticipated Timing	5 years		
Governing Permits	Water Discharge Requirements	Water Discharge Requirements	Water Discharge Requirements
Governing Regulations	Basin Plan, Title 22 (GRRP)	Basin Plan, Title 22 (Irrigation)	Basin Plan, Title 22 (Unrestricted Reuse)
Nitrate (mg/L as N) <sup>1</sup>	10		
Selected Metals <sup>2</sup>	Title 22 MCLs or CTR values		
Selected Organics <sup>2</sup>	Title 22 MCLs or CTR values		
7 day median Total Coliforms	2.2 MPN/100 mL		
Anticipated TDS goal	NA (full advanced treatment required)	300	300 - 900

## Notes:

- (1) Future Salt and Nutrient Management Plan (SNMP) and TMDLs may limit nutrient content in irrigation water.  
 (2) Constituents regulated by the California Toxicity Regulation (CTR) are also Title 22 MCLs. Some CTR limits are lower than Title 22 MCLs and vice versa.

In addition to the water quality requirements notes above, several future potential regulatory actions may impact permitting requirements for some of the potential reuse opportunities, including new Toxicity and Control Policy, Bacteria Policy for marine and fresh water discharges, and revised USEPA Human Health Criteria. Specific effluent requirements cannot be anticipated, making flexibility of treatment process selections an important consideration.

A comprehensive list of potential urban and agricultural recycled water users from previous studies was reviewed and updated. The list includes opportunities for agricultural irrigation in both the Chorro Valley and Morro Valley, landscape irrigation, commercial and industrial uses, streamflow augmentation, and other miscellaneous uses. These users were evaluated based on the following criteria to determine feasible alternatives for reuse, potential required recycled water facilities and infrastructure, and potential future recycled water projects:

- Required salts removal or blending for recycled water use.
- Suitability of pipeline alignment from the anticipated WRF site.
- Estimated recycled water demand, including seasonal variability.
- Potential for expansion of recycled water use in proximity to user's location.

### 6.3.1 Customer Outreach

Recycled water demand estimates listed in the previously published recycled water studies were refined via additional interviews with potential users and groundwater modeling. Ten potential recycled water stakeholders were contacted for interviews and the program management team met with seven individually. The stakeholders included agricultural landowners holding parcels ranging from 8 up to 30 irrigated acres in the Morro Valley. It should be noted that none of the agricultural growers interviewed are among the largest growers by acreage in the Morro Valley.



In general, the agricultural landowners who were interviewed indicated whether they were interested in receiving recycled water and how much water they currently use from onsite wells. Water use ranged from just under 4 AFY to 90 AFY. The landowners also expressed that salt removal would be a critical requirement for their participation. In general, growers were not interested in giving up their water rights, and some would not even consider entering formal agreements of any kind. Some interviewed may consider limiting pumping in exchange for water, but others are simply seeking additional water supply for irrigation. Based on current outreach, agricultural irrigation demand would be at least 136 AFY and potentially more than the total amount of recycled water that the WRF can produce (approximately 825 AFY). It should be noted that solely delivering water for agricultural irrigation will not bring a potable water supply benefit to the City. The amount of water given to the City in exchange will likely not be at a 1:1 ratio to the water delivered, and that would be determined as part of the City's negotiations with growers for exchange.

A database of potential users along with water quality requirements to meet regulations and demand estimates has been provided to the City.



## Chapter 7

# PROJECT ALTERNATIVE ANALYSIS

Based on the market assessment and hydrogeological screenings, the project alternatives that appear feasible and are further analyzed herein are summarized in Table 7-1.

Table 7-1 Summary of Project Alternatives

Alternative #	Title	Brief Description
0	No Recycled Water Project (Discharge to existing ocean outfall)	With no recycled water project, the City would continue discharging treated effluent to the existing ocean outfall.
1	Urban Reuse	Recycled water pipeline from WRF to City with turnouts to various urban commercial and landscape irrigation users for potential potable water offset, and recycled water to Morro Bay Golf Course.
2	Delivery of recycled water to agricultural users in exchange for pumped groundwater delivered to the City – “Agricultural Exchange”	Recycled water pipeline to properties in the Morro Valley along Hwy 41 to deliver recycled water for agricultural irrigation in exchange for groundwater sent back to the City. Alternative would include potable water pipeline from upper Morro Valley to City.
3	Indirect potable reuse: Groundwater replenishment using subsurface application at the Narrows (injection wells) – “Indirect Potable Reuse – East”	Recycled water pipeline to new groundwater injection wells east of Hwy 1 and south of Hwy 41, near the Narrows, for groundwater replenishment. Groundwater extracted from existing City wells in the Morro Valley would be treated at the City’s existing water treatment plant.
4	Indirect potable reuse: Groundwater replenishment using subsurface application near the bike path (injection wells) – “Indirect Potable Reuse – West”	Recycled water pipeline to new groundwater injection wells west of Hwy 1 and south of Hwy 41, near the bike path adjacent to Lila Keiser Park, for groundwater replenishment. Groundwater extracted from existing City wells in the Morro Valley would be treated at the City’s existing water treatment plant.

### 7.1 Evaluation Criteria

In order to evaluate the various recycled water alternatives, evaluation criteria were defined based on the WRF Project Community Goals adopted by City Council. The WRF project

community goals and applicability comments from Chapter 1 are included again in Table 7-2 for reference. These project goals were the focus for the Draft FMP and were used to evaluate technologies and processes for the WRF. It should be noted that any recycled water project would be required to submit a Title 22 Report to the RWQCB and SWRCB DDW for review and approval and obtain agreements and contracts with recycled water users prior to project implementation.

Table 7-2 WRF Project Community Goals

Community Goal	Applicability for WRF	Applicability for Recycled Water
Produce tertiary disinfected recycled water	WRF project is to be designed accordingly	Allows for multitude of recycled water uses and provides basis for advanced treatment
Produce reclaimed wastewater cost-effectively	Draft FMP considered costs in treatment evaluation	Project alternative assessment will include capital and operating costs and consider total amount of recycled water produced
Allow for onsite composting	Reviewed as part of Draft FMP. Onsite composting is not recommended, regional facility composting will be more cost effective and more compatible for neighbors	Not Applicable
Design for energy recovery	Draft FMP considered energy recovery for WRF	Project alternatives analysis will consider energy usage
Design to treat for contaminants of emerging concern (CECs)	Draft FMP included consideration in treatment evaluation	Advanced treatment would provide additional treatment for CECs
Allow for other municipal uses	Draft FMP considered for WRF site planning	Not Applicable
Ensure compatibility with neighboring land uses	Draft FMP considered for WRF site planning	Consideration for major infrastructure siting
Operational WRF within five years	WRF project is on schedule	Project alternatives analysis will consider potential challenges that could delay the project.

The recycled water project alternatives were evaluated based on the following criteria, aligning with the community goals:

- Comparative capital and operating costs
- Compatibility with neighboring land uses and impact during construction
  - Total pipeline length
  - Land acquisition
- Reliability of recycled water uses and potential for schedule delays

- Potential to benefit the City's potable water supply (as described below)

This evaluation also considers the potential to benefit the City's potable water supply, either by offsetting potable water demand through delivery and use of recycled water or by a more direct method of supplementing the City's groundwater supply using injection wells (indirect potable reuse). The City currently relies on imported water from the SWP as the primary source of water. During times of low deliveries, or when the annual SWP maintenance occurs, the City utilizes brackish groundwater from the Morro Valley Groundwater Basin, treated through the BWRO at the Water Treatment Plant. Currently, only groundwater from the City's Morro Valley wells can be treated at the BWRO facility, and there is no treatment available for the Chorro Valley wells, which have also been high in nitrates and TDS. Reducing dependence on imported water by offsetting demand or supplementing with recycled water would increase reliability of the City's water supply and could reduce long-term costs. The SWP consists of a complex network of reservoirs, aqueducts, powerplants and pumping plants. Increasing the City's local supply of water provides additional resiliency and reduces the risk of interruption of an imported water supply due to damage caused by earthquakes, climate change, or some other natural disaster. The costs of SWP are anticipated to rise with required improvements as facilities age and critical projects are identified. The City may be able to maintain their SWP allocation, and arrange contracts to transfer their allocation of water to other SWP customers.

## 7.2 Planning and Design Assumptions

City records and various reports were used to develop the basis for design assumptions for the recycled water project alternatives. Chapter 2 and Chapter 3 detail the historical water produced and imported as well as the metered usage. Conservation efforts mandated by the State of California have resulted in reduced demand in recent years. The City's main source of water is the SWP which has become increasingly unreliable in recent years due to drought conditions.

Preliminary design criteria for the WRF from the Draft FMP were used to develop planning and design assumptions in the comparison of the recycled water alternatives. The City identified one of the main goals of the WRF project is to produce disinfected tertiary recycled water. To best achieve this level of treatment using industry standard technologies, the Draft FMP identified two liquid treatment alternatives, with potential for future expansion to advanced treatment. One alternative was a conventional treatment option consisting of screening, grit removal, flow equalization, secondary treatment with sequencing batch reactor, tertiary treatment achieved through microfiltration, and disinfection by ultraviolet radiation. The other alternative, a combined secondary and tertiary treatment option, involved screening, grit removal, flow equalization, secondary and tertiary treatment through a membrane bioreactor process, and disinfection by ultraviolet radiation. The membrane bioreactor acts as both a biological treatment process and a filtration process. A brief discussion and process flow diagrams for the treatment alternatives is provided in Chapter 4 Section 4.7.

Advanced treatment will likely be required for the recycled water projects under consideration, and will be discussed in a later section. Both treatment systems would provide adequate biological treatment for reverse osmosis, but the conventional treatment option would require addition of membrane filters as a pretreatment step to reverse osmosis. The ultraviolet disinfection process can also be coupled with hydrogen peroxide treatment to provide an advanced oxidation process (AOP).

WRF influent flows and anticipated recoveries of the treatment technologies outlined in the Draft FMP used to develop the preliminary design criteria for recycled water pipelines, storage, and advanced treatment facilities for each alternative are listed in Table 7-3.

Table 7-3 Anticipated Recoveries and WR Effluent Flow Rate

Anticipated Recoveries	Effluent Flow Rate
Average Annual Flow – WRF Influent at Buildout	0.97 MGD / 1087 AFY
Microfiltration Recovery	95%
Membrane Bioreactor Recovery	95%
Reverse Osmosis Recovery	80%
Reverse Osmosis salt rejection	98%
Estimated Future Annual Production from WRF at Buildout	825 – 1087 AFY

Notes:

(1) Volume of recycled water depends on the amount of advanced treatment required.

Table 7-4 summarizes the preliminary design criteria used for sizing the recycled water pipelines and pump stations for the various alternatives.

Table 7-4 Preliminary Hydraulic Design Criteria

Parameter	Criteria
Minimum Service Pressure for Spray Irrigation	45 PSI
Minimum Service Pressure for Drip Irrigation	15 PSI
ADD Pipeline Velocity	< 5 fps
PHD Pipeline Velocity	< 10 fps
Hazen-Williams Roughness Coefficient	130

### 7.3 Project Alternative 0: No Recycled Water Project

Project Alternative 0: No Recycled Water Project would consist of constructing a new WRF and either deferring or removing the recycled water component from the overall project. A treated effluent discharge pipeline would be constructed from the WRF to the existing ocean outfall. This line would be installed with any of the project alternatives, as it is planned for operational or wet weather discharge, during times when recycled water could not be delivered, and to transport brine discharge from reverse osmosis treatment. Due to the need to provide for full discharge flow during wet weather events, the preliminary sizing for the discharge pipeline is the same under each project alternative scenario.

The anticipated water quality requirements for ocean discharge are described in Chapter 5 Section 5.4. A new NPDES permit will be prepared for the WRF and the effluent limitations are expected to require full secondary treatment at a minimum.

The Draft FMP evaluated two treatment process trains for the WRF based on the community goals for the project: an SBR process (Option A) and an MBR process (Option B). Membrane filters would be installed downstream of the SBR to allow tertiary treatment, and both process alternatives would include disinfection. The Draft FMP provided budgetary-level cost opinions

for each alternative. If Alternative 0 is pursued, and the WRF is designed for full secondary treatment instead of treatment to project disinfected tertiary recycled water, then a SBR plant without the membrane filters would provide full secondary treatment. Assuming membrane filtration and UV disinfection are not required, and disinfection is provided by a chlorine contact basin instead, a full secondary plant is anticipated to cost approximately \$12 million less, as summarized in Table 7-5. Though full secondary treatment does not meet the Community project goal of producing tertiary disinfected recycled water, it is anticipated that this treatment level would be required for ocean discharge. Therefore, the cost estimate was developed for this report to provide a basis for evaluation of alternatives and relative cost of a recycled water project.

Table 7-5 Cost Opinion for Alternative 0 No Project Alternative

	Option A – SBR with Tertiary Disinfected Treatment	Option A – SBR with Full Secondary Treatment Only (No recycled water)
Estimated construction cost opinion	\$118,600,000	\$106,400,000

**Notes:**

- (1) Estimated cost opinions based on information presented in the Draft FMP for "Option A", SBR process, and includes the WRF lift station, pipelines, and treatment plant without any recycled water components, engineering and design, and 25% construction contingency. Estimated cost for Option B –MBR with tertiary treatment and disinfection is approximately \$120,300,000. This cost opinion does not include additional program costs, such as construction management, property acquisition, and demolition of the existing WWTP. (See Table 7-19 for estimated full WRF program costs).

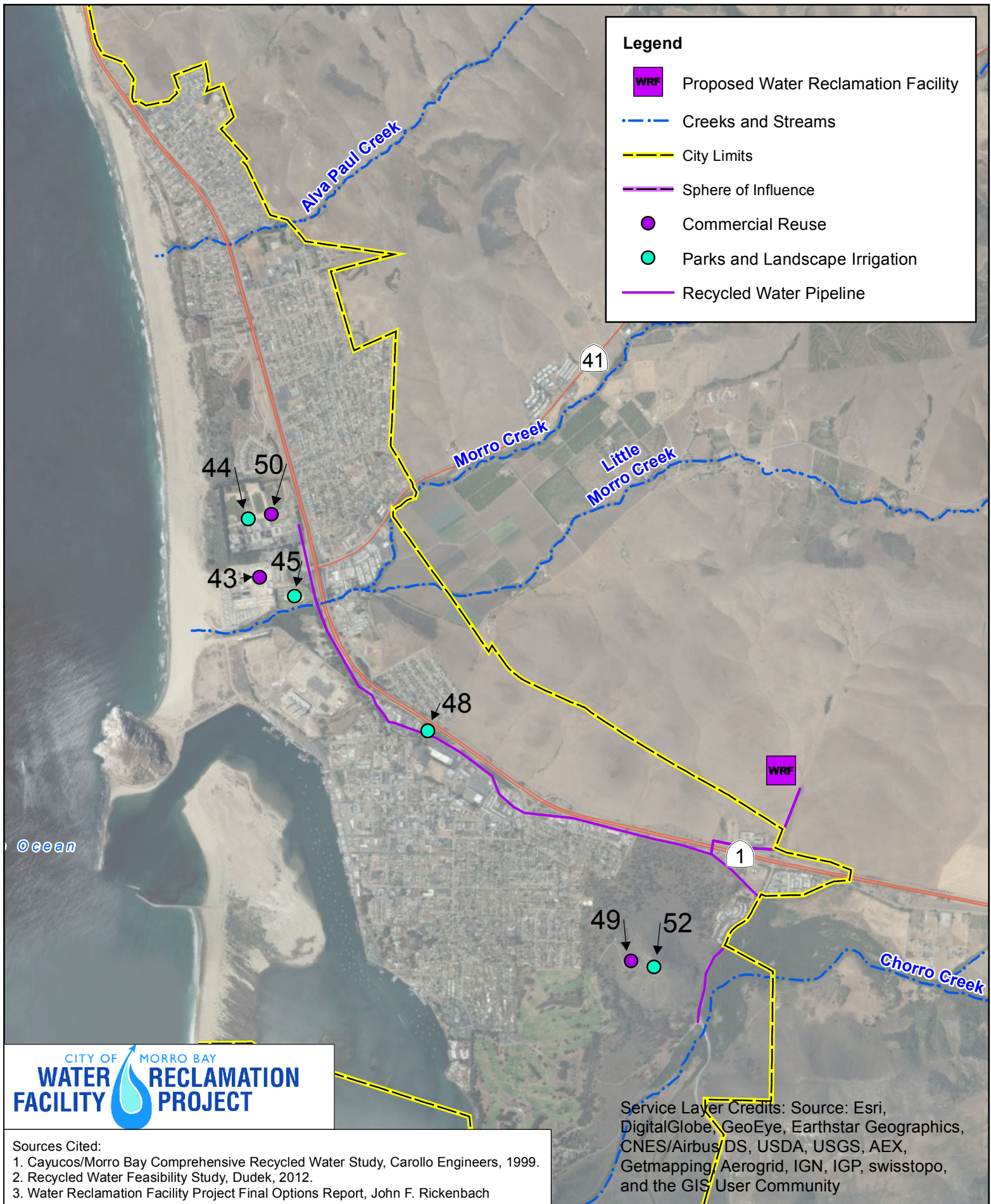
This project alternative would not provide recycled water. Production of recycled water is a community goal defined for the WRF project, and the City has long held a goal to produce and utilize recycled water. The Local Coastal Plan sets reclaimed water as the City's second highest priority for its water supply, next to State Water; and states that water reclamation should be pursued when funded by a potential user, required as part of a wastewater plant upgrade or permit condition, or when it is shown as cost effective for City use. Whether it is cost effective to produce and distribute recycled water will need to be determined. This alternative is presented to assist with that evaluation. Alternative 0 is anticipated to be the least expensive alternative that would meet discharge requirements.

## 7.4 Project Alternative 1: Urban Reuse

Project Alternative 1: Urban Reuse consists of providing recycled water to urban commercial and landscape irrigation uses in the City and to the Morro Bay Golf Course as shown in Figure 7-1.







CITY OF MORRO BAY  
**WATER RECLAMATION FACILITY PROJECT**

Sources Cited:

1. Cayucos/Morro Bay Comprehensive Recycled Water Study, Carollo Engineers, 1999.
2. Recycled Water Feasibility Study, Dudek, 2012.
3. Water Reclamation Facility Project Final Options Report, John F. Rickenbach



### 7.4.1 Preliminary Design Assumptions

Water quality regulations (CCR Title 22) require that unrestricted irrigation of commercial landscapes, parks, and playgrounds must be tertiary disinfected recycled water. Some limited commercial uses, such as the high school bus facility and the City maintenance yard, may only require secondary disinfected recycled water. However, the required treatment will be dictated by the highest quality required for the recycled water users. It is anticipated that salts removal (reverse osmosis) will be needed to reduce chlorides and other dissolved solids. However, for this alternative, a side stream of the WRF effluent would be treated by reverse osmosis and blended back with the tertiary disinfected recycled water to achieve the target TDS and chloride concentrations.

The majority of the urban recycled water uses identified are for landscape irrigation of grasses, which are primarily sensitive to chloride concentration in varying degrees, depending on the type of grass. Based on the water quality guidelines for irrigation, chloride concentrations of less than 142 mg/L represent no problem for irrigation, and concentrations between 142 and 355 mg/L represent increasing problems. This study assumes chloride is removed proportionally to TDS, and chloride concentrations between 142 and 355 mg/L are approximately equal to TDS concentrations between 387 and 914 mg/L. A mass balance was performed assuming a tertiary disinfected effluent TDS concentration (influent to the advanced treatment system) of 942 mg/L and a final TDS concentration target of 600 mg/L to estimate the size of the reverse osmosis system. As shown in Figure 7-2, this blending scenario would yield a TDS concentration slightly lower than 600 mg/L for planning purposes.

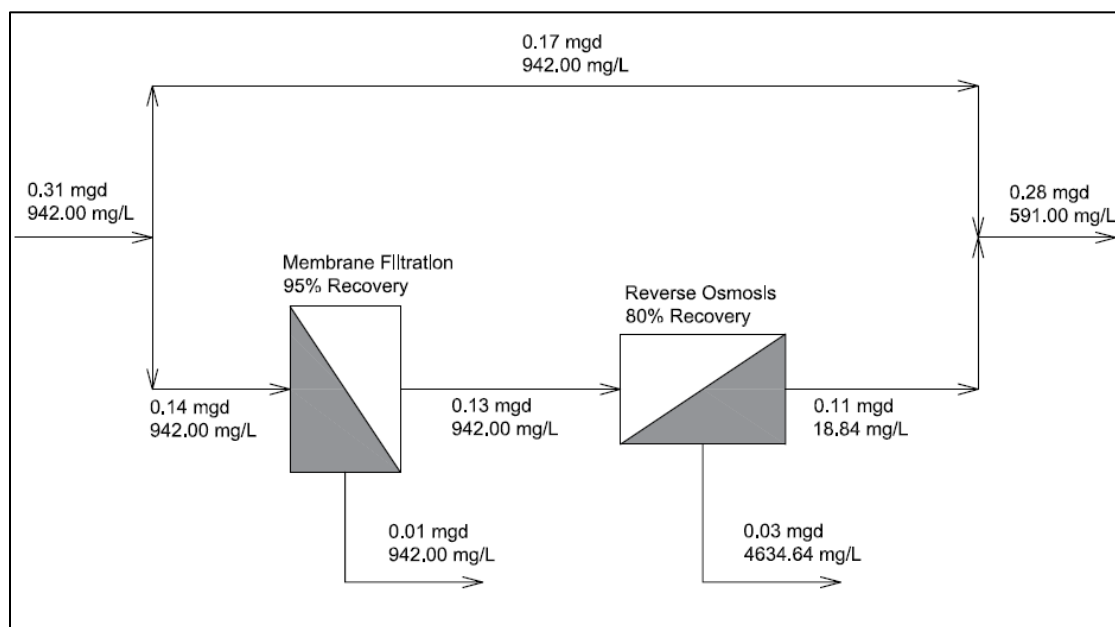


Figure 7-2 Blending Scenario for Alternative 1: Urban Reuse

The preliminary design assumptions for Alternative 1 are summarized in Table 7-6. The recycled water opportunities identified for this alternative represent a water demand that is less than half of the estimated recycled water available. To allow for future expansion as additional opportunities are secured, this alternative assumes that the recycled water pipeline from the

WRF to the City will be sized for the future potential flow rate. The advanced treatment system is also sized for future potential demands with two trains, providing one redundant train for current demands. It is assumed the recycled water pump station will be sized for current demands and upgraded if/when future opportunities are identified. A recycled water tank at the WRF is recommended to provide operational storage for approximately 20 hours of average day production at buildout.

Table 7-6 Alternative 1 Urban Reuse Preliminary Design Assumption

Alternative 1	
Advanced Treatment	
Process	Reverse Osmosis
Recycled water quality target	600 mg/L TDS
RO permeate flow rate (current)	100 gpm
RO permeate flow rate (future)	200 gpm
RO Influent TDS	942 mg/L
RO permeate TDS	18 mg/L
Recycled water flows	
Average Annual Flow (current/future)	351.4 AFY / 703 AFY
Average Day Flow (current/future)	0.31 MGD / 0.62 MGD
Peak Hour Flow (current/future)	0.93 MGD / 1.86 MGD
Recycled water pump station (current)	
Estimated Total Dynamic Head (TDH)	Approx. 100 feet TDH
Estimated horsepower required	25 HP
Configuration	(2) 30 HP pumps (1 duty, 1 standby)
Recycled water pipeline	
Material	PVC
Diameter	12-inch
Length	19,140 linear feet
Recycled water storage tank volume	500,000 gallons

#### 7.4.2 Recycled Water Usage

The anticipated recycled water users for Alternative 1 are shown on **Figure 7-1** and summarized in the table below. The four potential users in the City make up an estimated 45.4 AFY of water demand, which could be offset by recycled water. These users were chosen because they are near or directly along the anticipated pipeline route for the WRF project, and represent the bulk of the recycled water market. Additional potential recycled water opportunities within the City have been identified in the past, and may be added at some point in the future if the alternative is pursued. The Morro Bay Golf Course may use up to 306 AFY. However, since the golf course does not currently utilize City water, this total would not offset potable water use for the City. It is important to note that nearly 99 percent of the usage for this alternative is for irrigation of landscape. During period of wet weather very little recycled water will be utilized. It is assumed the WRF will discharge to the existing ocean outfall during the wet weather months.

Table 7-7 Urban Reuse Recycled Water Opportunities

Site ID	Reuse Opportunity	Reuse Type	Estimated Annual Demand (AFY)
43	City Maintenance Yard	Industrial	1.5
44	Morro Bay High School	Landscape	24.2
45	Lila Keiser Park	Landscape	6.2
48	South side of Highway 1	Landscape	10.0
50	Morro Bay High School Bus Facility	Commercial	3.5
<b>Annual Demand Subtotal (Potential City potable water offset)</b>			<b>45.4</b>
49	Morro Bay Golf Course	Landscape	300
52	Morro Bay State Park/Golf Course	Commercial	6.0
<b>Annual Demand Total (City plus golf course)</b>			<b>351.4</b>

Notes:

- (1) Demand Estimates taken from Morro Bay New Water Reclamation Facility – Water Reuse Opportunities (MKN, 2014); Outreach by John F Rickenbach Planning and Environmental Consulting and RRM Design Group; and City Billing Data (1/2015-9/2016)

### 7.4.3 Preliminary Cost Opinion

A preliminary opinion of probable cost was developed for general guidance to the City in preparing a planning-level budget and evaluating alternatives. Assumptions have been included based on the information available and preliminary design criteria described above. Table 7-8 summarizes the opinion of probable construction cost and annual operating and maintenance costs. Appendix B summarizes the methodology and assumptions used to develop the cost opinion.

Table 7-8 Cost Opinion for Alternative 1 Urban Reuse

Recycled Water Project Capital Costs				
Description	Quantity	Unit	Unit Cost	Total Estimated Cost
Reverse Osmosis System	1	LS	\$1,000,000	\$1,000,000
Recycled water pump station	1	LS	\$400,000	\$400,000
Recycled water pipeline (Open Area)	0.3	MI	\$1,452,000	\$435,600
Recycled water pipeline (Open Area + Sidewalk/trees)	1.1	MI	\$1,557,600	\$1,713,400
Recycled water pipeline (Road/City)	2.3	MI	\$1,716,000	\$3,946,800
Highway crossing (jack and bore)	400	LF	\$650	\$260,000
Storage Tank	500,000	GAL	\$2	\$1,000,000
<b>Subtotal Capital Cost</b>				<b>\$8,755,800</b>
Escalation (2%)				\$175,116
Engineering and Administration (30%)				\$2,627,000
Project Contingency (25%)				\$2,189,000



Table 7-8 Cost Opinion for Alternative 1 Urban Reuse (continued)

Recycled Water Project Capital Costs				
Description	Quantity	Unit	Unit Cost	Total Estimated Cost
Total Capital Cost				\$13,800,000
Annualized Project Cost (SRF Loan, 3% Interest, 30-year period; A/P = 0.051)				\$710,000
Annual Operation and Maintenance Cost				
Description				Estimated Cost
Advanced Treatment O&M				\$70,000
Recycled Water Pumping Electricity				\$20,000
Repair and Replacement (1% of capital)				\$87,558
Staffing				\$96,000
Monitoring and Reporting				\$48,000
Total Annual O&M Cost				\$332,000
Anticipated Cost Per Acre-Foot of Water Supply Benefit				
Total Anticipated Annual Cost				\$1,032,000
Estimated Total Recycled Water Demand (AFY)				351.4
Estimated Water Supply Benefit (AFY)				45.4
Cost of Recycled Water (\$/AF water supply benefit)				\$22,700

## Notes:

- (1) Cost opinion does not include service connections or recycled water onsite costs (adjustments to irrigation systems, cross-connection control, etc.)
- (2) Cost opinion includes the recycled water project only, and does not include costs for the WRF.
- (3) The cost per acre-foot of recycled water delivered (City plus golf course) is approximately \$2,800.

#### 7.4.4 Preliminary Alternative Evaluation

The total estimated recycled water demand for Alternative 1 is approximately 40% to 45% of the estimated recycled water available. The majority of the potential recycled water use under this alternative is allocated to the Morro Bay Golf Course. Since the golf course does not use City water, the potential water supply benefit for this alternative is limited to up to 45.4 AFY (approximately 5% of the recycled water available).

The capital and estimated annual operating costs are relatively low compared to the other options. However, the annual cost per acre-foot of potential water supply benefit is very high, due to the low benefit to potable water supplies.

Each recycled water customer would require a service lateral and flow meter, and onsite retrofits for cross connection control between recycled water and potable water plumbing. Service connections and onsite retrofits vary in size, complexity, and cost; therefore, these costs are not reflected in the preliminary cost opinion above.

The energy use for this alternative is relatively low, with an estimated 15% of the effluent requiring advanced treatment (for current identified opportunities) and approximately 25 hp pumps required for recycled water delivery.

Design of onsite irrigation systems will be required to limit the potential for human contact and have signs posted to clearly indicate the use of recycled water. All major above-grade infrastructure for the project will be contained at the WRF site. Compatibility with neighbors is considered to be favorable for this alternative.

## **7.5 Project Alternative 2: Agricultural Exchange**

### **7.5.1 Project Description**

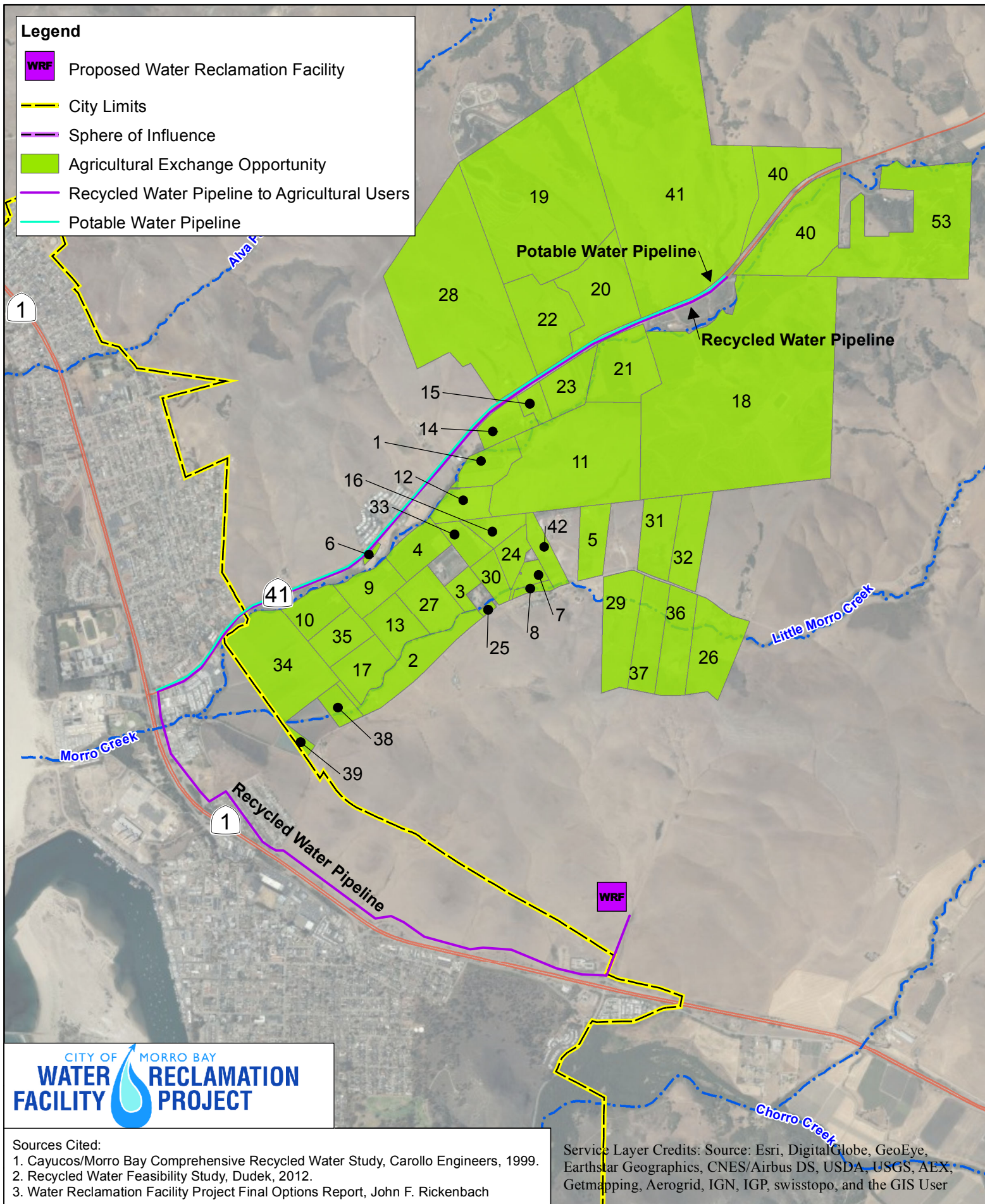
Project Alternative 2: Agricultural Exchange consists of delivering recycled water to agricultural properties for the purposes of irrigation in exchange for groundwater pumped and delivered to the City. Major project components and potential agricultural exchange opportunities are shown in Figure 7-3. Demands associated with each property are referenced in the figure by site number and can be seen in Table 7-10. For the scenario to be attractive to the agricultural community, it is assumed the volume of groundwater delivered back to the City would be less than the volume of recycled water provided. The City would install and operate a new well pump at the landowner's existing well and a potable water pipeline back to the City's system. Alternatively, a branch from the land owner's existing wellhead and a booster pump station could be installed to feed the potable water line back to the City. If the groundwater is extracted from the upper Morro Valley, the quality may be such that additional treatment (beyond disinfection) is not required.





# Legend

- WRF
- City Limits
- Sphere of Influence
- Agricultural Exchange Opportunity
- Recycled Water Pipeline to Agricultural Users
- Potable Water Pipeline



## Sources Cited:

1. Cayucos/Morro Bay Comprehensive Recycled Water Study, Carollo Engineers, 1999.
2. Recycled Water Feasibility Study, Dudek, 2012.
3. Water Reclamation Facility Project Final Options Report, John F. Rickenbach

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### 7.5.2 Preliminary Design Assumptions

To evaluate the alternative, this study assumes one to three landowners in the upper Morro Valley will participate. Negotiations and contracts would need to be developed with the individual land owners, but for the purposes of this study, it is assumed that the contracts would outline a two-to-one ratio of recycled water delivered to groundwater returned.

Based on the water quality regulations (CCR Title 22), undisinfected secondary recycled water could be used to irrigate orchards where the edible portion does not contact the recycled water. However, due to the chloride sensitivity of avocado trees, advanced treatment (reverse osmosis) will be needed.

Reverse osmosis systems require a high quality influent to maintain reasonable costs for membrane operation and maintenance. Additionally, one of the WRF Project Community Goals is to produce disinfected tertiary recycled water. Both treatment process trains described in the Draft FMP would provide tertiary disinfected recycled water quality, and adequate treatment for a reverse osmosis system.

For this alternative, a side stream would be treated by the reverse osmosis system and blended back with the tertiary disinfected recycled water to achieve the target TDS and chloride concentrations. The majority of the agricultural irrigation in the Morro Valley is for avocado crops, which are primarily sensitive to chloride concentrations. This study assumes a target chloride concentration goal of less than 80 mg/L. Unfortunately, existing analyses of WWTP effluent do not include chloride analysis, so an estimate of chloride concentration was made by assuming bicarbonate concentration of 350 mg/L, sulfate of 40 mg/L, and hardness of about 200 mg/L (as  $\text{CaCO}_3$ ). Using these values and TDS of 942 mg/L, sodium chloride concentration is estimated at 482 mg/L, giving chloride concentration of 258 mg/L. This chloride concentration is consistent with the collection system testing performed in June and July of 2016 as part of the Salinity Source Identification and Control Program, which found average daytime and nighttime chloride concentrations of 172 mg/L and 319 mg/L, respectively. Reverse osmosis (RO) performance projections using this assumed water quality predict permeate chloride concentration of 3.5 mg/L. Mass balance calculations indicate that a blended water TDS concentration of about 300 mg/L will provide the desired chloride concentration of 80 mg/L. This blend consists of about 75 percent RO permeate and 25 percent effluent. With RO recovery of 80 percent and effluent flow of 0.97 MGD, blended irrigation water production will be about 0.79 MGD Figure 7-4.

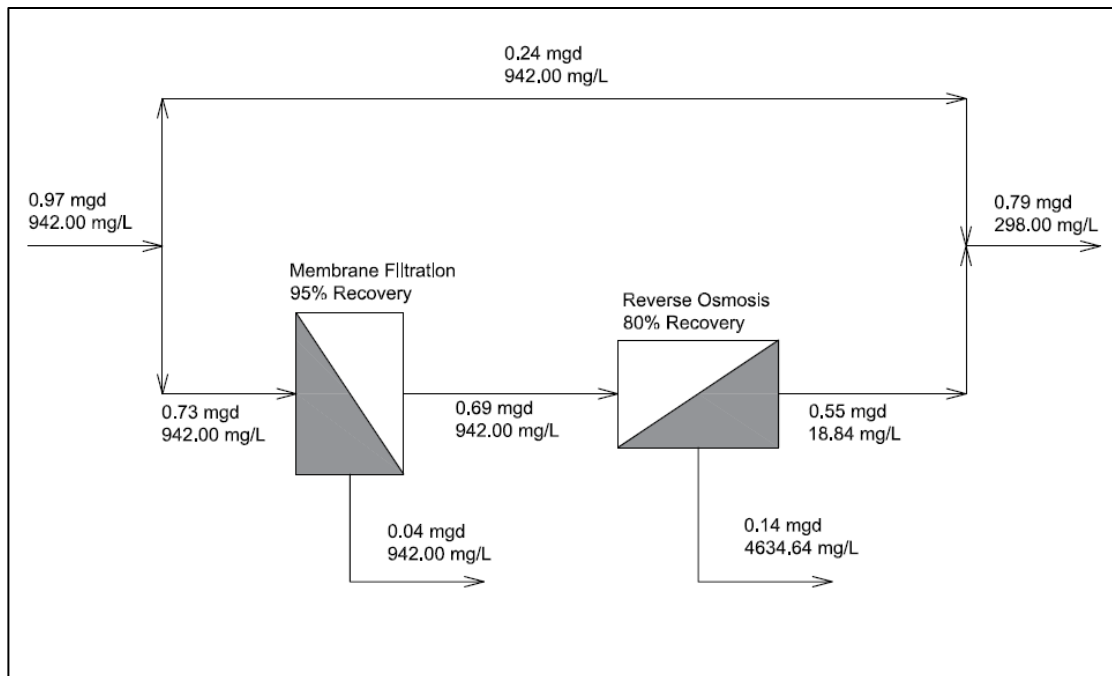


Figure 7-4 Blending Scenario for Alternative 2: Agricultural Exchange

The preliminary design assumptions for Alternative 2 are summarized in Table 7-9. A recycled water tank at the WRF is recommended to provide operational storage, which might not be required if the recycled water users are able to provide adequate operational storage. This study assumes a constant delivery rate equal to the average daily flow (0.79 mgd).

Table 7-9 Alternative 2 Agricultural Exchange Preliminary Design Assumptions

Advanced Treatment	
Process	Reverse Osmosis
Recycled water quality target	80 mg/L chloride
RO permeate flow rate	385 gpm
RO Influent chloride	258 mg/L
RO permeate chloride	3.5 mg/L
<b>Recycled water flow rate</b>	
Average Day Flow	0.79 MGD
Average Annual Flow	885 AFY
<b>Recycled water pump station</b>	
Estimated Total Dynamic Head (TDH)	Approx. 260 feet TDH
Estimated horsepower	45 HP
Configuration	(2) 50 HP pumps (1 duty, 1 standby)
<b>Recycled water pipeline</b>	
Material	PVC
Diameter	12 inch
Length	28,240 linear feet
Recycled water storage tank volume	500,000 gallons
<b>Potable water pipeline</b>	
Material	PVC
Diameter	8 inch
Length	14,770 linear feet
Average annual potable water supply	442 AFY

This alternative assumes one to three landowners will participate in a program to receive the full amount of recycled water available at a constant rate in exchange for groundwater at a two to one ratio, respectively. Based on the anticipated treated effluent flow rates from the Draft FMP and the water quality requirements for the recycled water, a mass balance was developed as described above, estimating approximately 885 AFY of recycled water will be available. From initial discussions with potential users, the assumed potential water supply benefit to the City is half this amount, 442 AFY.

A preliminary list of potential users and preliminary water demand estimates is included below in Table 7-10. Preliminary demand estimates assume 2.5 feet per year per acre of irrigated area. Site numbers correlate with opportunities presented in Table 7-3

Table 7-10 Anticipated Recycled Water Demands from Agricultural Exchange Users

Site #	Size (Acres)	Estimated Irrigated Acreage	Average Demand Estimate (AFY)
1	18.1	9.8	24.4
2	33.2	33.2	82.9
3	9.9	8.9	22.3
4	20.0	17.4	43.4
5	19.7	17.0	42.4
6	1.3	0.4	1.0
7	6.3	4.7	11.9
8	3.4	1.8	4.5
9	19.2	17.6	12.0
10	21.1	20.0	50.0
11	126.7	17.2	43.1
12	17.1	13.5	33.7
13	20.1	18.9	47.2
14	15.7	14.2	35.4
15	7.9	6.4	15.8
16	12.3	3.8	3.7
17	23.3	23.3	58.2
18	349.5	248.1	620.3
19	186.6	56.0	140.0
20	50.6	50.1	125.1
21	38.4	36.4	91.1
22	46.0	34.5	86.2
23	23.6	20.5	51.3
24	11.1	10.0	25.0
25	1.3	1.0	2.6
26	40.0	2.4	6.0
27	19.6	19.2	47.9
28	176.4	7.9	19.8
29	38.6	10.4	26.1
30	10.8	9.7	24.3
31	25.7	7.7	19.3
32	27.0	1.4	3.4
33	12.0	6.9	17.3
34	62.0	58.3	145.8
35	20.1	20.1	50.3
36	29.1	7.9	19.6
37	31.4	12.9	32.1
38	9.8	8.8	22.1
39	5.7	5.2	13.0
40	98.4	37.7	94.2



Table 7-10 Anticipated Recycled Water Demands from Agricultural Exchange Users (continued)

Site #	Size (Acres)	Estimated Irrigated Acreage	Average Demand Estimate (AFY)
41	350.9	14.4	30.9
42	12.2	4.0	10.0
53	111.7	29.3	90.0

Notes:

(1) Demands estimated by owner or by assuming 2.5 feet/year/irrigated acre.

### 7.5.3 Preliminary Cost Opinion

A preliminary opinion of probable cost was developed for general guidance to the City in preparing a planning-level budget and evaluating alternatives. Assumptions have been included based on the information available and preliminary design criteria described above. Table 7-11 summarizes the opinion of probable construction cost and annual operating and maintenance costs. Appendix B summarizes the methodology and assumptions used to develop the cost opinion.

Table 7-11 Cost Opinion for Alternative 2 Agricultural Exchange

Recycled Water Project Capital Costs				
Description	Quantity	Unit	Unit Cost	Total Estimated Cost
Reverse Osmosis System	1	LS	\$1,700,000	\$1,700,000
Recycled water pump station	1	LS	\$500,000	\$500,000
Recycled water pipeline (Open Area)	1.6	MI	\$1,452,000	\$2,323,200
Recycled water pipeline (Open Area + Trees)	0.3	MI	\$1,557,600	\$467,300
Recycled water pipeline (Road/City)	3.6	MI	\$1,716,000	\$6,177,600
Stream crossings (assume 100 ft HDD each)	3	EA	\$65,000	\$195,000
Potable water pipeline (Road/City)	3.6	MI	\$1,584,000	\$5,702,400
Storage Tank	500,000	GAL	\$2	\$1,000,000
<b>Subtotal Capital Cost</b>				<b>\$18,070,000</b>
Escalation (2%)				\$361,400
Engineering and Administration (30%)				\$5,421,000
Project Contingency (25%)				\$4,518,000
<b>Total Capital Cost</b>				<b>\$28,400,000</b>
<b>Annualized Project Cost (SRF Loan, 3% Interest, 30-year period; A/P = 0.051)</b>				<b>\$1,450,000</b>
<b>Annual Operation and Maintenance Cost</b>				
<b>Description</b>	<b>Estimated Cost</b>			
Advanced Treatment O&M	\$130,000			
Recycled Water Pumping Electricity	\$75,000			
Repair and Replacement (1% of capital)	\$180,700			
Staffing	\$96,000			
Monitoring and Reporting	\$30,000			

Table 7-11 Cost Opinion for Alternative 2 Agricultural Exchange (continued)

Recycled Water Project Capital Costs				
Description	Quantity	Unit	Unit Cost	Total Estimated Cost
<b>Total Annual O&amp;M Cost</b>				<b>\$511,700</b>
Anticipated Cost Per Acre-Foot of Water Supply Benefit				
<b>Total Anticipated Annual Cost</b>				<b>\$1,961,700</b>
Estimated Water Supply Benefit (AFY)				442
<b>Cost of Recycled Water (\$/AF water supply benefit)</b>				<b>\$4,400</b>

## Notes:

- (1) Cost of groundwater pump or potable water booster station and associated piping, electrical, and instrumentation is not included in this cost opinion. Cost opinion includes the recycled water project only, and does not include costs for the WRF.

### 7.5.4 Preliminary Alternative Evaluation

This analysis assumes Alternative 2 could utilize the full amount of recycled water available and provide a potable water supply benefit to the City of 442 AFY, approximately half of the recycled water delivered.

When compared to Alternative 1, the capital and estimated annual operating costs are higher. However, the annual cost per acre-foot of potential water supply benefit is much lower than Alternative 1, due to the greater estimated water supply benefit.

Each recycled water customer would require a turnout and a flow meter, and onsite retrofits for cross connection control may be required. Service connections and onsite retrofits vary in size, complexity, and cost. It is assumed the individual landowners will be responsible for compliance with the regulations and associates costs for recycled water usage and systems within their properties. For example, retrofits to existing irrigation systems may be required to ensure compliance with the regulations, which include application at agronomic rates and no runoff or overspray from the property.

The energy use for this alternative is moderate, compared to the other alternatives, with an estimated 70 percent of the effluent requiring advanced treatment and approximately 45 horsepower required for recycled water pumping.

All major above-grade infrastructure for the project will be contained at the WRF site. With regard to infrastructure and potential visual, odor, or noise impacts, compatibility with neighbors is not considered to be significant for this alternative. However, there has been some concern expressed by agricultural landowners in the Morro Valley regarding the potential impact to crop value and private drinking water wells from irrigation with recycled water on adjacent or nearby properties. Title 22 requires no runoff of recycled water from property edges, and a minimum 100-foot setback of recycled water irrigation and recycled water impoundments from any domestic water supply wells. A well survey and Title 22 report would be required to ensure proper setbacks from drinking water wells.

To date, the City has not entered into any agreements with landowners in the Morro Valley to receive recycled water. There is limited interest in utilizing recycled water, and general



unwillingness to enter into a contract with the City to reduce pumping or provide groundwater, with the exception of a few Morro Valley landowners who have expressed interest in developing a memorandum of understanding for a mutually beneficial exchange arrangement. To date, discussions with these landowners have been preliminary and the terms have not been negotiated. Any changes to the water quality requirements, amount of recycled water delivered, and/or amount of potable water for the City would affect the cost opinion and assessment. Should the City wish to pursue this alternative, the legal rights associated with the users delivering water outside of their property would need to be explored.

## 7.6 Project Alternative 3: Indirect Potable Reuse – East

### 7.6.1 Project Description

Project Alternative 3: Indirect Potable Reuse – East involves conveying recycled water to four separate injection wells near the Narrows where it will be used to replenish the groundwater basin as shown in Figure 7-5. The water will be extracted from existing City wells and treated at the City's existing BWRO treatment facility for potable use. The recycled water pipeline would run along the eastern side of Highway 1 to Bolton Drive, east on Radcliff Avenue, north on Main Street, and West down Errol Street. At this point in time the City has not acquired land or investigated potential right of way acquisition to construct the injection wells and a siting study would be required to identify and evaluate potential injection well locations.

### 7.6.2 Preliminary Design Assumptions

Title 22 requires any GRRP using subsurface application to treat the recycled water using full advanced treatment. The accepted technology for full advanced treatment is reverse osmosis and an AOP. General injection and recovery well locations were derived using hydraulic modeling, and driven by residence time requirements set by the California DDW As described in Chapter 5 Section 5.5, residence time credits are granted through evidence of retention through groundwater modeling or pilot testing.

A storage tank of 500,000 gallons was assumed for this alternative to provide operation storage for equipment maintenance or precipitation events which may inhibit the ability to add water to the aquifer. The tank will allow for at least two days of operating volume for two injection wells. The preliminary design assumptions for Alternative 3 are summarized in Table 7-12.

Table 7-12 Alternative 3 Indirect Potable Reuse – East Preliminary Design Assumptions

Alternative 3 Indirect Potable Reuse – East Preliminary Design Assumptions	
Advanced Treatment	
Process	Reverse Osmosis and Advanced Oxidation
Average Flow rate	560 gpm
Recycled water flow rate	
Average Day Flow	0.74 MGD
Average Annual Flow	825 AFY
Recycled water pump station	
Estimated Total Dynamic Head (TDH)	Approx. 150 feet TDH
Estimated horsepower	27 HP
Configuration	(2) 30 HP pumps (1 duty, 1 standby)

Table 7-12 Alternative 3 Indirect Potable Reuse – East Preliminary Design Assumptions (continued)

Alternative 3 Indirect Potable Reuse – East Preliminary Design Assumptions	
<b>Recycled water pipeline</b>	
Material	PVC
Diameter	12 inch
Length	15,100 linear feet
Recycled water storage tank volume	500,000 gallons
Number of injection wells	4
Average Injection well capacity	206 AFY
Number of pumping wells	5 (existing City wells)
Travel time between injection and extraction	Approx. 4 months





### 7.6.3 Recycled Water Usage

Preliminary hydraulic modeling summarized in the report, “Lower Morro Valley Basin Screening-Level Groundwater Modeling for Injection Feasibility” (Draft January 30, 2017, GSI Water Solutions, Inc.) concluded that an injection and pumping configuration of four new injection wells near the narrows and extraction from five existing City wells could achieve injection of the full volume of recycled water (up to 825 AFY) and could support extraction of 943 AFY. According to the model, total amount of extraction is limited by seawater intrusion. The City’s existing wells would not require any updates in order to capture the recycled water. The modeling also concluded that additional wells may be needed depending on how often the injection wells clog. To verify the results of the model and begin permitting discussion with DDW, pilot scale testing is recommended and DDW should be involved in the planning and implementation thereof. Since the residence time demonstrated in the groundwater models was close to the required four months of residence time, permitting would likely not move forward based on the model results alone. Pilot testing will allow the City to refine preliminary assumptions, design criteria, and budgetary cost opinion.

It is assumed that the groundwater extracted from the City wells will be treated at the existing water treatment plant through the BWRO system. Groundwater from the Morro Valley is high in nitrates and TDS. Over time, these concentrations may become lower with the influence of the highly treated recycled water. The BWRO system currently has an efficiency of 80%, with 20% of the product lost as concentrate. In addition to pilot testing, it is recommended that the City perform an assessment of the additional treatment than may be required for the groundwater. It is possible that acceptable quality could be achieved by treating a portion of the groundwater through the BWRO and blending with the rest, thereby reducing the amount of water lost through treatment.

### 7.6.4 Preliminary Cost Opinion

A preliminary opinion of probable cost was developed for general guidance to the City in preparing a planning-level budget and evaluating alternatives. Assumptions have been included based on the information available and preliminary design criteria described above. Table 7-13 summarizes the opinion of probable construction cost and annual operating and maintenance costs. Appendix B summarizes the methodology and assumptions used to develop the cost opinion.

Table 7-13 Cost Opinion for Alternative 3 Indirect Potable Reuse - East

Recycled Water Project Capital Costs				
Description	Quantity	Unit	Unit Cost	Total Estimated Cost
Advanced Treatment, RW pump station, and RW pipeline to Quintana (2900 LF)	1	LS	\$10,580,755	\$10,580,755
Recycled water pipeline (Open Area)	1.3	MI	\$1,452,000	\$1,887,600
Recycled water pipeline (Open Area + Trees)	0.3	MI	\$1,557,600	\$467,300
Recycled water pipeline (Road/City)	0.9	MI	\$1,716,000	\$1,544,400
Stream crossings (assume 100 ft HDD each)	3	EA	\$65,000	\$195,000
Injection well, piping and appurtenances	4	EA	\$210,000	\$840,000
Electrical, instruments and controls at injection well	4	EA	\$70,000	\$280,000
Monitoring well	8	EA	\$84,000	\$672,000
Storage tank	500,000	GAL	\$2	\$1,000,000
<b>Subtotal Capital Cost</b>				<b>\$17,467,055</b>
Escalation (2%)				\$349,341
Engineering and Administration (30%)				\$5,241,000
Project Contingency (25%)				\$4,367,000
<b>Total Capital Cost</b>				<b>\$27,500,000</b>
<b>Annualized Project Cost (SRF Loan, 3% Interest, 30-year period; A/P = 0.051)</b>				<b>\$1,410,000</b>
Annual Operation and Maintenance Cost				
Description				Estimated Cost
Advanced Treatment O&M				\$160,000
Recycled Water Pumping Electricity				\$30,000
Repair and Replacement (1% of capital)				\$174,382
Staffing				\$120,000
Monitoring and Reporting				\$78,000
Extraction and Treatment (\$1000/AF)				\$943,000
<b>Total Annual O&amp;M Cost</b>				<b>\$1,510,000</b>
Anticipated Cost Per Acre Foot of Water Supply Benefit				
Total Anticipated Annual Cost				\$2,920,000
<b>Estimated Water Supply Benefit (AFY)</b>				<b>943</b>
Cost of Recycled Water (\$/AF water supply benefit)				\$3,100

## Notes:

- (1) Cost opinion does not include property research, land acquisition, or pilot testing. Cost opinion includes the recycled water project only, and does not include costs for the WRF.



### 7.6.5 Preliminary Alternative Evaluation

Alternative 3 would utilize the full amount of recycled water available and provide an estimated potable water supply benefit to the City of 993 AFY. This would be a significant impact to the City's potable water portfolio, representing nearly 90% of the City's potable water demand, based on the 2015 value (1,074 AF). As described in Chapter 3, the City currently participates in the State Water Project (SWP) through a contract with Central California Water Authority (CCWA). With an allocation of 1,313 AFY, take-or-pay stipulations, and unpredictable availability, the annual cost of State Water varies. The City's State Water cost is estimated at \$1,600 per AF at full allocation. The cost for 2016/17 fiscal year was \$2,100 per AF.

When compared to Alternatives 1 and 2, the capital and estimated annual operating costs are higher. However, the annual cost per acre-foot of potential water supply benefit is lower than the first two alternatives, due to the greater estimated water supply benefit.

Alternative 3 has greater reliability than the first two alternatives due to no additional recycled water customers to coordinate with or contracts to negotiate.

The energy use for this alternative is high compared to the other alternatives, with the full volume of recycled water requiring advanced treatment, although recycled water pumping requirements are relatively low at a motor size of approximately 30 hp.

The major above-grade infrastructure for the project will be contained at the WRF site, with the exception of the injection and monitoring wells. Potential impacts of the injection and monitoring wells are considered minor. The injection wells should require a relatively small site, with some manifold piping, a motorized flow control valve and flow meter, and electrical and controls panels. No pumps or motors will be needed at the wells.

## 7.7 Project Alternative 4: Indirect Potable Reuse – West

### 7.7.1 Project Description

Project Alternative 4: Indirect Potable Reuse - West involves conveying recycled water to 4 separate injection wells near the bike path north of the power plant where it will be used to replenish the groundwater table as shown in Figure 7-6. The water will be extracted from existing City wells for treatment at the City BWRO treatment facility. The recycled water pipeline would run along the western side of Highway 1 along Quintana Road to Main Street where it would generally follow the bike path to the injection wells. At this point in time the City has not acquired land or investigated potential right of way acquisition to construct the injection wells and a siting study would be required to identify and evaluate potential injection well locations.

### 7.7.2 Preliminary Design Assumptions

Title 22 requires any GRRP using subsurface application to treat the recycled water using full advanced treatment. The accepted technology for full advanced treatment is reverse osmosis and an AOP. General injection and recovery well locations were derived using hydraulic modeling, and driven by residence time requirements set by the California DDW. As described in Chapter 5 Section 5.4.5, residence time credits are granted through evidence of retention through groundwater modeling or pilot testing.

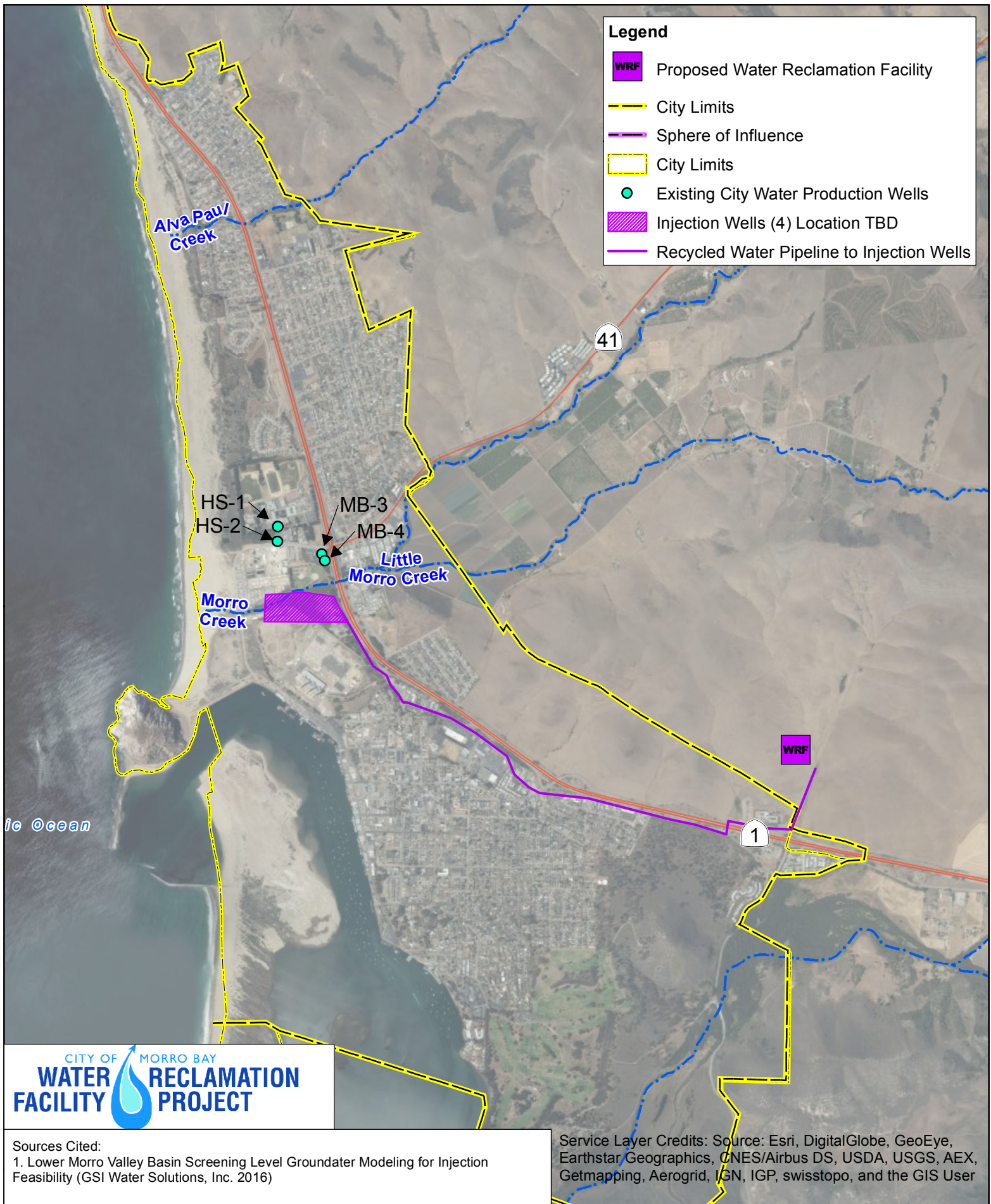
A storage tank of 500,000 gallons was assumed for this alternative to provide operation storage for equipment maintenance or precipitation events which may inhibit the ability to add water to

the aquifer. The tank will allow for at least two days of operating volume for two injection wells. The preliminary design assumptions for Alternative 4 are summarized in Table 7-14.

Table 7-14 **Alternative 4 Indirect Potable Reuse – West Preliminary Design Assumptions**

Advanced Treatment	
Process	Reverse Osmosis and Advanced Oxidation
Flow rate	560 gpm
Recycled water flow rate	
Average Day Flow	0.74 MGD
Average Annual Flow	804 AFY
<b>Recycled water pump station</b>	
Estimated Total Dynamic Head (TDH)	Approx. 60 feet TDH
Estimated horsepower	10 HP
Configuration	(2) 15 HP pumps (1 duty, 1 standby)
<b>Recycled water pipeline</b>	
Material	PVC
Diameter	12 inch
Length	15,200 linear feet
Recycled water storage tank volume	500,000 gallons
Number of injection wells	4
Average Injection well capacity	206 AFY
Number of pumping wells	4 (existing City wells)
Travel time between injection and extraction	Approx. 4 months







### 7.7.3 Recycled Water Usage

Preliminary hydraulic modeling summarized in the report, “Lower Morro Valley Basin Screening-Level Groundwater Modeling for Injection Feasibility” (Draft January 30, 2017, GSI Water Solutions, Inc.) concluded that an injection and pumping configuration of four new injection wells near the bike path and power plant property and four existing wells pumping could achieve injection of nearly the full volume of recycled water (804 AFY) and could support extraction of 1,119 AFY. The City’s existing wells would not require any updates in order to capture the recycled water. The modeling also concluded that additional wells may be needed depending on how often the injection wells clog.

To verify the results of the model and begin permitting discussion with DDW, pilot scale testing is recommended and DDW be involved in the planning and implementation thereof. Since the residence time demonstrated in the groundwater models was close to the required four months of residence time, permitting would likely not move forward based on the model results alone. Pilot testing will allow the City to refine preliminary assumptions, design criteria, and budgetary cost opinion.

It is assumed that the groundwater extracted from the City wells will be treated at the existing water treatment plant through the BWRO system. Groundwater from the Morro Valley is high in nitrates and TDS. Over time, these concentrations may become lower with the influence of the highly treated recycled water. The BWRO system currently has an efficiency of 80%, with 20% of the product lost as concentrate. In addition to pilot testing, it is recommended that the City perform an assessment of the additional treatment than may be required for the groundwater. It is possible that acceptable quality could be achieved by treated a portion of the groundwater through the BWRO and blending with the rest, thereby reducing the amount of water lost through treatment.

### 7.7.4 Preliminary Cost Opinion

A preliminary opinion of probable cost was developed for general guidance to the City in preparing a planning-level budget and evaluating alternatives. Assumptions have been included based on the information available and preliminary design criteria described above. Table 7-15 summarizes the opinion of probable construction cost and annual operating and maintenance costs. Appendix B summarizes the methodology and assumptions used to develop the cost opinion.

Table 7-15 Cost Opinion for Alternative 4 Indirect Potable Reuse - West

Recycled Water Project Capital Costs				
Description	Quantity	Unit	Unit Cost	Total cost
Advanced Treatment, RW pump station, and RW pipeline to Quintana (2900 LF)	1	LS	\$10,580,755	\$10,580,755
Recycled water pipeline (Open Area)	0.3	MI	\$1,452,000	\$435,600
Recycled water pipeline (Open Area + Sidewalks/Trees)	0.6	MI	\$1,557,600	\$934,600
Recycled water pipeline (Road/City)	1.6	MI	\$1,716,000	\$2,745,600
Highway crossing (jack and bore)	400	LF	\$650	\$260,000
Injection Well, piping and appurtenances	4	EA	\$210,000	\$840,000
Electrical, instruments and controls at injection well	4	EA	\$70,000	\$280,000
Monitoring Wells	8	EA	\$84,000	\$672,000
Storage Tank	500,000	GAL	\$2	\$1,000,000
<b>Subtotal Capital Cost</b>				<b>\$17,748,555</b>
Escalation (2%)				\$354,171
Engineering and Administration (30%)				\$5,325,000
Project Contingency (25%)				\$4,438,000
<b>Total Capital Cost</b>				<b>\$27,870,000</b>
<b>Annualized Project Cost (SRF Loan, 3% Interest, 30-year period; A/P = 0.051)</b>				<b>\$1,430,000</b>
<b>Annual Operation and Maintenance Cost</b>				
<b>Description</b>				<b>Estimated Cost</b>
Advanced Treatment O&M				\$160,000
Recycled Water Pumping Electricity				\$15,000
Repair and Replacement (1% of capital)				\$177,486
Staffing				\$120,000
Monitoring and Reporting				\$78,000
Extraction and Treatment (\$1000/AF)				\$1,119,000
<b>Total Annual O&amp;M Cost</b>				<b>\$1,670,000</b>
<b>Anticipated Cost Per Acre Foot of Water Supply Benefit</b>				
<b>Total Anticipated Annual Cost</b>				<b>\$3,100,000</b>
Estimated Water Supply Benefit (AFY)				1119
Cost of Recycled Water (\$/AF water supply benefit)				\$2,800

## Notes

- (1) Cost opinion does not include property research, land acquisition, or pilot testing. Cost opinion includes the recycled water project only, and does not include costs for the WRF.

### 7.7.5 Preliminary Alternative Evaluation

Alternative 4 would utilize the full amount of recycled water available and provide an estimated potable water supply benefit to the City of 1,119 AFY. This would be a significant impact to the City's potable water portfolio, fulfilling all of the City's current potable water demand, based on the 2015 value (1,074 AF). As described in **Chapter 3**, the City currently participates in the State Water Project (SWP) through a contract with Central California Water Authority (CCWA). With an allocation of 1,313 AFY, take-or-pay stipulations, and unpredictable availability, the annual cost of State Water varies. The City's State Water cost is estimated at \$1600 per AF at full allocation. The cost for the 2016/17 fiscal year was \$2,100 per AF.

When compared to other alternatives, the capital and estimated annual operating costs are highest. However, the annual cost per acre-foot of potential water supply benefit is lowest, due to the greatest estimated water supply benefit.

Alternative 4 has greater reliability than the first two alternatives due to no additional recycled water customers to coordinate with or contracts to negotiate.

The energy use for this alternative is high compared to the other alternatives, with the full volume of recycled water requiring advanced treatment; though recycled water pumping requirements are the lowest of the three alternatives, at approximately 10 horsepower.

The major above-grade infrastructure for the project will be contained at the WRF site, with the exception of the injection and monitoring wells. Potential impacts of the injection and monitoring wells are considered minor. The injection wells should require a relatively small site, with some manifold piping, a motorized flow control valve and flow meter, and electrical and controls panels. No pumps or motors will be needed at the wells.

## 7.8 Summary of Project Alternatives

A qualitative comparison of the four recycled water project alternatives is summarized in Table 7-16 based on the community project goals. Alternative 0 is not included, since it would not provide a recycled water project. Table 7-17 contains the qualitative ranking with 1 being low and 4 being high.

Table 7-16 Recycled Water Project Qualitative Comparison

Criteria	Alternative 1 Urban Reuse	Alternative 2 Agricultural Exchange	Alternative 3 IPR East	Alternative 4 IPR West
Potential recycled water usage (AFY)	Currently: 351.4 Future: 703	885	825	804
Potential City water supply benefit (AFY)	Limited: 45.5	Half the amount of recycled water available: 442	More than recycled water amount: 943	More than recycled water amount: 1,119
New pipeline length	19,200 LF	43,000 LF	15,100 LF	15,200 LF
Land acquisition	No additional easements	Several Easements required	Land required for siting new injection wells near the Narrows	Land required for siting new injection wells near power plant property
Reliability	Only interest expressed from golf course	Limited interest based on outreach to date	City controlled	City controlled

Table 7-17 Comparative Qualitative Ranking

Criteria	Alternative 1 Urban Reuse	Alternative 2 Agricultural Exchange	Alternative 3 IPR East	Alternative 4 IPR West
Potential City water supply benefit	1	2	4	4
Pipeline length	2	1	4	3
Land acquisition	4	3	1	2
Reliability	1	2	3	3
<b>Total</b>	<b>8</b>	<b>8</b>	<b>12</b>	<b>12</b>

A summary of the project alternative costs and potable water supply benefit is provided in Table 7-18. The capital costs include the recycled water advanced treatment, pump station, storage tank, injections wells, pipelines, engineering and design, and construction contingency.



Table 7-18 Summary of Recycled Water Project Alternative cost and Water Supply Benefit

	Alternative 1 Urban Reuse	Alternative 2 Agricultural Exchange	Alternative 3 IPR East	Alternative 4 IPR West
Estimated Capital Construction Cost	\$13,800,000	\$28,400,000	\$27,500,000	\$27,870,000
Annualized Project Cost Payment <sup>1</sup>	\$710,000	\$1,450,000	\$1,410,000	\$1,430,000
Estimated Annual O&M Cost	\$322,000	\$511,700	\$1,510,000	\$1,670,000
<b>Total Estimated Annual Cost (\$)</b>	<b>\$1,032,000</b>	<b>\$1,961,700</b>	<b>\$2,920,000</b>	<b>\$3,100,000</b>
Estimated Water Supply Benefit (AFY)	45.4 <sup>2</sup>	442	943	1119
<b>Cost/AFY Water Supply Benefit</b>	<b>\$22,700</b>	<b>\$4,400</b>	<b>\$3,100</b>	<b>\$2,800</b>

## Notes:

- (1) Annualized Project Cost (SRF Loan, 3% Interest, 30-year period; A/P = 0.051)
- (2) Estimated water supply benefit for Alternative 1 does not include Morro Bay Golf Course and State Park (306 AFY demand) as they currently use a non-potable well.
- (3) Alternative 0 is not included here, as the estimated capital construction cost for recycled water project would be \$0 and there would be no water supply benefit.
- (4) Estimated Recycled Water Annual O&M Costs and Total Estimated Recycled Water Project Annual Costs for Alternatives 3 and 4 include \$1000 per acre-foot (for 943 acre-feet and 1119 acre-feet, respectively) for extraction and treatment of groundwater at the existing water treatment plant.
- (5) WWTP costs are not reflected here. They are included in Appendix F, the City of Morro Bay Financial Plan & Rate Analysis for a New WRF, July 2018.

## 7.9 Project Alternatives Analysis Conclusions

The recycled water project alternatives were evaluated based on the community goals for the project. Evaluation criteria include capital cost, operating cost, neighborhood compatibility, reliability, and potential water supply benefit. The following main conclusions can be made:

- The highest water supply benefit would be realized through indirect potable reuse (IPR) (Alternatives 3 and 4). Based on preliminary modeling, it appears Alternative 4 could support the majority, if not all, of the City's current water demand with an estimated water supply benefit of over 1100 AFY. This could significantly reduce or eliminate reliance on imported water.
- The least expensive alternative is no recycled water project (Alternative 0), followed by urban reuse (Alternative 1). Alternative 0 provides no water supply benefit and Alternative 1 provides the least, an estimated 45.4 AFY water supply benefit.
- The capital costs for agricultural exchange (Alternative 2) and IPR (Alternatives 3 and 4) are similar, but IPR has significantly higher water supply benefit if a higher exchange rate is not possible for Alternative 2. Agricultural exchange relies on successful contract negotiations with landowners, adding some uncertainty.

Based on the analyses presented herein, the recommended recycled water project is IPR, Alternative 3 or 4, with the main difference consisting of the locations for injection and extraction wells. The IPR alternative provides the highest potential water supply benefit.

Supplementing the potable water supply with highly treated recycled water is the highest form of allowable beneficial reuse, and will allow the City to reduce or eliminate reliance on imported water. The recommended IPR recycled water project and recommended next steps to implement this project is discussed in Chapter 8.

### **7.10 Environmental Checklist for Preferred Alternative**

An Environmental Impact Report (EIR) was completed in August 2018 for the proposed WRF and related actions, including the Final Water Reclamation Plan. The scope of the EIR is based on the Notice of Preparation (NOP) that was publicly distributed on August 8, 2016. In addition, there was a public workshop held on August 16, 2016, to take further input on the scope of the EIR. The NOP identified the following issues areas that were comprehensively reviewed in the EIR, consistent with most of the issues included in the CEQA Initial Study Checklist:

- Aesthetics
- Agricultural and Forestry Resources
- Air Quality
- Biological Resources
- Cultural and Paleontological Resources
- Geology, Soils and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Recreation
- Noise
- Population and Housing/Growth Inducement
- Public Services
- Traffic and Transportation
- Utilities and Energy
- Cumulative Impacts

The Final EIR was certified by the City Council on August 14, 2018 and both the Draft and Final EIR are included in Appendix D.



## Chapter 8

# RECOMMENDED ALTERNATIVE

### 8.1 Introduction

As summarized at the end of Chapter 7, the recommended project alternative is to implement indirect portable reuse (IPR) to replenish the groundwater basin. At this time, there are two potential injection sites for the advanced treated water, either in the East near the Narrows (Alternative 3 location) or in the West near the bike path north of the power plant (Alternative 4 location). Before a final injection site recommendation is made, a hydrogeological analysis needs to be performed. The City is currently working with GSI Water Solutions (GSI) to complete this study. It is anticipated that the final injection site will be identified in Fall 2019. Until then, both Alternatives 3 and 4 are considered recommended alternatives at this time. It should be noted that these alternatives include the same treatment facilities, number of injection wells, and storage tank size. They differ slightly in the recycled water distribution lines and associated pumping requirements, but are very similar.

This Chapter summarizes the recycled water usages, design assumptions, project locations, and costs of implementing an IPR recycled water alternative. There are two potential locations for the recycled water injection, either in the East or in the West. To be conservative, project costs were developed for the more expensive location – the East location.

It should be noted that costs summarized in this chapter for the recommended IPR alternative differ from those presented in Chapter 7. In the March 2017 draft of this report, MKN performed an analysis to compare the cost of different recycled water alternatives which enabled the City to identify a recommended project and move forward with IPR. With this selection, the City completed the procurement of a design-build team for construction of the secondary and advanced treatment facilities (the Water Reclamation Facility [WRF]). Solicited bids helped refine cost estimates associated with the recommended recycled water component of the overall WRF Project. This chapter presents the refined cost estimates for the recommended IPR recycled water project.

### 8.2 Recommended IPR Project Description

The recommended IPR project consists of implementing advanced treatment technologies including reverse osmosis and an advanced oxidation process to produce tertiary effluent that meets the State Water Boards groundwater replenishment regulations. Treated tertiary effluent will then be conveyed to one of two potential injection locations – the East location or the West location – which allow for sufficient residence time.

The East injection site alternative involves conveying recycled water to four separate injection wells near the Narrows where it will be used to replenish the groundwater basin as shown in Figure 8-1. The recycled water pipeline would run along the west side of Highway 1 to Main Street and then east on Atascadero Road.







The West injection site alternative involves conveying recycled water to four separate injection wells near the bike path north of the power plant where it will be used to replenish the groundwater basin as shown in Figure 8-2. The recycled water pipeline would run along the western side of Highway 1 along Quintana Road to Main Street where it would generally follow the bike path to the injection wells.

At this point in time the City has not acquired land or investigated potential right of way acquisition to construct the injection wells at either location. Once the final injection location has been determined, the City will begin the necessary land and easement acquisition activities.

Once the advanced treated water is injected into the groundwater basin, the groundwater will be extracted from existing City wells and treated at the City's existing brackish water reverse osmosis (BWRO) treatment facility for potable use. Depending on the results of the ongoing hydrogeological studies currently being performed by GSI, the City's BWRO may not be needed to treat the extracted groundwater before entering the City's potable water system.

### 8.3 Recycled Water Usage

This recommended IPR recycled water project does not have specific recycled water customers, but rather involves injecting advanced treated water into the groundwater basin for later use as a potable water supply for the City. The amount of advanced treated water available to inject is limited by the amount of advanced treated water that the WRF can produce (approximately 825 acre-feet per year [AFY]). Preliminary hydraulic modeling was performed for the two proposed injection locations (the East injection site and the West injection site) to determine the volume of recycled water that could be injected at each site as well as the volume of water that could be extracted. For both sites, an injection configuration of four new injection wells was used. The results of the modeling, summarized in the report "Lower Morro Valley Basin Screening-Level Groundwater Modeling for Injection Feasibility" (Draft January 30, 2017, GSI Water Solutions, Inc.), are provided in Table 8-1.

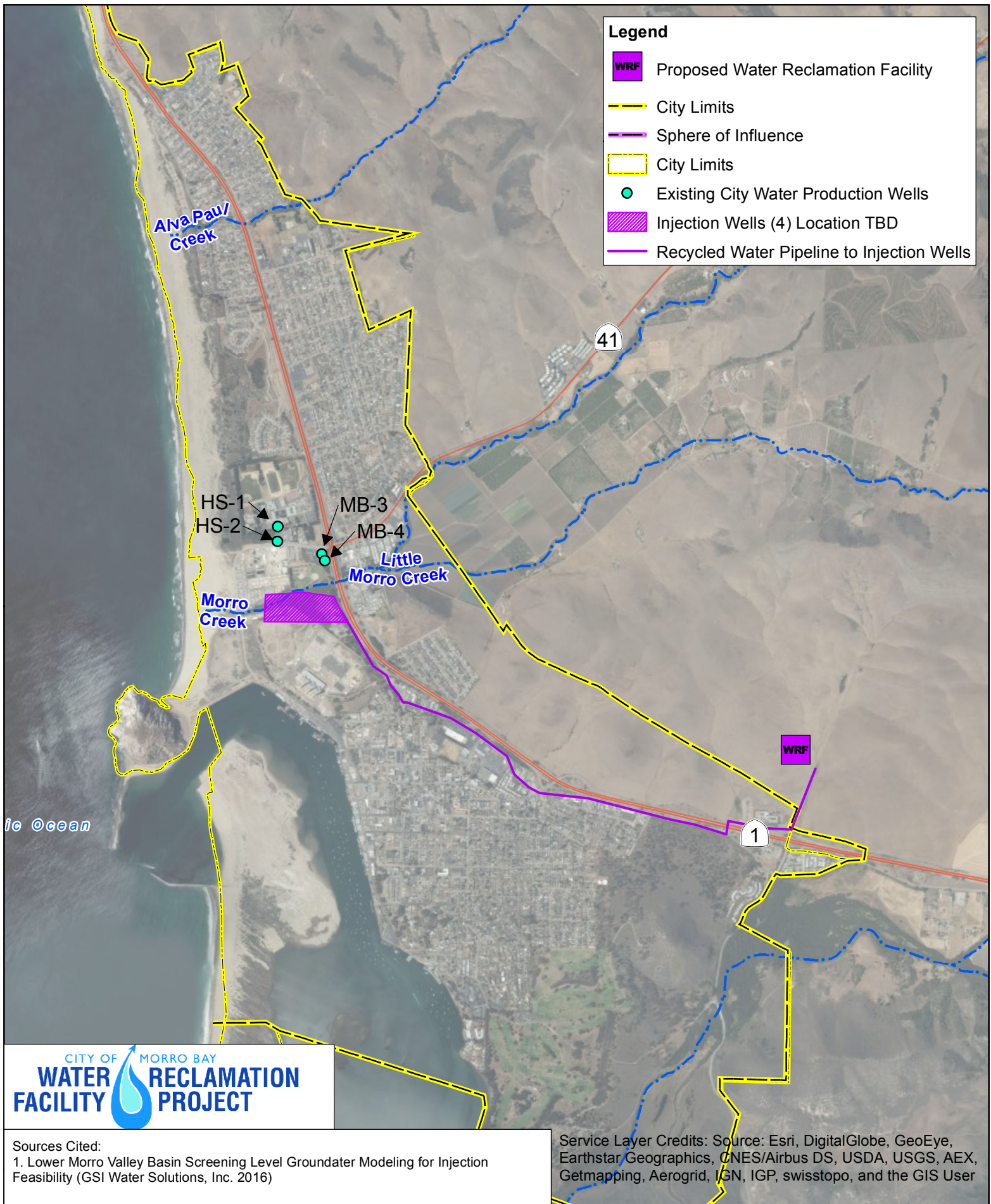
Table 8-1 Indirect Potable Reuse – Injection and Extraction

	East Site	West Site
<b>Injection</b>		
Number of New Injection Wells	4	4
Injection Volume (AFY)	Up to 825	Up to 804
<b>Extraction</b>		
Number of Existing City Wells	5	4
Extraction Volume (AFY)	943	1,119

According to the model, total amount of extraction for both locations is limited by seawater intrusion. The City's existing wells would not require any updates in order to capture the advanced treated water at either location. The modeling also concluded that additional wells may be needed depending on how often the injection wells clog.











To verify the results of the model and begin permitting discussion with the Division of Drinking Water (DDW), pilot scale testing is recommended and DDW should be involved in the planning and implementation thereof. Since the residence time demonstrated in the groundwater models was close to the required four months of residence time, permitting would likely not move forward based on the model results alone. Pilot testing will allow the City to refine preliminary assumptions, design criteria, and budgetary cost opinion.

It is assumed that the groundwater extracted from the City wells will be treated at the existing water treatment plant through the BWRO system. Groundwater from the Morro Valley is high in nitrates and total dissolved solids (TDS). Over time, these concentrations may become lower with the influence of the highly treated injected water. The BWRO system currently has an efficiency of 80 percent, with 20 percent of the product lost as concentrate. In addition to pilot testing, it is recommended that the City perform an assessment of the additional treatment that may be required for the groundwater. It is possible that acceptable quality could be achieved by treating a portion of the groundwater through the BWRO and blending with the rest, thereby reducing the amount of water lost through treatment.

Because the two identified locations are City-owned parcels of land and not potential customers, in the traditional sense, there are no associated customer commitment letters.

#### **8.4 Planning Criteria**

Title 22 requires any Groundwater Replenishment Reuse Project (GRRP) using subsurface application to treat the recycled water using full advanced treatment. The accepted technology for full advanced treatment is reverse osmosis and an advanced oxidation process, therefore these treatment processes are recommended regardless of the final selected injection site.

For either injection location – either in the East or the West – a storage tank of 500,000 gallons was assumed to provide operation storage for equipment maintenance or precipitation events which may inhibit the ability to add water to the aquifer. The tank will allow for at least two days of operating volume for two injection wells. The preliminary design assumptions for IPR are summarized in Table 8-2. Because the injection site is still under investigation, the table shows design assumptions for both the East and West site locations.

Table 8-2 Indirect Potable Reuse – Design Assumptions

Advanced Treatment	Alternative 3 – East Site	Alternative 4 – West Site
Process	Reverse Osmosis and Advanced Oxidation	Reverse Osmosis and Advanced Oxidation
Flow rate	560 gpm	560 gpm
Recycled water flow rate		
Average Day Flow	0.74 mgd	0.74 mgd
Average Annual Flow	825 AFY	804 AFY
Recycled water pump station		
Estimated Total Dynamic Head (TDH)	Approx. 150 feet TDH	Approx. 60 feet TDH
Estimated horsepower	27 HP	10 HP
Configuration	(2) 30 HP pumps (1 duty, 1 standby)	(2) 15 HP pumps (1 duty, 1 standby)
Recycled water pipeline		
Material	PVC	PVC
Diameter	12 inch	12 inch
Length	15,100 linear feet	15,200 linear feet
Recycled water storage tank volume	500,000 gallons	500,000 gallons
Number of injection wells	4	4
Average Injection well capacity	206 AFY	206 AFY
Number of pumping wells	5 (existing City wells)	4 (existing City wells)
Travel time between injection and extraction	Approx. 4 months	Approx. 4 months

## 8.5 Proposed Treatment Facilities

As described in Section 8.2, RO with an AOP is the accepted treatment technology for the required full advanced treatment. Currently the City Wastewater Treatment Plant (WWTP) only has the capability to produce secondary effluent, therefore reverse osmosis (RO) and advanced oxidation process (AOP) are necessary treatment facilities to implement IRP. Table 8-3 summarizes the treatment facilities, pipelines, wells, instrumentation, and storage components required to implement an IPR alternative. Table 8-3 shows the recommended treatment components for both the East and West injection locations. Aside from the length and path of the recycled water pipeline, the infrastructure components of the two alternatives are nearly the same.

Table 8-3 Indirect Potable Reuse – Project Components

Description	Quantity		Unit
	Alt 3 - East Location	Alt 4 - West Location	
Advanced Treatment, RW pump station, and RW pipeline to Quintana (2900 LF)	1	1	LS
Recycled water pipeline (Open Area)	1.3	0.3	MI
Recycled water pipeline (Open Area + Trees)	0.3	0.6	MI
Recycled water pipeline (Road/City)	0.9	1.6	MI
Stream crossings (assume 100 ft HDD each)	3	N/A	EA
Highway crossing (jack and bore)	N/A	400	LF
Injection well, piping and appurtenances	4	4	EA
Electrical, instruments and controls at injection well	4	4	EA
Monitoring well	8	8	EA
Storage tank	500,000	500,000	GAL

The major above-grade infrastructure for the project will be contained at the WRF site, with the exception of the injection and monitoring wells. Potential impacts of the injection and monitoring wells are considered minor. The injection wells should require a relatively small site, with some manifold piping, a motorized flow control valve and flow meter, and electrical and controls panels. No pumps or motors will be needed at the wells.

## 8.6 Preliminary Cost Opinion

As presented in Chapter 7, the total capital cost opinions for Alternative 3 and Alternative 4 were very similar. For the purposes of this study, cost estimates for the East IPR Alternative (Alternative 3) are presented in this section. Whereas the costs presented in Chapter 7 represent the costs for the recycled water treatment, conveyance, and injection facilities only, the costs presented in this chapter include the costs for a complete project including conveyance facilities, all components of the WRF including the necessary secondary treatment components, and the recycled water facilities including the pipelines and injection wells. For this reason, the costs estimates in Chapter 8 differ significantly from those presented in Chapter 7. Also, the costs in Chapter 7 that were used as the basis for selection of the preferred alternative were developed in 2017. Since development of those cost estimates, the project has achieved several major milestones including selection of the design-build team responsible for design construction of the WRF and advancement of the design for the conveyance facilities. Rather than use the cost estimates previously developed in 2017, Chapter 8 presents the most updated cost information for the WRF Project.

Table 8-4 summarizes the opinion of probable construction cost and annual operating and maintenance costs for IPR located at the East injection site.

Table 8-4 Indirect Potable Reuse – Cost Opinion (East Location)

Description	Estimated Cost
WRF Onsite Facilities	\$68,814,000
Conveyance Facilities	\$23,249,000
Recycled Water Offsite Facilities	\$9,474,000
Planning	\$5,064,000
Design	\$6,225,000
Program Administration	\$6,585,000
Construction Management	\$3,750,000
Property Acquisition	\$2,050,000
Permitting	\$731,000
<b>Total Capital Cost</b>	<b>\$125,942,000</b>
<b>Annual Operation and Maintenance Cost<sup>(1)</sup></b>	
Description	Estimated Cost
Collection System (i.e., staffing, supplies, services and electricity)	\$1,230,000
Conveyance Facilities (i.e., electricity, maintenance, repair and replacement, and chemicals)	\$2,382,600
WRF Operation (i.e., staffing, sludge disposal, supplies, chemical, equipment replacement, and maintenance and repairs)	\$246,000
Recycled Water Facilities (i.e., electricity, repair and replacement, and monitoring and reporting)	\$193,000
<b>Total Annual O&amp;M Cost</b>	<b>\$4,051,600</b>

Notes:

(1) Annual O&amp;M costs are presented in 2022 costs.

The City is planning to construct the new WRF within the next several years.

## 8.7 Implementation Plan

To further refine and implement the recommended IPR project, the City will need to address the following:

- Complete the ongoing hydrogeological study to determine siting for injection wells;
- Conduct a pilot study for injection and extraction activities;
- Update groundwater modeling (after/with pilot study);
- Develop the Title 22 Engineering Report;
- Assess groundwater treatment and blending options at existing BWRO;
- Develop design documents for the recycled water facilities including the injection wells;
- Continue public outreach activities with the local community;
- Obtain permits and clearances from applicable regulatory agencies (such as RWQCB, DDW, United States Army Corps of Engineers [USACE], California Department of Fish and Wildlife [CDFW], etc.);
- Review any existing City water ordinances and update as necessary; and
- Construct the recommended project.

## 8.8 Schedule

A preliminary implementation schedule is outlined below. This timeline predicts that the recycled water treatment facility can be commissioned and started up by 2022.

- |   |                |
|---|----------------|
| • Complete Rate Study                               | July 2018      |
| • Hydrogeological Study / Final Site Identification | September 2019 |
| • WRF Preliminary Design                            | November 2019  |
| • Conveyance Facilities Construction                | April 2020     |
| • Recycled Water Facilities Construction            | May 2020       |
| • Conveyance Facilities Construction                | September 2021 |
| • WRF Construction / Start-Up                       | November 2021  |



## Chapter 9

# CONSTRUCTION FINANCING PLAN AND REVENUE PROGRAM

### 9.1 Introduction

The adequate funding of capital and operational costs is a primary consideration when implementing a capital program that would expand facilities and infrastructure. This chapter describes potential funding opportunities and financing mechanisms for the costs associated with the recommended IPR recycled water project, including an overview of current applicable grants and loan opportunities.

This chapter also references the July 2017 Financial Plan and Rate Analysis for a New Water Reclamation Facility that Bartle Wells Associates prepared for the City's overall Water Reclamation Facility (WRF). The rate study provides financial projections and rate surcharges for the City based four alternative scenarios. While the study considers costs for the overall WRF program, costs and annual projections for only the recycled water component of the WRF program are still distinguishable and are allocated under the water charges.

### 9.2 Funding Source Identification

There are two types of costs associated with each project of the recommended IPR recycled water project in Chapter 8: capital costs required to plan, design, and build the facilities and infrastructure elements; and operational costs required to maintain, operate, and repair those facilities and infrastructure elements.

Capital costs are funded through a variety of sources that range from traditional funding options such as pay-as-you-go funding and bond financing, to non-traditional funding sources such as grants, loans, and market based programs. The sections that follow outline the mechanisms available to recover both capital and O&M costs.

The main instruments available for funding the capital costs include:

- **Pay-as-you-go financing** — upfront collection of project costs from existing and new users for future capital improvement projects.
- **Debt financing** — acquisition of funds through borrowing mechanisms.
- **Grants and loans** — alternate sources of funds from public agencies at no or minimal interest cost. Examples include federal, state, and local programs that provide funding at zero interest for projects that meet select criteria.
- **Market based programs** — refers to financing through funds obtained from tax credits, purchase agreements, voluntary programs, and trading and offset programs.

Operating revenues remaining after operating expenses and debt service obligations have been met can be a significant source of funding, either as pay-as-you-go funding for capital expenses today, or placed in reserves for future projects. Financing methods such as grants and loans can



be combined with rate and reserve funding to develop a complete funding plan. It is recommended that operational costs be fully funded through user rates and other recurring annual sources of revenue, and that these are not funded through debt.

### **9.2.1 Pay-As-You-Go Funding**

Pay-as-you-go (or paygo) financing involves periodic collection of capital charges or assessments from customers within the utility's jurisdiction for funding future capital improvements. These revenues are accumulated in a capital reserve fund and are used for capital projects in future years. Pay-as-you-go financing could be used to finance 100 percent or only a portion of a given project, depending on a number of factors.

Overall, total costs are substantially lower when employing a paygo financing approach due to the avoidance of interest payments incurred from bond funding, along with the associated transaction costs (e.g., legal fees, underwriters' discounts, etc.). However, it is often challenging to employ this funding approach for large new or replacement projects, due to the high amount of capital that is needed on-hand in reserves, or from rate-based cash flow. If the program is reserve funded, the agency must already have sufficient cash-on-hand designated for such a project. If the program is rate funded, it could significantly increase the agency's rates and fees if the program represents a sizeable increase in capital needs. Due to these challenges associated with rate and/or reserve funding, many agencies ultimately opt to fund major capital expansions through other methods, particularly bond financing.

## **9.3 Financing Options**

### **9.3.1 Debt Financing**

There are several different options for debt financing of reclaimed water projects, ranging from issuance of short- or long-term bonds.

#### **9.3.1.1 Revenue Bonds**

Revenue bonds are historically the principal method of incurring long-term debt. This method of debt obligation requires specific non-tax revenues such as user charges, facility income, and other funds, pledged to guarantee repayment. There is often no legal limitation on the amount of authorized revenue bonds that may be issued, but from a practical standpoint, the size of the issue must be limited to an amount where annual interest and principal payments are well within the revenues available for debt service on the bonds. Revenue bond covenants generally include coverage provisions, which require that revenue from fees minus operating expenses be greater than debt service costs.

#### **9.3.1.2 Certificates of Participation**

Certificates of participation provide long-term financing through a lease agreement that does not require voter approval. The legislative body of the issuing agency is required to approve the lease arrangement by a resolution. The lessee (the City) would be required to make payments typically from revenues derived from the operation of the facilities. The amount financed may include reserves and capitalized interest for the period that facilities will be under construction. Within the State of California, most municipal water utility bonds are issued in the form of certificates of participation rather than traditional revenue bonds.

### 9.3.1.3 General Obligation Bonds

General obligation (GO) bonds are municipal securities secured by the issuer's pledge of its full faith, credit, and taxing power. GO bonds are backed by the general taxing authority of local governments and are often repaid using utility revenues when issued in support of a sewer or water enterprise fund. In the event that GO bonds are issued for this project, the agency must have the necessary taxing capacity to issue the bonds.

### 9.3.1.4 Assessment District Bonds

Financing by this method involves initiating assessment proceedings. Assessment proceedings are documents in "Assessment Acts" and "Bond Acts." An assessment act specifies a procedure for the formation of a district (boundaries), the ordering, and making of an acquisition or improvement, and the levy and confirmation of an assessment secured by liens on land. A bond act provides the procedure for issuance of bonds to represent liens resulting from proceedings taken under an assessment act. Procedural acts include the Municipal Improvements Acts of 1911 and 1913. The commonly used bond acts are the 1911 Act and the Improvement Bond Act of 1915. The most prevalent procedure is a combination of the 1913 Improvement Act with the 1915 Bond Act. Charges for debt service can be included as a special assessment on the annual property tax bill. The procedure necessary to establish an assessment district may vary depending on the acts under which it is established and the District size.

## 9.3.2 State Grants and Loans

Generally, in order to qualify for one of California's state funding programs, a project must meet the following objectives and requirements:

- Demonstrate consistency with the California Water Action Plan (CWAP).
- Help meet the State Recycled Water Policy objectives.
- Provide environmental documents such as California Environmental Quality Act (CEQA) or CEQA plus.
- Protect groundwater resources.
- Demonstrate regional cooperation and partnerships with partners and stakeholders such as Cal Water.
- Remain consistent with the objectives of US Bureau of Reclamation Title XVI program to reclaim and reuse wastewaters and naturally impaired ground and surface water in the 17 Western States and Hawaii.

State budget constraints always bring some uncertainty to the future funding ability of these programs. It is therefore recommended that these programs be viewed as a potential supplement to other funding sources, rather than a funding centerpiece on their own.

### 9.3.2.1 Water Recycling Funding Program

One state funding option for the recommended recycled water projects is the Water Recycling Funding Program (WRFP) administered by the SWRCB. The program offers grants and loans for planning (including research, feasibility studies, environmental review) and construction (treatment facilities, distribution systems, and storage). The program is financed through Propositions 1 (2014 Water Bond), Proposition 13 (2000 Water Bond), and the Clean Water State Revolving Fund (CWSRF).

The WFRP has a set of guidelines that capital projects must meet in order to qualify to apply and receive funds. Because the recommended recycled water program is for the purposes of water reuse, it would qualify as an eligible project.

The recommended recycled water program would be eligible for construction funding including grants and loans from a state bond, CWSRF financing, or combinations of funding sources. Construction grants are dispersed through Proposition 13 and Proposition 50 and there is a limited amount of construction grants available. Construction loans are dispersed through Proposition 13 and the CWSRF. Like conventional financing, CWSRF financing can be used to fill any funding gaps between the capital plan and available revenues. Compared with conventional debt financing however, CWSRF loans come with more advantageous borrowing terms, including interest rates set at one-half of the state general obligation bond rate and has historically averaged around 2 percent (currently 1.8 percent in California<sup>1</sup>). The CWSRF offers 30-year financing options and there are no maximum limits on financing. Furthermore, repayment does not begin until one year following completion of the eligible project.

The SWRCB provides one application package for both construction grants and CWSRF recycled water loans. The application package consists of:

- General Application.
- Financial Application with an Authorized Representative Resolution (Legal Authority).
- Technical Application with a Feasibility Study.
- Environmental documents including CEQA documents.

The SWRCB will review the application package and assess eligibility. Once the SWRCB receives and reviews the final plans and specs, it will issue project performance standards. Once performance standards are agreed to and the applicant chooses a contractor, the parties sign a funding agreement. The applicant must also have an Urban Water Management Plan filed with the DWR to receive funds.

### **9.3.3 Federal Grants and Loans**

In addition to local and State grants and loans, there are several highly competitive federal grant and loan programs that provide financial resources to recycled water projects.

#### **9.3.3.1 Water Infrastructure Finance and Innovation Act (WIFIA)**

In 2014 to accelerate investment in the nation's water and wastewater infrastructure, the federal government enacted the Water Infrastructure Finance and Innovation Act (WIFIA), a federal credit program administered by the EPA. The WIFIA Program provides long-term, low-cost supplemental credit assistance to eligible water and wastewater projects of national and regional significance. Up to 49 percent of eligible project costs can be funded with the WIFIA Program.

Eligible projects include those that are also eligible for the Clean Water SRF and the Drinking Water SRF, enhance energy efficiency at drinking water and wastewater facilities, produce new water supplies (brackish or seawater desalination, aquifer recharge, alternative water supply, water recycling), prevent, reduce, or mitigate drought, involve acquisition of property if integral

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<sup>1</sup> Interest rate as of March 9, 2017.

[https://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/srf/docs/trueinterestcost.pdf](https://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/docs/trueinterestcost.pdf)

to the project or will mitigate the environmental impact of a project, or a combination of projects secured by a common security pledge.

Eligible project costs range from development phase activities to construction, including property acquisition and capitalized interest necessary to meet market requirements.

As of August 2018, the City of Morro Bay has submitted a complete WIFIA program application package and is awaiting a decision from the Environmental Protection Agency (EPA).

#### **9.3.3.2 Title XVI**

The U.S. Bureau of Reclamation administers funds for recycled water feasibility, demonstration, and construction projects through the Water Reclamation and Reuse Program authorized by the Reclamation Wastewater and Groundwater Study and Facilities Act of 1992 (Title XVI) and its amendments. The program provides as much as 25 percent of construction costs with a maximum of \$20 million. To meet eligibility requirements a project must have a feasibility study, comply with environmental regulations, and demonstrate the ability to pay the remainder of the construction costs. Projects are authorized by Congress and recommended in the President's annual budget request by the Bureau of Reclamation. Congress then appropriates funds and the Bureau ranks and prioritizes projects and disburses the money on a competitive grant basis each year. Prioritized projects are those that postpone the development of new water supplies, reduce diversions from natural watercourses, and reduce demand on federal water supply facilities, or that have a regional or watershed perspective.

Table 9-1 State and Federal Funding Programs

Program	Agency	Type	Description
State			
Water Recycling Funding Program	State Water Resources and Control Board	Grant/Loan	<p>Funding is available for projects in the following categories:</p> <ul style="list-style-type: none"> <li>• Category I projects will offset state water supplies and increase water to the Delta.</li> <li>• Category II projects will offset state water use, but do not provide benefits to the Delta.</li> <li>• Category III projects use recycled water to supplement local water supplies but have no impact on the state water supply or the Delta.</li> <li>• Category IV projects will treat and reuse groundwater contaminated by human activity.</li> <li>• Category V projects will treat and dispose wastewater to meet waste discharge regulations.</li> <li>• Category VI captures miscellaneous projects that do not fall into other categories and have no benefits to state or local water supplies.</li> </ul> <p>The maximum award for construction grants for Category I through IV projects is the lesser value of \$5 million per project or 25 percent of construction costs. Category V and VI projects are only eligible for SRF loans. Loans are capped at \$50 million per agency per year.</p>
Integrated Regional Water Management Grants Program (Prop 84)	Department of Water Resources	Grants	Grants are available for projects that support integrated water resources management (IWRM) plans and are related to water supply reliability, groundwater recharge, water quality enhancement etc.
Proposition 1	State Water Resources Control Board	Grants	Funding is available for recycled water projects. Program is being run through the SRF program (application is same as an SRF application). Grant award is up to 35 percent of construction costs or a maximum of \$15 million (for recycled water projects). The Proposition 1 Groundwater Grant funds up to 50 percent of the construction costs with no maximum cap. Funds are available on a first-come, first serve basis.
Title XVI	U.S. Bureau of Reclamation	Grants	Eligible projects include recycled water feasibility, demonstration, and construction projects. The program provides as much as 25 percent of construction costs with a maximum of \$20 million. To meet eligibility requirements a project must have a Bureau of Reclamation approved feasibility study, comply with environmental regulations (NEPA), and demonstrate the ability to pay the remainder of the construction costs.

## 9.4 Funding Sources and Uses

In July 2018, Bartle Wells and Associates (Bartle Wells) completed the "Financial Plan and Rate Analysis for a New Water Reclamation Facility." The study is included in Appendix F. This study included a cash flow model to forecast the City's revenues and expenses for the WRF Project.

### 9.4.1 Funding Sources

#### 9.4.1.1 Utility Rate Charges and Fees

Utility rates, charges, and fees, such as the rates charged to users for each unit of water used or monthly wastewater treatment fees, can be used to fund recycled water system improvements. The City could also implement a benefit assessment fee through a public voting process, which would recover costs through the annual property taxes. Benefit assessment fees are usually included as a separate line item on the annual property tax bill sent to each property owner.

#### 9.4.1.2 Water Infrastructure Finance and Innovation Act

In 2017, the City was selected by the USEPA as one of 12 agencies nationwide to submit an application for WIFIA funding based on a letter of interest submitted in April 2017. In September 2018, the City submitted the final WIFIA application. The current rate for a WIFIA loan is 3 percent, but would not be formally set until final approval is obtained. WIFIA financing can be used to fund up to 49 percent of the WRF Project cost and has favorable repayment terms including low interest rates. For the funding scenarios evaluated by Bartle Wells, it has been assumed that a portion of the WRF Project costs will be funded by WIFIA.

#### 9.4.1.3 State Revolving Fund Planning Loan

The City was awarded a \$10.3 million State Revolving Fund (SRF) planning loan from SRF with a subsidized interest rate of 1.70 percent. This planning loan is included in all of the funding scenarios evaluated by Bartle Wells.

### 9.4.2 Funding Uses

#### 9.4.2.1 Capital Costs

The capital costs are based on the recommended project outlined in Chapter 8. The project outlined in that chapter formed the basis of the capital program. Table 8-4 summarizes the total capital for the project.

#### 9.4.2.2 Operating Costs

The annual operations and maintenance costs for each phase are also found in Table 8-4. These costs were included in each year of the cash flow model following project completion.

## 9.5 Funding Plan Options

The work done by Bartle Wells included rate recommendations developed under a total of four (4) financial scenarios. Under all of these scenarios, surcharges for the WRF Project were developed with input from Carollo, City staff, and a Blue Ribbon Commission consisting of four (4) residents from the community with substantial financial and business experience established to provide independent review and help evaluate the costs and potential rate increases needed to support the new WRF Project. These alternatives scenarios included:

- **Base Case Scenario:** This scenario assumes the WRF Project is funded by a combination of WIFIA financing, revenue bonds, and pay-as-you go cash funding from rates and fund reserves.

Under this scenario, the City would levy the full WRF Project Surcharges beginning fiscal year 2019/20.

- **Phase-In Scenario:** This scenario is similar to the Base Case Scenario, but assumes the WRF Project Surcharges would be phased in from fiscal year 2019/20 through 2021/22.
- **SRF Financing Scenario:** This scenario assumes the City obtains low-rate SRF financing, instead of bonds, to supplement the anticipated WIFIA loan and cash funding.
- **No Water Recycling Scenario:** This scenario eliminates the water recycling facilities resulting in a reduced-cost, wastewater-only WRF project, and also assumes no WIFIA financing with all project funding from bonds and pay-as-you-go cash contributions.

## 9.6 Cash Flow Analysis

A summary of the cash flow analysis for the Base Case scenario is presented in Table 9-2. Cash flow analyses for the remaining alternatives are included in Appendix F.

## 9.7 Current Sewer Rates and Rate Study Update

On September 11, 2018, the City adopted new rates for the WRF Project utilizing the Base Case Scenario. The rates were developed to cover water and sewer operating costs and planned capital improvements, including the WRF Project. The approved rates for various user groups are included in Appendix F.

Table 9-2 Base Case Scenario Cash Flow Analysis

FYE	Revenues						Costs	Capital	Debt Service	Total	Reserves	
	Beginning Fund Reserves	Revenues	SRF Planning Loan	WIFIA	Bond	Total	O&M				Reserve	Ending Period Reserves
2018	\$6,402,000	\$6,235,000	\$0	\$0	\$0	\$12,637,000	\$2,605,000	\$1,920,000	\$0	\$4,525,000	\$1,710,000	\$8,112,000
2019	\$8,112,000	\$6,916,000	\$5,800,000	\$0	\$0	\$20,828,000	\$3,137,000	\$3,640,000	\$0	\$6,777,000	\$139,000	\$8,251,000
2020	\$8,251,000	\$9,642,000	\$4,500,000	\$31,100,000	\$0	\$53,493,000	\$3,262,000	\$6,357,000	\$0	\$9,619,000	\$23,000	\$8,274,000
2021	\$8,274,000	\$9,650,000	\$0	\$29,075,000	\$7,400,000	\$54,399,000	\$3,991,000	\$4,424,000	\$1,152,000	\$9,567,000	\$83,000	\$8,357,000
2022	\$8,357,000	\$9,659,000	\$0	\$0	\$17,300,000	\$35,316,000	\$4,552,000	\$7,948,000	\$1,500,000	\$14,000,000	(\$4,341,000)	\$4,016,000
2023	\$4,016,000	\$9,586,000	\$0	\$0	\$0	\$13,602,000	\$4,691,000	\$1,050,000	\$3,616,000	\$9,357,000	\$229,000	\$4,245,000
2024	\$4,245,000	\$9,774,000	\$0	\$0	\$0	\$14,019,000	\$4,878,000	\$1,080,000	\$3,616,000	\$9,574,000	\$200,000	\$4,445,000
2025	\$4,445,000	\$9,960,000	\$0	\$0	\$0	\$14,405,000	\$5,074,000	\$1,111,000	\$3,616,000	\$9,801,000	\$159,000	\$4,604,000
2026	\$4,604,000	\$10,234,000	\$0	\$0	\$0	\$14,838,000	\$5,277,000	\$1,143,000	\$3,616,000	\$10,036,000	\$198,000	\$4,802,000
2027	\$4,802,000	\$10,422,000	\$0	\$0	\$0	\$15,224,000	\$5,488,000	\$1,176,000	\$3,616,000	\$10,280,000	\$142,000	\$4,944,000





## Appendix A

# HISTORICAL EFFLUENT WASTEWATER QUALITY



# Appendix A: Historical Effluent Wastewater Quality



**Appendix A: MBCSD WWTP Historical Effluent Quality**

MKN reviewed historical treated effluent quality based on monthly and annual reports available on the California Integrated Water Quality System (CIQWS), presented below in **Table A-1**, **Table A-2**, and **Table A-3**. Since the City is planning on constructing a new WRF, the future effluent quality will be different than historical effluent quality, though some of the characteristics may be considered during NPDES permit negotiations.

**Table A-1: 2015 MBCSD WWTP Effluent**

Month	BOD <sub>5</sub> (mg/L)	TSS (mg/L)	Oil and Grease (mg/L)	Settleable Solids (mL/L)	Turbidity (NTU)	pH (SU)	Ammonia (mg/L as N)	Total Coliform (MPN/100 mL)
January	42.3	25.4	1.4	0.1	28.3	7.5	41	2
February	64.3	32.4	0	0.1	29.7	7.5	38	2
March	45.2	31.8	0	0.1	30.8	7.5	19	2
April	45.8	28.1	1.7	0.1	29.9	7.5	50	2
May	49.3	36	0	0.1	29.3	7.6	49	2
June	52.8	35.7	0	0.1	30.8	7.6	43	6
July	42.2	26	0	0	30.5	7.6	50	2
August	51.3	25.1	0	0.1	28.8	7.5	49	2
September	54	21	1.9	ND	24.8	7.5	45	2
October	42.8	29.9	ND, DNQ	0.1	27.9	7.6	65	2
November	44.8	39.1	ND, DNQ	ND	27.9	7.5	37	2
December	52.6	38.8	ND, DNQ	ND	34.2	7.5	49	2

Notes: All values presented as average monthly, except for Ammonia and Total Coliform which are presented as maximum daily and 30-day median, respectively. ND = Not Detected, DNQ = Detected, Not Quantified

There were very few effluent violations in recent history, all of which were having to do with total chlorine residual exceeding the discharge limit. The first violation in the period examined was in December of 2014, where a faulty sodium bisulfite dosing pump used for dechlorination was malfunctioning. The pump was immediately replaced and the chlorine residual responded accordingly. The second violation was in April of 2015, where the chlorine contact tank was taken offline for repair to ensure safe and reliable future operation. The final and most recent violation was in December of 2015 where the circuit in which the sodium bisulfite pumps were operating on had its circuit breaker tripped by a sump pump operating on the same circuit. The City is pursuing isolated and dedicated circuits for the sodium bisulfite pumps in order to avoid future occurrences.

**Table A-2: Historical Effluent Quality BOD and TSS Concentrations**

Month	2011		2012		2013		2014		2015	
	BOD <sub>5</sub> (mg/L)	TSS (mg/L)	BOD <sub>5</sub> (mg/L)	TSS (mg/L)	BOD <sub>5</sub> (mg/L)	TSS (mg/L)	BOD <sub>5</sub> (mg/L)	TSS (mg/L)	BOD <sub>5</sub> (mg/L)	TSS (mg/L)
January	27	17	57	26	44	30	72	30	42	25
February	46	21	58	25	44	29	46	26	64	32
March	44	25	47	23	70	33	44	27	45	32
April	88	30	45	27	48	32	48	37	46	28
May	57	37	64	331	57	37	47	27	49	36

**Table A-2: Historical Effluent Quality BOD and TSS Concentrations**

Month	2011		2012		2013		2014		2015	
	BOD <sub>5</sub> (mg/L)	TSS (mg/L)	BOD <sub>5</sub> (mg/L)	TSS (mg/L)	BOD <sub>5</sub> (mg/L)	TSS (mg/L)	BOD <sub>5</sub> (mg/L)	TSS (mg/L)	BOD <sub>5</sub> (mg/L)	TSS (mg/L)
June	45	22	60	28	58	26	50	30	53	36
July	52	33	52	26	54	25	52	25	42	26
August	57	32	48	28	52	21	50	28	51	25
September	52	32	40	33	53	28	56	22	54	21
October	45	27	46	32	54	28	48	33	43	30
November	50	24	42	28	59	32	51	38	45	39
December	56	21	42	27	76	36	51	29	53	39
Annual Average	52	27	50	27	56	30	51	29	49	31
NPDES Limit (Average Monthly)	120	70	120	70	120	70	120	70	120	75

The City also performs daily sampling for Chlorine residual, weekly sampling of Oil/Grease, Setttable Solids, and pH, and monthly sampling for ammonia. Chronic Toxicity is tested twice annually and Total Coliforms are sampled 5 consecutive days a week. A wide variety of other chemicals monitored for protection of marine aquatic life and protection of human health, which are specified in the NPDES permit, are analyzed annually and semi-annually.

**Table A-3: MBCSD Historical Effluent Data**

Parameter	Average Monthly Limit	Maximum Daily Limit	Sampling Frequency	2011	2012	2013	2014	2015
Oil & Grease (mg/L)	25	75	Weekly	4	5	4.4	4	1.7
Setttable Solids (mL/L)	1	3	Weekly	0.1	0.1	0.1	0.1	0.1
pH (s.u.)	6-9 at all times		Weekly	7.6	7.6	7.5	7.5	7.5
Chlorine (mg/L)	0.27 <sup>1</sup>	1.07	Daily	<0.05	<0.05	<0.05	<0.05 <sup>3</sup>	<0.05 <sup>3</sup>
Ammonia (as N) (mg/L)	80.4	322	Monthly	<34	<42	<64	<65	<65
Chronic Toxicity (TU) <sup>4</sup>	--	134	2/year	17.9	17.9	31.2	17.9	17.9
Total Coliform (organisms/mL)	30-day median of 23	2,400 MPN/100 mL	5 days/week	<2	<2	<2	<2	<2 <sup>2</sup>

1) Total Chlorine Residual is regulated as a Six-Month Median concentration.

2) Peak running-median value applicable to 30-day median values

3) Levels ND excluding violating discussed in this section.

4) Highest measured toxicity value for each year reported

## Appendix B

# CONSTRUCTION COST OPINION NOTES





## Appendix B: Construction Cost Opinion Notes



## **Appendix B – Recycled Water Project Alternative Analyses Cost Opinion Assumptions**

Costs for various Recycled Water Alternative components were derived using various references including City Consultant studies and reports, previous construction bids, and engineering estimates.

The annualized project cost payments were estimated assuming an SWRCB State Revolving Fund (SRF) loan at 3% interest and a 30-year term ( $A/P = 0.051$ ) as considered in the City's 2015 Water and Sewer Rate Study.

**Advanced Treatment Components** – The Draft FMP prepared by Black and Veatch for the City included costs for an advanced water purification facility (AWPF). The WRF costs were broken into two phases: phase one would achieve treatment for tertiary disinfected recycled water and phase two would involve bringing the reverse osmosis and advanced oxidation process online. These Phase 2 advanced treatment component costs from the MBR Option were used for Alternatives 3 and 4, not including escalation, engineering and design, or construction contingency, as these costs are estimated as a percentage of the subtotal capital cost.

Alternatives 1 and 2 are expected to require reverse osmosis systems for a side stream of the effluent to achieve the required water quality. Assumptions for extent of advanced treatment were made based on chloride and TDS removal as described for each alternatives. The cost opinions for the RO systems were based on the following assumptions:

- Two trains are provided. The two trains allow for the option of shutting one train down when influent flows are reduced. Having two trains also allows the plant to continue producing water when one train is taken out of service for cleaning or maintenance.
- Each of the two trains is equipped with cartridge filter, feed pump, membrane array, and associated piping, valves, controls, and instrumentation.
- No carbon dioxide stripping tower is included. Blending the permeate with the high-alkalinity influent stream provides sufficient buffering that CO<sub>2</sub> stripping is not required.
- Building cost is not included. It is assumed that the RO equipment is installed in an existing building. It could also be installed outdoors.
- Clean-in-place (CIP) and scale inhibitor feed and storage facilities are included.
- The RO system will require a space of about 20 feet by 30 feet.

Considering these assumptions and the expected capacities of the treatment systems, the expected installed cost of the RO treatment equipment is about \$3.50 per gallon-per-day of permeate capacity.

**Conveyance Facilities** – Recycled water pipeline construction costs are based on 12 inch diameter, PVC pipeline, approximately 3 feet below grade. Costs are divided by terrain sections, "Open Area", "Open Area with Sidewalk or Trees", or "Road/City Area". The cost for the installed pipeline was estimated as \$275 per linear foot (LF) for open area, \$295 per LF for open areas with trees or sidewalks, and \$325 per LF for road areas.

Costs for injection wells and necessary monitoring equipment were derived from recent bid responses and construction cost opinions for similar systems.

**Operation and Maintenance** – The Draft FMP included an appendix on operation and maintenance costs for the WRF. Since all alternatives would achieve tertiary disinfected recycled water, that was considered the baseline cost. Additional operation and maintenance costs including chemical, power, and repair and

replacement were included in cost ranges provided in the Draft FMP. The cost ranges were based on the percentage of total flow going through the AWPf. Planning level estimates of 15%, 75%, and 100% were assumed for urban irrigation, agricultural irrigation, and IPR. The Draft FMP provided a range of estimated costs for both recommended WRF treatment processes (sequencing batch reactor and membrane biofiltration). For purposes of this study, the highest range for the more expensive option (membrane biofiltration) was chosen and the baseline WRF estimated annual operating cost was subtracted to provide an estimated annual operating cost for the advanced treatment.

Staffing costs were estimated based on extent of anticipated man-hour requirements for each alternative. IPR alternatives were considered to have higher staffing needs as they require more extensive monitoring and reporting as well as have more mechanical equipment requiring maintenance and upkeep.

Monitoring and reporting costs were estimated based on the end application of recycled water. Since water delivered for agricultural exchange would not come in contact with the general public, the monitoring and reporting comments were considered less than for the other alternatives. Monitoring and reporting requirements may require a greater effort for urban irrigation due to the higher number of potential recycled water users, and the IPR alternatives will require the greatest monitoring and reporting effort.

## Appendix C

# DRAFT TECHNICAL MEMORANDUM: MORRO BAY NEW WATER RECLAMATION FACILITY – WATER REUSE OPPORTUNITIES (MKN, 2014)



Appendix C:  
Draft Technical Memorandum: Morro Bay New Water  
Reclamation Facility – Water Reuse Opportunities  
(MKN, 2014)





## TECHNICAL MEMORANDUM

To: John Rickenbach  
From: Michael Nunley  
Date: 5/8/2014  
Re: Morro Bay New Water Reclamation Facility – Water Reuse Opportunities

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### INTRODUCTION

Michael K. Nunley & Associates, Inc., and John F. Rickenbach Consulting (JFR) are providing project management support for the City of Morro Bay's new Water Reclamation Facility (WRF). One of the City Council's goals for the new WRF is production of recycled water. The purpose of this memorandum is to identify the potential water reuse opportunities and demands from prior City reports, develop a comprehensive map of the previously-identified potential reuse areas, and provide a summary of the general water quality requirements for these various uses.

MKN reviewed previous recycled water studies for the City of Morro Bay (City) and Cayucos Sanitary District (CSD) Wastewater Treatment Plant (WWTP), including

- Cayucos/Morro Bay Comprehensive Recycled Water Study, Carollo Engineers, October 1999
- 2012 Recycled Water Feasibility Study, Dudek, Draft March 9, 2012

These reports investigated the feasibility of implementing a recycled water program. Both studies included identification of potential water reuse opportunities in the Cayucos and Morro Bay areas and review of the water demands and water quality requirements.

The cost of a recycled water system can vary significantly. The treatment processes, pumping stations, pipelines, and storage facilities depend on the end user or final destination of the recycled water. Depending on the usage type(s), different regulatory requirements will apply. The water quality required for various individual users may result in the need for a higher level of treatment than would be required to meet the regulations. For example, if irrigation of avocados is a significant reuse opportunity salts removal may be required.

### RECYCLED WATER QUALITY REGULATIONS AND GOALS

The California Code of Regulations (CCR) Title 22, Division 4, Chapter 3, Sections 60301 through 60355 regulate recycled wastewater and requirements are administered jointly by California Department of Health Services (CDHS) and RWQCB.

Four treatment levels are defined in the regulations for various recycled water uses in California: disinfected tertiary recycled water, disinfected secondary-2.2 recycled water, disinfected secondary-23 recycled water and undisinfected secondary recycled water. These are summarized in Table 1.

**Table 1 – Title 22 Recycled Water Types and Allowable Uses (California Code of Regulations)**

Recycled Water Type	Required Treatment	Median Total Coliform (MPN/100 mL) <sup>1</sup>	Maximum Total Coliform (MPN/100 mL) <sup>2</sup>	Allowable Uses
Disinfected Tertiary	Oxidized, Coagulated <sup>3</sup> , Filtered, Disinfected	2.2	23 <sup>4</sup>	Surface irrigation for food crops including edible portion, parks and playgrounds, schoolyards, unrestricted access golf courses, roadway landscaping, and residential & commercial landscaping
Disinfected Secondary-2.2	Oxidized, Disinfected	2.2	23	Irrigation of food crops where edible portion is above ground and not contacted by recycled water (ex. drip irrigation is used)
Disinfected Secondary-23	Oxidized, Disinfected	23	240	Irrigation of cemeteries, freeway landscaping, restricted access golf courses, pasture for milk animals
Undisinfected Secondary	Oxidized	NA	NA	Irrigation for orchards & vineyards where edible portion does not contact recycled water (ex. drip irrigation is used), non-food bearing trees, fodder crops and fiber crops, seed crops not eaten by humans, ornamental nursery stock
<b>Notes:</b> <ol style="list-style-type: none"> <li>1. Based on bacteriological results of the last 7 days for which analyses were completed.</li> <li>2. Does not exceed in more than one sample in any 30 day period</li> <li>3. Coagulation is not typically required if membrane filtration is used and/or turbidity requirements are met.</li> <li>4. No sample shall exceed 240 MPN/100 mL.</li> <li>5. Reference: California Code of Regulations, Title 22, Division 4, June 2001 Edition</li> </ol>				

Water quality objectives vary for different uses. Water quality for unrestricted urban use (ex. irrigation of parks or schools) is primarily driven by public safety and suitability for application. Safety assurances are written into Title 22 requirements through standards for effluent coliform concentrations and usage restrictions, such as pipeline distance from potable water pipelines, proximity to groundwater, prevention of cross-connection between potable and non-potable systems, and restrictions near eating facilities and drinking fountains. Potential customers may need to reconfigure either irrigation or potable water systems in order to comply with these requirements.

There have been multiple studies to determine constituents of concern in reclaimed water used for irrigation. Suitability of water for irrigation is directly related to the concentration and kind of chemical constituents present. Some water constituents that most commonly affect recycled water suitability for irrigation include electrical conductivity of the irrigation water (ECw), sodium adsorption ratio (SAR), bicarbonates, chlorides, and boron. General irrigation water quality guidelines are shown on Table 2. A summary of the treated effluent quality from the existing Morro Bay / Cayucos CSD

Wastewater Treatment Facility (WWTF) is presented in Table 3. It is assumed the mineral content of the new WRF will resemble that of the existing treatment facility since a higher level of secondary and tertiary treatment will have a negligible impact on those parameters. Relative salt tolerance of various agricultural crops is presented in Table 4.

**Table 2 - Water Quality Guidelines for Irrigation**

Problem and Related Constituent	References	No Problem	Increasing Problems	Severe Problems
Salinity <sup>1</sup>				
EC <sub>w</sub> of irrigation water (mmhos/cm)	1,2	<0.75	0.75 - 3.0	>3.0
TDS (mg/l) or (ppm)	2	<450	450 - 2000	>2000
Permeability				
EC <sub>w</sub> of irrigation water (mmhos/cm)	1	>0.5	<0.5	<0.2
adj.SAR <sup>2</sup>	1	<6.0	6.0 - 9.0	>9.0
Specific ion toxicity from root absorption <sup>3</sup>				
Sodium (evaluated by adj.SAR)	1,2	<3.0	3.0 - 9.0	>9.0 <sup>4</sup>
Chloride (meq/l)	1	<4	4.0 - 10.0	>10
Chloride (mg/l)	1,2	<142	142 - 355	>355
Boron (mg/l)	1	<0.5	0.5 - 2.0	2.0 - 10.0
Specific ion toxicity from foliar absorption <sup>5</sup> (sprinkler irrigation)				
Sodium (meq/l)	1	<3.0	>3.0	--
Sodium (mg/l)	1,2	<69	>69	--
Chloride (meq/l)	1	<3.0	>3.0	--
Chloride (mg/l)	1	<106	>106	--
Miscellaneous <sup>6</sup>				
Total Nitrogen (NH <sub>4</sub> -N + NO <sub>3</sub> -N) (mg/l)	1,2	<5	5 - 30	>30
(The following apply only for irrigation by overhead sprinklers)				
Bicarbonate (HCO <sub>3</sub> ) (meq/l)	1	1.5	1.5 - 8.5	>8.5
Bicarbonate (HCO <sub>3</sub> ) (mg/l)	1,2	<90	90 - 520	>520
Residual Chlorine (mg/l)	2	<1.0	1.0 - 5.0	>5.0
PH	1,2	Normal range = 6.5-8.4		
<sup>1</sup> Assumes water for crop plus needed water for leaching requirement will be applied. Crops vary in tolerance to salinity.				
<sup>2</sup> adj.SAR (adjusted sodium absorption ratio) is calculated form a modified equation developed by U.S. Salinity Laboratory to include added effects of precipitation or dissolution of calcium in soils and related to CO <sub>3</sub> + HCO <sub>3</sub> concentrations. Permeability problems related to low EC or high adj.SAR of water can be reduced if necessary by adding gypsum.				
<sup>3</sup> Most tree crops and woody ornamentals are sensitive to sodium and chloride. Most annual crops are not sensitive.				
<sup>4</sup> Shrinking-swelling type soils (montmorillonite type clay minerals); higher values apply for others.				
<sup>5</sup> Leaf areas wet by sprinklers may show a leaf burn due to sodium or chloride absorption under low-humidity / high-evaporation conditions. (Evaporation increases ion concentration in water films on leaves between rotations of sprinkler heads.)				
<sup>6</sup> Excess N may affect production of quality of certain crops (i.e., sugar beets, citrus, avocados, apricots, and grapes). HCO <sub>3</sub> with overhead sprinkler irrigation may cause a white carbonate deposit to form on fruit and leaves.				
Reference 1: Ayers, Robert S., Quality of Water for Irrigation, Journal of the Irrigation and Drainage Division, ASCE, June 1977. (Table 1, page 136)				
Reference 2: Irrigation with Reclaimed Municipal Wastewater – A Guidance Manual, California State Water Resources Control Board. Report Number 84-1 WR. July 1984. (Table 3-4. page 3-11)				

Note: Interpretations are based on possible effects of constituents on crops, soils or both. Guidelines are flexible and should be modified when warranted by local experience or special conditions of crop, soil, and method of irrigation.

**Table 3 Existing Morro Bay /Cayucos CSD WWTF Effluent Quality**

Constituent	Units	1999 Effluent Quality <sup>1</sup>	2011/2012 Effluent Quality <sup>2</sup>	Comparison to Quality Guidelines presented in Table 2 <sup>3</sup>
Bicarbonate	mg/L	294	330	Increasing problems for carbonate deposits on fruit and leaves
Boron	mg/L	0.5	0.4	Low end of increasing problems for salinity
Chloride	mg/L	300	369	Increasing problems for root and foliar absorption
Total Nitrogen	mg/L	36.7	37.5	Potential for severe quality production problems for certain crops, including citrus, avocados, apricots, and grapes.
pH	--	7.6	NA	Within normal range
TDS	mg/L	887	942	Increasing problems for salinity
EC	mmhos/cm	1.7	NA	Increasing problems for salinity; no problems for permeability
Sodium	mg/L	210	223	Increasing problems for foliar absorption
<p>NA = Data not available</p> <p>1 Averages based on data collected July 8 through 15, 1999 (Carollo Engineers, 1999)</p> <p>2 Data was obtained from lab results from six 24-hour composite samples taken between February 8, 2012 and February 14, 2012. Tests were conducted by FGL Environmental and Agricultural Analytical Chemists. (Dudek, 2012)</p> <p>3 Crops vary in tolerance to the constituents above in Table 3. Table 2 summarizes general irrigation water guidelines as published by the quoted references. Care should be taken in interpretation and application of this data.</p>				

#### Electric Conductivity/TDS

Salinity can be indirectly measured by electrical conductivity. The units of conductance are typically decisiemens per meter (dS/m), which is equivalent to millimhos per centimeter (mmhos/cm). Multiple devices and protocols exist for the monitoring/measuring of electrical conductivity, including in-office and in-field measurements.

EC<sub>w</sub> is the electrical conductivity of the irrigation water. It is a measure of the total salt content of the irrigation water and is used to quantify its salinity. The existing WWTP effluent salinity (measured as EC) is within the "Increasing Problems" range as shown in Table 2. Salts reduction measures or intensive irrigation management may be required in order to control soil salinity levels. Adequate rainfall can assist the salt leaching process and help to mitigate the accumulation of soluble salts in the soil profile.

### Sodium Adsorption Ratio

The sodium adsorption ratio (SAR) is the most reliable index of sodium hazard to crops and soils. A moderately high SAR will not generally result in a toxic effect to most plants. However, some crops are sensitive to excess sodium. Foliar toxicity may exist due to elevated sodium concentrations but it is site- and crop-specific.

A reduction in soil permeability is a major problem that occurs with high-sodium irrigation water. Applying water with an SAR below 6 does not usually result in permeability problems. If the SAR is between 6 and 9, permeability problems can occur on fine-textured soils. An SAR above 9 will likely result in permeability problems on all mineral soils except coarse, sandy soils.

### Bicarbonates and Adjusted Sodium Adsorption Ratio (SAR<sub>adj</sub>)

Bicarbonates in irrigation water applied to the soil will precipitate calcium from the cation exchange complex as relatively insoluble calcium carbonate. As exchangeable calcium is lost from the soil, the relative proportion of sodium is increased with a corresponding increase in the sodium hazard (SAR). Bicarbonates in the irrigation water contribute to the overall salinity, but, more importantly, they may result in a previously calcium-dominant soil becoming sodium dominant by precipitating the exchangeable calcium, which, in turn, will reduce soil permeability.

A measure of the bicarbonate hazard in irrigation water can be expressed as the adjusted SAR (Table 2). The adjusted SAR takes into account the concentration of bicarbonates in irrigation water in relation to their effect on potential increases in soil SAR. When the adjusted SAR is less than 6, soil permeability problems generally do not occur. If the adjusted SAR is between 6 and 9, permeability problems can occur on fine-textured soil. An adjusted SAR above 9 will likely result in permeability problems in mineral soils except coarse, sandy soils, where adverse impacts to soil permeability are not a major concern. Periodic soil treatment (i.e. deep ripping or disking) or water treatment may be required to maintain favorable water infiltration characteristics in project soils.

Bicarbonates in irrigation water may also cause potential problems in micro-irrigation systems as a result of lime precipitation, which can cause emitter plugging. These potential problems are accentuated in alkaline irrigation water.

### Chlorides

Chlorides are necessary for plant growth in relatively small amounts. However, high concentrations of chlorides can inhibit growth and result in toxicity to foliage if applied by sprinkler irrigation. Chlorides in irrigation water are toxic to some plant species. The chloride concentration of the existing treatment plant effluent (see Table 3) is within the range of increasing problems for root and foliar absorption when compared to the guidelines in Table 2. If a sprinkler wets the leaf areas, foliage toxicity (leaf burn) problems may also be apparent as a result of the effluent having a slightly higher-than-desired chloride concentration level (Table 2).

### Boron

Boron in irrigation water does not have an effect on soil physical conditions, but in high concentrations it can have a toxic effect on some plants. The boron concentration of the existing treatment plant effluent (see Table 3) is at the low end of increasing problems for salinity when compared to the guidelines in Table 2.

**Table 4 Relative Salt Tolerance of Agricultural Crops**

Crop Type	TOLERANT	MODERATELY TOLERANT	MODERATELY SENSITIVE	SENSITIVE
Fibre, Seed and Sugar Crops	Barley, Cotton, Jojoba, Sugarbeet	Cowpea, Oats, Rye, Safflower, Sorghum, Soybean, Triticale, Wheat, Durum Wheat	Broad, Castorbean, Maize, Flax, Millet (foxtail), Groundnut/Peanut, Rice (paddy), Sugarcane, Sunflower	Bean, Guayule, Sesame
Grasses and Forage Crops	Alkali grass (Nuttall), Alkali sacaton, Bermuda grass, Kallar grass, Saltgrass (Desert), Wheatgrass (fairway crested) Wheatgrass (tall), Wildrye (altai), Wildrye (Russian)	Barley (forage), Brome (mountain), Canary grass (reed), Clover (hubam), Clover (Sweet), Fescue (meadow), Fescue (tall), Harding grass, Panic grass (blue), Rape, Rescue grass, Rhodes grass, Ryegrass (italian), Ryegrass (perennial), Sudan grass, Trefoil (narrowleaf), birdsfoot, Trefoil, broadleaf, Wheat (forage), Wheatgrass (various), Wildrye (beardless & Canadian)	Alfalfa, Bentgrass, Bluestem (Angleton), Brome (smooth), Buffelgrass, Burnet, Clover (various), Corn (forage), Cowpea (forage), Dallis grass, Foxtail (meadow), Grama (blue), Lovegrass, Milkvetch (Cicer), Oatgrass (tall), Oats (forage), Orchard grass, Rye (forage), Sesbania, Siratro, Sphaerophysa, Timothy, Trefoil (big), Vetch (common)	
Vegetable Crops	Asparagus	Artichoke, Beet (red), Zucchini squash	Broccoli, Brussels sprouts, Cabbage, Cauliflower, Celery, Corn (Sweet), Cucumber, Eggplant, Kale, Kohlrabi, Lettuce, Muskmelon, Pepper, Potato, Pumpkin, Radish, Spinach, Squash (scallop), Sweet potato, Tomato, Turnip, Watermelon	Bean, Carrot, Okra, Onion, Parsnip

Crop Type	TOLERANT	MODERATELY TOLERANT	MODERATELY SENSITIVE	SENSITIVE
Fruit and Nut Crops	Date palm	Fig, Jujube, Olive, Papaya, Pineapple, Pomegranate	Grape	Almond, Apple, Apricot, Avocado, Blackberry, Boysenberry, Cherimoya, Cherry (sweet), Cherry (sand), Currant, Gooseberry, Grapefruit, Lemon, Lime, Loquat, Mango, Orange, Passion fruit, Peach, Pear, Persimmon, Plum (prune), Pummelo, Rose apple, Sapote (white), Strawberry, Tangerine
<p>1 Reproduction of table presented in Water Quality for Agriculture FAO Irrigation and Drainage Paper 29 Rev 1 (Ayers and Westcot, Reprinted 1989 and 1994). Data taken from: Maas E.V. 1984 Salt tolerance of plants. In: The Handbook of Plant Science in Agriculture. B.R. Christie (ed). CRC Press, Boca Raton, Florida.</p> <p>2 These data serve only as a guide to the relative tolerance among crops. Absolute tolerances vary with climate, soil conditions and cultural practices.</p>				

## STREAM AUGMENTATION QUALITY REGULATIONS AND GOALS

While the water quality requirements and goals for landscape and agricultural irrigation are relatively well defined, the potential requirements for stream augmentation can be difficult to predict. Surface water discharges are regulated through the State Water Resources Control Board's (SWRCB) National Pollutant Discharge Elimination System (NPDES) based on protection of existing and potential future beneficial uses as defined in the Regional Water Quality Control Board (RWQCB) Basin Plan. The Basin Plan is an ever-changing document with amendments made yearly and updates (at a minimum every three years) required through the Clean Water Act and California Water Code. The implementation of Salt and Nutrient Management Plans (SNMPs) is expected to further update water quality requirements for sub-basins. The City has applied for a grant to prepare a SNMP through the San Luis Obispo County's Integrated Water Resources Management Plan.

The permit for the California Men's Colony (CMC) wastewater treatment plant (WWTP) was updated in 2012, and was reviewed to provide insight on recent requirements for discharge to Chorro Creek. The CMC WWTP produces recycled water for the Dairy Creek Golf Course and discharges to Chorro Creek. Effluent limitations include organics, solids, oil and grease, chlorine residual, toxics, and nitrogen compounds. The permit includes limitations for the receiving water (Chorro Creek), which



requires monitoring stations upstream and downstream of the discharge point. Receiving water limitations for several parameters are set based on amounts or concentrations that causes a nuisance or adversely affects beneficial uses. Some of the parameters include coloration, taste or odor-producing substances, floating material, suspended material, settleable material, oils, greases, waxes, biostimulatory substances, suspended sediment, toxic metals and inorganic chemicals. The permit specifies limits for changes in turbidity, pH, and temperature based on the natural levels in the receiving water, and dissolved oxygen concentrations shall not be reduced below 7.0 mg/L at any time. There are also limitations regarding salinity based on agricultural beneficial uses and water quality objectives defined for Chorro Creek in the Basin Plan. In addition to influent and effluent monitoring, CMC monitors five points along Chorro Creek, from just downstream of the reservoir dam to just upstream of the discharge into Morro Bay Estuary.

## RECYCLED WATER OPPORTUNITIES

The previously identified potential water reuse opportunities are compiled in Table 5 (attached). Irrigated agricultural parcels and other potential reuse opportunities in the Morro Valley and Chorro Valley, not identified in prior studies, were identified as summarized in Table 6 (attached). Additional opportunities may become available in the future as growth occurs and land uses change. The potential reuse sites are shown with potential new WRF sites in Figure 1 (attached).

The majority of crops in the Morro Valley region are avocado, with some limited orange groves, all of which are sensitive to salts. Dilution by blending with a water source of lower salinity or salts reduction through microfiltration and reverse osmosis will likely be required to provide the appropriate quality of water for irrigation of these salt-sensitive crops. The Recycled Water Feasibility Study estimated a TDS target of 300 mg/L based on the recorded chloride tolerance for the most sensitive avocado variety (Dudek, 2012).

Assuming the new WRF were designed to produce disinfected tertiary recycled water with a TDS concentration of less than 300 mg/L and a future maximum monthly flow rate of 2.2 million gallons per day (MGD), the advanced treatment system (including microfiltration and reverse osmosis) should be sized to treat approximately 90% of the flow (1.9 MGD)<sup>1</sup>. Due to the cost of advanced treatment, it's common to design these systems to treat a portion of the secondary effluent and subsequently blend it back to achieve the desired water quality in the final effluent. At approximately \$7 for every gallon per day of capacity (Dudek, 2012), an advanced treatment system of this size is estimated to cost over \$13,000,000<sup>2</sup>. This scenario has a production efficiency of approximately 75% and on an annual basis would be estimated to produce approximately 0.85 MGD, or 949 AFY, of disinfected tertiary recycled water.

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<sup>1</sup> Assumes TDS concentration of 1106 mg/L in the secondary effluent, 90% efficiency for tertiary filtration system, 92% efficiency for microfiltration system, and 70% efficiency and 90% removal for the reverse osmosis system.

<sup>2</sup> Cost estimate includes microfiltration and reverse osmosis systems only. The upcoming City's Master Planning effort will develop costs for the rest of the treatment system, lift stations, transmission mains, and other project elements to assess costs for the overall project and ultimately the community's rates. The Master Plan will also identify the costs and revenue potential associated with production of recycled water.

Table 5. Water Reuse Opportunities Identified for Morro Bay / Cayucos CSD WWTP in Prior Studies

Site #	Use Type	Irrigation Type / Potential Benefit for Creek Aug	Site Description	Size (Acres)	Location	Treatment Level Required to Meet Regulations	Salt Removal or Blending Required	Effluent TDS Target (mg/L)	Current Water Source	Average Demand Estimate (AFY)	Comments
0	Industrial		WWTP Onsite/Maintenance Yard	--	Morro Bay	Disinfected Secondary-23	No		State Water	1.46	
1	Landscape	Grass	Hardie Park & School	1	Cayucos	Disinfected tertiary	No		Untreated Well	1.9	Already has reliable non-potable water
2	Ag	Oranges, snow peas, avocados, pasture	Cayucos Creek Road	--	Cayucos	Disinfected tertiary	Yes	300	Wells	N/A	Multiple small parcels; acreage & demand unknown; uncertainty of multiple owner interest. Irrigation type may impact treatment level requirement. See Note 1.
3	Landscape	Grass	Paul Andrew Park	0.25	Cayucos	Disinfected tertiary	No		Domestic Water Supply	1.29	
4	Ag	Grass/Hill	S/W of Whale Rock Reservoir	5	Cayucos	Undisinfected secondary	No		Private Well	12.5	Acreage/demand unknown; uncertainty of multiple owner interest
5	Landscape	Grass	Cayucos-Morro Bay Cemetary	4	Cayucos	Disinfected Secondary-23	No		Whale Rock Reservoir	17.7	
6	Ag	Oranges, avocados	Old Creek Road	100-300	Cayucos	Disinfected tertiary	Yes	300	Creek Before Reservoir	500	Acreage/demand unknown; uncertainty of multiple owner interest. Irrigation type may impact treatment level requirement. See Note 1.
7	Landscape	Grass/landscape	Highway 1 median	2	Cayucos	Disinfected Secondary-23	Unknown		No Current Source	5	Does not currently irrigate
8	Ag	Winter Wheat, grass	Toro Creek Road	200-400	Cayucos	Undisinfected secondary	No		Unknown	N/A	Acreage/demand unknown; uncertainty of multiple owner interest
9	Landscape	Grass	Del Mar Park	9	Morro Bay	Disinfected tertiary	No		State Water	8.68	
10	Landscape	Grass, LS medians	The Cloisters Development	34	Morro Bay	Disinfected tertiary	No		State Water	5.98	
11	Landscape, Ag	Grass, horticulture, farm animals	Morro Bay High School	14	Morro Bay	Disinfected tertiary	Unknown		State Water, Untreated Private Well	61.78	
12	Landscape	Grass	Keiser Park	9	Morro Bay	Disinfected tertiary	No		State Water, Untreated Private Well	6.21	
13	Ag	Fields, Orchards (mainly avocado), Crops	Atascadero Rd. East of Hwy 1 (aka Hwy 41 Agricultural Corridor)	200	Unincorporated County of SLO	Disinfected tertiary	Yes	300	Private Well	500	Irrigation type may impact treatment level requirement. See Note 1.
14	Landscape	Pasture	Miscellaneous Pasture Area	10	Morro Bay	Disinfected Secondary-23	No		No Current Source	25	Does not currently irrigate
15	Landscape	Grass/landscape	Del Mar Elementary	6	Morro Bay	Disinfected tertiary	Unknown		State Water	6.97	
16	Landscape	Grass/landscape	S Side of Highway 1	4	Morro Bay	Disinfected Secondary-23	Unknown		No Current Source	10	Does not currently irrigate
17	Landscape	Grass/landscape	Morro Bay Elementary School	4	Morro Bay	Disinfected tertiary	Unknown		State Water	4.46	
18	Landscape	Grass/landscape	City Park	0.8	Morro Bay	Disinfected tertiary	Unknown		State Water	1.05	
19	Landscape	Grass	Monte Young Park	0.25	Morro Bay	Disinfected tertiary	No		State Water	0.43	
20	Landscape	Grass/landscape	Bayshore Bluffs Park	3	Morro Bay	Disinfected tertiary	Unknown		State Water	1.12	On outskirts of service area, may be considered for secong phase
21	Landscape	Grass/Greens	Morro Bay Golf Course	110	Morro Bay	Disinfected Secondary-23	No		Chorro Creek, Recycled Water from CMC	275	Already has reliable non-potable water
22	Ag	Native	Chorro Flats Enhancement Project	45	Morro Bay	Disinfected Secondary-23	No		No Current Source	0	Lack of project need - "Dry farming"
23	Creek Aug	Ag Crops, Riparian Habitat	Cayucos Creek	--	Cayucos	Disinfected tertiary +	Unknown				Significant treatment likely required, unstable road, may be economically infeasible
24	Creek Aug	Possible Potable Offset	Old Creek		Cayucos	Disinfected tertiary +	Unknown				Significant treatment likely required, may be economically infeasible
25	Creek Aug	Ag Crops, Riparian Habitat	Willow Creek		Morro Bay	Disinfected tertiary +	Unknown				Significant treatment likely required, unstable road, may be economically infeasible
26	Creek Aug	Riparian Habitat	Toro Creek		Morro Bay	Disinfected tertiary +	Unknown				Not seen as having primary benefit for flow enhancement or potable water supply replacement



Table 5. Water Reuse Opportunities Identified for Morro Bay / Cayucos CSD WWTP in Prior Studies

Site #	Use Type	Irrigation Type / Potential Benefit for Creek Aug	Site Description	Size (Acres)	Location	Treatment Level Required to Meet Regulations	Salt Removal or Blending Required	Effluent TDS Target (mg/L)	Current Water Source	Average Demand Estimate (AFY)	Comments
27	Creek Aug		Alva Paul Creek		Morro Bay	Disinfected tertiary +	Unknown				Determined nonbeneficial because of no flow for majority of the year
28	Creek Aug	Ag Crops, Riparian Habitat	Morro Creek		Morro Bay	Disinfected tertiary +	Unknown				Not seen as having primary benefit for flow enhancement or potable water supply replacement
29	Creek Aug	Ag Crops, Riparian Habitat	Little Morro Creek		Morro Bay	Disinfected tertiary +	Unknown				Significant treatment likely required, may be economically infeasible
30	Creek Aug	Wetlands	Morro Bay Estuary		Morro Bay	Disinfected tertiary +	Unknown				Significant treatment likely required, may be economically infeasible
31	Creek Aug	Municipal Supply, Estuary, Irrigation, CRL Frogs, fish	Chorro Creek		Morro Bay	Disinfected tertiary +	Unknown				Significant treatment likely required, may be economically infeasible
32	Other: Bus Facility		Morro Bay High School Bus Facility		Morro Bay	Disinfected Secondary-23	No		State Water	3.5	
33	Other: Commercial Laundry		Mission Linen Supply (Commercial Laundry)		Morro Bay	Disinfected tertiary	Unknown		State Water	13.93	
34	Other: Nursery		Newton (Tropicana) Nursery		Morro Bay	Disinfected Secondary-23	Yes		State Water	0.64	
35	Other: Boat Dock		Morro Bay Fuel Dock		Morro Bay	Disinfected tertiary	No		State Water	0.18	Water use minimal, far from other users
36	Other: wash down, sewer flushing		City of Morro Bay Maintenance Yard		Morro Bay	Disinfected Secondary-23	No		State Water	0.3	
37	Other: Cart washing		Morro Bay State Park/Golf Course		Morro Bay	Disinfected tertiary	No		State Water	0.28	
38	Other: Concrete mixing		Hanson Sand & Gravel (Concrete Mixing)		Morro Bay	Disinfected Secondary-23	Unknown		State Water, Untreated Well	0.34	
39	Landscape	Native	N of Cayucos; Along Highway 1	--	Cayucos	Undisinfected secondary	No		None	0	Does not currently irrigate. See Note 2.
40	Landscape	Native	Coleman Park	--	Morro Bay	Disinfected tertiary	No		No Current Source	0	Does not currently irrigate. See Note 2.
41	Landscape	Grass/landscape	Tri-Development Area	--	Morro Bay	Disinfected tertiary	Unknown		No Current Source	0	Does not currently irrigate
42	Creek Aug	Water Supply to Whale Rock Reservoir	Cottontail Creek		Cayucos	Disinfected tertiary +	Unknown				Water supply to Whale Rock Reservoir. See Note 2.
-	Recharge		Direct Groundwater Recharge		Morro Bay / Cayucos	Disinfected tertiary + 100% MF/RO + adv Oxidation	Yes				Retention times difficult to achieve, advanced treatment req'd, may be economically infeasible, physical constraints for several basins

Notes 1. The required water quality to meet regulations is Disinfected tertiary for food crops where recycled water contacts edible portion of crop, including all root crops, and Disinfected Secondary-2.2 for food crops where edible portion is produced above ground and not contacted by recycled water, except orchards and vineyards with no contact between edible portion and recycled water where the water quality required to meet regulations is Undisinfected Secondary. Additional treatment may be needed to achieve quality required for specific use.

2. Reuse opportunity was identified in prior reports, but was not numbered.

Sources: 1) Cayucos/Morro Bay Comprehensive Recycled Water Study, Carollo Engineers, October 1999. 2) 2012 Recycled Water Feasibility Study, Dudek, Draft March 9, 2012.



Table 6. Irrigated Agricultural Parcels and Other Potential Reuse Opportunities in Morro Valley and Chorro Valley

Site #	APN	Site Description	Size (Acres)	Owner	Estimated % Irrigated	Irrigated Area (Acre)	Irrigated Crop	Treatment Level Required to Meet Regulations	Average Demand Estimate <sup>4</sup> (AFY)	Comments
43	073-032-005	Irrigated Ag, Morro Vlly	7.55	William Limon et al	88.0%	6.64	Orchard	Disinfected Tertiary	16.6	1
44	073-032-004	Irrigated Ag, Morro Vlly	4.53	William Limon et al	98.0%	4.44	Orchard	Disinfected Tertiary	11.1	1
45	073-032-003	Irrigated Ag, Morro Vlly	1.97	William Limon et al	100.0%	1.97	Orchard	Disinfected Tertiary	4.9	1
46	073-031-027	Irrigated Ag, Morro Vlly	18.09	Teri A. Keyser	54.0%	9.77	Orchard	Disinfected Tertiary	24.4	1, 2
47	073-051-058	Irrigated Ag, Morro Vlly	33.15	Susan Beasley et al	100.0%	33.15	Orchard	Disinfected Tertiary	82.9	1, 2
48	073-051-055	Irrigated Ag, Morro Vlly	9.89	Steven B. Victor et al	90.0%	8.9	Orchard	Disinfected Tertiary	22.3	1, 2
49	073-051-031	Irrigated Ag, Morro Vlly	19.96	Steve J. and Barbara J. Erden	87.0%	17.37	Orchard	Disinfected Tertiary	43.4	1, 2
50	073-111-012	Irrigated Ag, Morro Vlly	19.7	Scott T. Mather et al	86.0%	16.94	Orchard	Disinfected Tertiary	42.4	1, 2
51	073-085-022	Irrigated Ag, Morro Vlly	1.3	Ronald L. Kennedy et al	30.0%	0.39	Orchard	Disinfected Tertiary	1.0	1, 2
52	073-051-025	Irrigated Ag, Morro Vlly	6.32	Richard P. Sauerwein et al	75.0%	4.74	Orchard	Disinfected Tertiary	11.9	1
53	073-051-023	Irrigated Ag, Morro Vlly	3.38	Richard P. Sauerwein et al	53.0%	1.79	Orchard	Disinfected Tertiary	4.5	1
54	073-031-017	Irrigated Ag, Morro Vlly	9.04	Richard Lyons	42.0%	3.8	Orchard	Disinfected Tertiary	9.5	1, 2
55	073-051-053	Irrigated Ag, Morro Vlly	19.19	Richard B. Kitzman et al	92.0%	17.65	Orchard	Disinfected Tertiary	44.1	1, 2
56	073-051-050	Irrigated Ag, Morro Vlly	21.06	Randy & Joanne Kann	95.0%	20.01	Orchard	Disinfected Tertiary	50.0	1, 2
57	073-031-009	Irrigated Ag, Morro Vlly	126.73	Paul Madonna et al	13.6%	17.24	Row crop	Disinfected Tertiary	43.1	1, currently fallow
58	073-031-026	Irrigated Ag, Morro Vlly	17.07	Paul Madonna et al	79.0%	13.49	Row crop	Disinfected Tertiary	33.7	1, currently fallow
59	073-051-040	Irrigated Ag, Morro Vlly	20.1	Patrick N. Nagano et al	94.0%	18.89	Orchard	Disinfected Tertiary	47.2	1, 2
60	073-085-029	Irrigated Ag, Morro Vlly	15.74	Patricia L. Kennedy et al	90.0%	14.17	Orchard	Disinfected Tertiary	35.4	1, 2
61	073-085-028	Irrigated Ag, Morro Vlly	7.92	Patricia L. Kennedy et al	80.0%	6.34	Orchard	Disinfected Tertiary	15.9	1, 2
62	073-051-049	Irrigated Ag, Morro Vlly	12.26	Norman A. & Angia M. Martignoni	31.0%	3.8	Orchard	Disinfected Tertiary	9.5	1, 2
63	073-051-052	Irrigated Ag, Morro Vlly	23.28	Neil R. Nagano et al	100.0%	23.28	Row crops	Disinfected Tertiary	58.2	1
64	073-031-030	Irrigated Ag, Morro Vlly	349.46	Morro Ranch Co. LLC	71.0%	248.12	Orchard	Disinfected Tertiary	620.3	1
65	073-069-009	Irrigated Ag, Morro Vlly	186.62	Morro Creek Ranch	30.0%	55.99	Orchard	Disinfected Tertiary	140.0	1, 2
66	073-069-020	Irrigated Ag, Morro Vlly	50.56	Morro Creek Ranch	99.0%	50.05	Orchard	Disinfected Tertiary	125.1	1, 2
67	073-069-021	Irrigated Ag, Morro Vlly	38.35	Morro Creek Ranch	95.0%	36.43	Orchard	Disinfected Tertiary	91.1	1, 2
68	073-069-018	Irrigated Ag, Morro Vlly	45.95	Morro Creek Ranch	75.0%	34.46	Orchard	Disinfected Tertiary	86.2	1, 2
69	073-069-019	Irrigated Ag, Morro Vlly	23.59	Morro Creek Ranch	87.0%	20.52	Orchard	Disinfected Tertiary	51.3	1, 2
70	073-051-046	Irrigated Ag, Morro Vlly	11.11	Merriam J. Urquhart et al	90.0%	10	Orchard	Disinfected Tertiary	25.0	1, 2
71	073-051-016	Irrigated Ag, Morro Vlly	1.28	Mary Nagano et al	80.0%	1.02	Orchard	Disinfected Tertiary	2.6	1
72	073-011-043	Irrigated Ag, Morro Vlly	43.69	Mary Flavan	75.0%	32.77	Orchard	Disinfected Tertiary	81.9	1, 2
73	073-111-019	Irrigated Ag, Morro Vlly	40	Margaret G. French	6.0%	2.4	Orchard	Disinfected Tertiary	6.0	1, 2
74	073-051-041	Irrigated Ag, Morro Vlly	19.57	Manuel S. & Amparo G. Haber	98.0%	19.18	Orchard	Disinfected Tertiary	48.0	1, 2
75	073-085-018	Irrigated Ag, Morro Vlly	176.35	Lyle C. Foster et al	4.5%	7.94	Orchard	Disinfected Tertiary	19.9	1, 2
76	073-111-016	Irrigated Ag, Morro Vlly	38.61	Larry Johnson et al	27.0%	10.42	Orchard	Disinfected Tertiary	26.1	1, 2
77	073-011-056	Irrigated Ag, Morro Vlly	15.15	Kurt E. Steinmann	25.0%	3.79	Orchard	Disinfected Tertiary	9.5	1, 2
78	073-051-047	Irrigated Ag, Morro Vlly	10.79	Kenneth H. Macintyre et al	90.0%	9.71	Orchard	Disinfected Tertiary	24.3	1, 2
79	073-011-032	Irrigated Ag, Morro Vlly	36.09	Kathleen E. Cirone et al	45.5%	16.42	Orchard	Disinfected Tertiary	41.1	1, 2
80	073-011-047	Irrigated Ag, Morro Vlly	66	Judith E. Hull	25.0%	16.5	1/2 Row crop; 1/2 Orchard	Disinfected Tertiary	41.3	1, 2
81	073-011-048	Irrigated Ag, Morro Vlly	47.91	Judith E. Hull	10.0%	4.79	Orchard	Disinfected Tertiary	12.0	1, 2
82	073-111-031	Irrigated Ag, Morro Vlly	25.72	Joseph M. Spellacy	30.0%	7.72	Orchard	Disinfected Tertiary	19.3	1, 2
83	073-111-032	Irrigated Ag, Morro Vlly	27.01	Joseph M. Spellacy	5.0%	1.35	Orchard	Disinfected Tertiary	3.4	1, 2



Table 6. Irrigated Agricultural Parcels and Other Potential Reuse Opportunities in Morro Valley and Chorro Valley

Site #	APN	Site Description	Size (Acres)	Owner	Estimated % Irrigated	Irrigated Area (Acre)	Irrigated Crop	Treatment Level Required to Meet Regulations	Average Demand Estimate <sup>4</sup> (AFY)	Comments
84	073-051-048	Irrigated Ag, Morro Vlly	11.96	John J. Heitzenrater et al	58.0%	6.94	Orchard	Disinfected Tertiary	17.4	1, 2
85	073-031-020	Irrigated Ag, Morro Vlly	111.65	James Shanley et al	26.2%	29.25	Orchard	Disinfected Tertiary	73.1	1, 2
86	073-011-007	Irrigated Ag, Morro Vlly	361.98	James M. Dunn Family Ranches	4.5%	16.29	Orchard	Disinfected Tertiary	40.7	1, 2
87	073-051-059	Irrigated Ag, Morro Vlly	62.04	Howard H. Hayashi	94.0%	58.32	Row crops	Disinfected Tertiary	145.8	1
88	073-051-051	Irrigated Ag, Morro Vlly	20.1	Howard H. Hayashi	100.0%	20.1	Row crops	Disinfected Tertiary	50.3	1
89	073-111-018	Irrigated Ag, Morro Vlly	29.1	Gregory J. Frye et al	27.0%	7.86	Orchard	Disinfected Tertiary	19.7	1, 2
90	073-011-057	Irrigated Ag, Morro Vlly	151.3	Gary H. Evans	10.0%	15.13	1/2 Row crop; 1/2 Orchard	Disinfected Tertiary	37.8	1
91	073-111-017	Irrigated Ag, Morro Vlly	31.35	Frederick Harpster Sr.	41.0%	12.85	Orchard	Disinfected Tertiary	32.1	1, 2
92	073-011-042	Irrigated Ag, Morro Vlly	38.32	Evangeline D. Parker	50.0%	19.16	Orchard	Disinfected Tertiary	47.9	1, 2
93	073-011-041	Irrigated Ag, Morro Vlly	8.26	Evangeline D. Parker	50.0%	4.13	Orchard	Disinfected Tertiary	10.3	1, 2
94	073-051-056	Irrigated Ag, Morro Vlly	9.81	Eileen M. Giannini	90.0%	8.83	Row crop	Disinfected Tertiary	22.1	1
95	073-051-036	Irrigated Ag, Morro Vlly	5.73	Eileen M. Giannini	91.0%	5.21	Row crop	Disinfected Tertiary	13.0	1
96	073-031-033	Irrigated Ag, Morro Vlly	98.43	Dwain Davis et al	38.3%	37.7	Orchard	Disinfected Tertiary	94.3	1, 2
97	073-031-035	Irrigated Ag, Morro Vlly	350.87	Dwain Davis et al	4.1%	14.39	Orchard	Disinfected Tertiary	36.0	1, 2
98	073-111-008	Irrigated Ag, Morro Vlly	12.15	Dana & Valerie Putnam	33.0%	4.01	Orchard	Disinfected Tertiary	10.0	1, 2
99	073-211-002	Irrigated Ag, Chorro Vlly	438.93	State of California	32.0%	140.46	Row crop	Disinfected Tertiary	351.1	1
100	073-121-009	Irrigated Ag, Chorro Vlly	303.67	Morro Bay Ranch	85.0%	258.12	Row crop	Disinfected Tertiary	645.3	1
101		Dairy Creek Golf Course					NA	Disinfected Tertiary	62	Total est. demand = 250 AFY, est. average 188 AFY supplied by CMC WWTP
102		Botanical Gardens					NA	Disinfected Tertiary		Salt removal/ blending likely required due to plant variety

**Comments:**

1. The required water quality to meet regulations is Disinfected Tertiary for food crops where recycled water contacts edible portion of crop, including all root crops, and Disinfected Secondary-2.2 for food crops where edible portion is produced above ground and not contacted by recycled water, except orchards and vineyards with no contact between edible portion and recycled water where the water quality required to meet regulations is Undisinfected Secondary. Additional treatment may be needed to achieve quality required for specific use.

2. Many citrus, stone fruit and nut trees are sensitive to salts. Salt removal/blending to reduce salinity of agricultural irrigation water may be required.

**Notes:**

3. Most orchards on the potential reuse sites in the Morro Valley are avocados, though there are also limited citrus groves.

4. Average Demand Estimate for irrigated agricultural properties based on 2.5 feet per year per acre of irrigated area, consistent with previous studies (Carollo, 1999 & Dudek, 2012).

5. Previously identified Site 13 in Table 5 includes some of the Morro Valley parcels shown here in Table 6. It is unclear which parcels were included previously for Site 13.

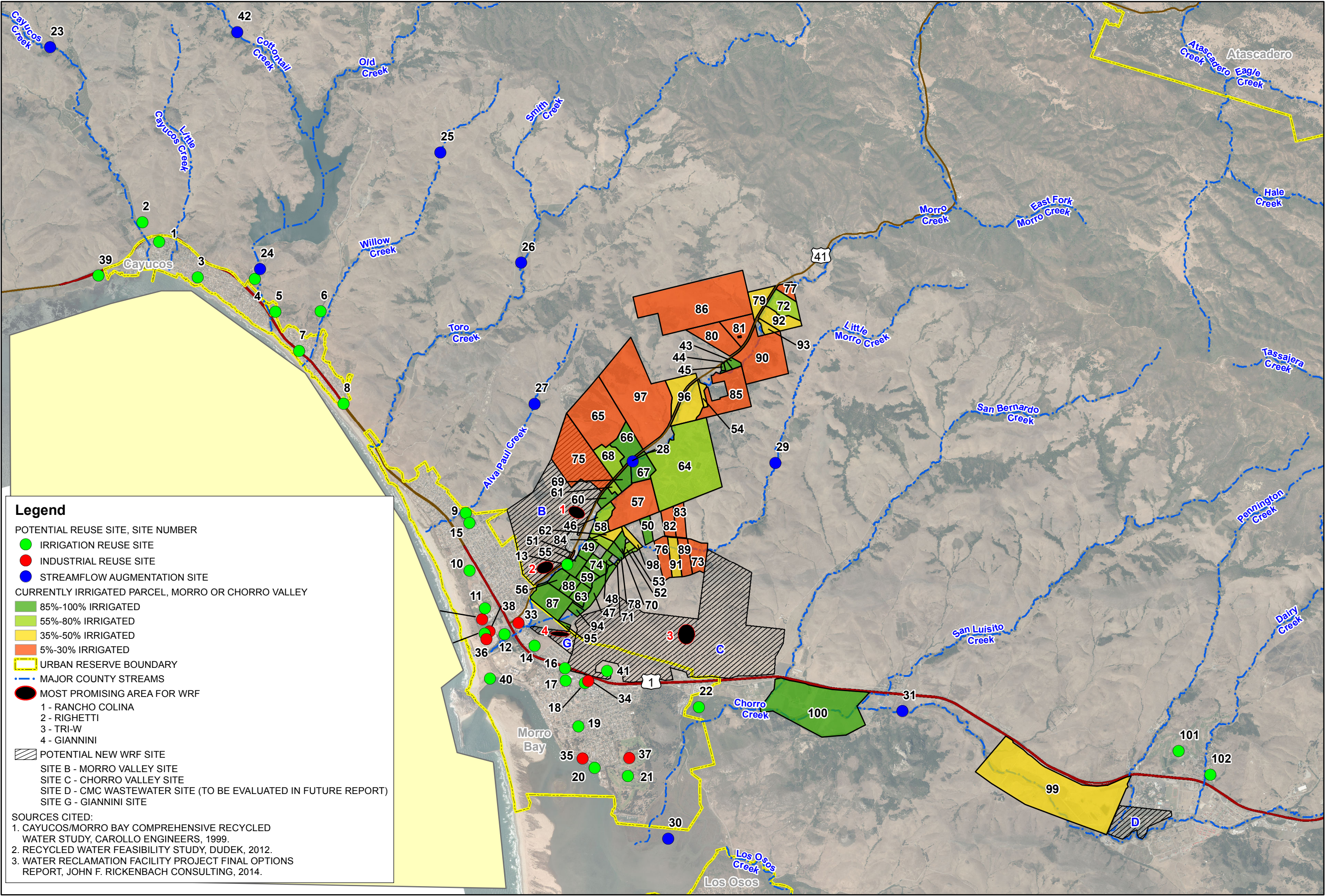






City of  
Morro Bay  
New Water  
Recycling  
Facility

Reuse  
Opportunities  
and Irrigated  
Ag Users in the  
Morro Valley  
and Chorro  
Valley



1 inch:5,000 feet

MAP NOTES:  
2011 AERIAL PHOTO  
PROVIDED BY COUNTY  
OF SAN LUIS OBISPO.  
MAP PUBLISHED  
APRIL 2014.







## SUMMARY

The purpose of this memorandum is to summarize the available information regarding potential water reuse for the City of Morro Bay with respect to the new WRF. Several potential reuse opportunities were identified in previous studies. Based on the City's goal to produce recycled water, these opportunities may become a factor in siting the new WRF during the master planning process. Locating the new WRF near these opportunities will minimize capital and operation/maintenance costs for recycled water distribution. A summary of the potential reuse sites and estimated water demands by region is provided in Table 7.

**Table 7 Estimated Water Use by Region**

Region	Main Use Type	No. of Sites	Estimated Average Demand (AFY)					Comments
			Disinfected Tertiary	Disinfected Secondary-2.2	Disinfected Secondary-2.3	Un-disinfected Secondary	Total	
Cayucos	L, A	9	503	--	23	13	538	500 AFY is estimated to require salts removal or blending.
Morro Bay	L, C	23	111	--	316	--	427	Overall requirements for salt removal or blending is unknown.
Morro Valley	A	56	2736	--	--	--	2736	Overall requirements for salt removal or blending is unknown.
Chorro Valley	A, GC	4	1058	--	--	--	1058	Overall requirements for salt removal or blending is unknown. Demand for Botanical Gardens undefined.

**Notes:** L = Landscape Irrigation; A = Agricultural Irrigation; C = Commercial; GC = Golf Course

1. Does not include stream augmentation sites.

2. See Table 5, Table 6 and Figure 1 for additional details.

3. The required water quality to meet regulations is Disinfected Tertiary for food crops where recycled water contacts edible portion of crop, including all root crops, and Disinfected Secondary-2.2 for food crops where edible portion is produced above ground and not contacted by recycled water, except orchards and vineyards with no contact between edible portion and recycled water where the water quality required to meet regulations is Undisinfected Secondary. Additional treatment may be needed to achieve quality required for specific use.

4. Most orchards on the potential reuse sites in the Morro Valley are avocados, though there are also limited citrus groves.

5. Average Demand Estimate for irrigated agricultural properties based on 2.5 feet/year per acre of irrigated area.

The minimum treatment level required to meet the regulations may be less than the water quality needed for a specific use. For example, the minimum treatment required per Title 22 is undisinfected secondary for orchards where the edible portion of the crop does not contact the recycled water. However, Tables 2, 3, and 4 indicate that many fruit and nut crops are sensitive to salts and the existing WWTP effluent quality has higher salts concentrations, within a range that may cause increasing problems for irrigation. It is anticipated that the influent salts concentrations for the new WRF will be similar to the existing. Salts removal or blending may be required to produce a recycled water appropriate for irrigation of sensitive crops. Additionally, disinfection is typically recommended to reduce the potential for bacteriological growth in the pipelines and storage facilities.

A more detailed analysis of the existing WWTP effluent quality is recommended to identify water-quality related challenges or constraints for use in agricultural irrigation. It's recommended that the City also consider developing collection system salt management strategies, including a review and enhancement of current industrial pretreatment requirements, to reduce the salts load on the wastewater plant. These efforts should be performed in conjunction with or prior to the beginning of the City's Recycled Water Master Plan.

DRAFT

## Appendix D

# DRAFT AND FINAL ENVIRONMENTAL IMPACT REPORT (ESA, JUNE 2018)



# MORRO BAY WATER RECLAMATION FACILITY

Draft Environmental Impact Report  
SCH #2016081027

Prepared for  
City of Morro Bay

March 2018







# MORRO BAY WATER RECLAMATION FACILITY

Draft Environmental Impact Report  
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Prepared for  
City of Morro Bay

March 2018

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# Acronyms Used in this Report

AB	Assembly Bill
ACM	asbestos-containing materials
ACS	American Community Survey
AF	acre feet
AFY	acre-feet per year
amsl	above mean sea level
AOP	Advanced Oxidation Process
APCD	air pollution control district
APE	Area of Potential Effects
ATCM	Air Toxic Control Measure
AWTF	Advanced Water Treatment Facility
BACT	best available control technology
BAT	Best Available Technology
BCT	Best Control Technology
BMP	best management practice
BNR	biological nutrient removal
BOD	biological oxygen demand
BWRO	Brackish Water Reverse Osmosis
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation

CAMP	Construction Activity Management Plan
CAP	Clean Air Plan
CARB	California Air Resources Board
CBC	California Building Code
CBRA	Coastal Barriers Resources Act
CCAA	California Clean Air Act
CCC	California Coastal Commission
CCMP	California Coastal Management Program
CCR	California Code of Regulations
CCRWQCB	Central Coast Regional Water Quality Control Board
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CDP	census-designated place
CDPH	California Department of Public Health
CEC	California Energy Commission
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGS	California Geologic Survey
CIP	Clean in Place
CLUP	Coastal Land Use Plan
CMC	California Men's Colony CNDDDB      California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNG	compressed natural gas
CO	Carbon monoxide
COSE	Conservation and Open Space Element
CRO	Cultural Resources Officer

CRLF	California red-legged frog
CSD	Cayucos Sanitary District
CWA	Clean Water Act
CY	cubic yards
CZLUO	Coastal Zone Land Use Ordinance
CZMA	Coastal Zone Management Act
dB	decibel
dBA	A-weighted decibel
DDW	Division of Drinking Water
DHCD	Department of Housing and Community Development
Draft EIR	Draft Environmental Impact Report
DMP	discharge monitoring plan
DNL	Day-Night Sound Level
DOC	California Department of Conservation
DPM	diesel particulate matter
DTSC	Department of Toxic Substance Control
DWR	Department of Water Resources
EIR	Environmental Impact Report
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESHA	Environmentally Sensitive Habitat Areas
EWP	EnergyWise Plan
FEMA	Federal Emergency Management Agency

FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FMMP	Farmland Mapping and Monitoring Program
FPP	Farmland Protection Program
FPPA	Farmland Protection Policy Act
FTA	Federal Transit Administration
GDP	gross domestic product
GHG	Greenhouse Gas Emission
gpm	gallons per minute
GRRP	Groundwater Replenishment Reuse Project
GSA	Geologic Study Area
HFC	hydrofluorocarbons
HMBP	Hazardous Materials Business Plan
HMTA	Hazardous Materials Transportation Act
HP	horsepower
HSWA	Federal Hazardous and Solid Waste Amendments
IFI	Important Farmlands Inventory
IPCC	International Panel on Climate Change
IPR	Indirect Potable Reuse
IWMA	Integrated Waste Management Association
LAFCO	Local Agency Formation Commission
LBP	lead-based paint

LCP	Local Coastal Program
LESA	Land Evaluation and Site Assessment
LID	low impact design
LNG	liquefied natural gas
LRA	Local responsibility area
LUST	Leaking Underground Storage Tank
M&I	municipal and industrial
MACT	Maximum Available Control Technology
MBCSD	Morro Bay Cayucos Sanitary District
MBMC	Morro Bay Municipal Code
MBR	membrane bioreactor
MBPD	Morro Bay Police Department
MCC	motor control center
MCL	Maximum Contaminant Level
MEP	maximum extent practicable
MGD	Million Gallons per Day
MMI	Modified Mercalli Intensity
MMRP	Mitigation and Monitoring Reporting Program
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MS4	Municipal Separate Storm Sewer System
MSR	Municipal Service Review
MSS	Morro shoulderband snail
MTBE	Methyl Tertiary Butyl Ether
MWRP	Master Water Reclamation Plan
NAAQS	National Ambient Air Quality Standards

NAHC	California Native American Heritage Commission
NEHRP	National Earthquake Hazards Reduction Program
NIST	National Institute of Standards and Technology
NOP	Notice of Preparation
NOD	Notice of Determination
NOI	Notice of Intent
NOx	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Science
NSF	National Science Foundation
NWI	National Wetland Inventory
O&M	Operations and Maintenance
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyls
PG&E	Pacific Gas and Electric Company
PFC	perfluorocarbons
PM <sub>2.5</sub>	fine particulate matter
PM <sub>10</sub>	respirable particulate matter
PMP	Plant Master Plan
POTW	publicly-owned treatment works
ppm	parts per million
PPV	peak particle velocity
PRD	permit registration document
PSD	Prevention of Significant Deterioration

PVC	polyvinyl chloride
RACT	Reasonably Available Control Technology
RCRA	Resource Conservation and Recovery Act
RMS	Resource Management System
RP	Responsible Party
RO	Reverse Osmosis
ROG	reactive organic gas
ROW	right of way
RWC	recycled wastewater contribution
RWQCB	Regional Water Quality Control Board
SBR	sequence batch reactor
SDWA	Safe Drinking Water Act
SF	square feet
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLCUSD	San Luis Coastal Unified School District
SLOAPCD	San Luis Obispo Air Pollution Control District
SLOCOG	San Luis Obispo Council of Governments
SOC	Statement of Overriding Considerations
SOI	Sphere of Influence
SRA	State Responsibility Area
SRF	State Revolving Fund
SWMP	Stormwater Management Program
SWP	State Water Project
SWPPP	Stormwater Pollution Prevention Plan

SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TDS	total dissolved solids
TOC	total organic carbon
TMDL	Total Maximum Daily Load
TSS	Total suspended solids
UIC	Underground Injection Control
URL	Urban Reserve Line
USDA	U.S. Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Species
USGS	United State Geological Survey
UST	underground storage tanks
UV	Ultraviolet
UWMP	Urban Water Management Plan
Vdb	decibel notation
WDR	Waste Discharge Requirements
WPA	Water Planning Area
WRF	Water Reclamation Facility
WRFCAC	WRF Citizens Advisory Committee
WWTP	Wastewater Treatment Plant



# EXECUTIVE SUMMARY

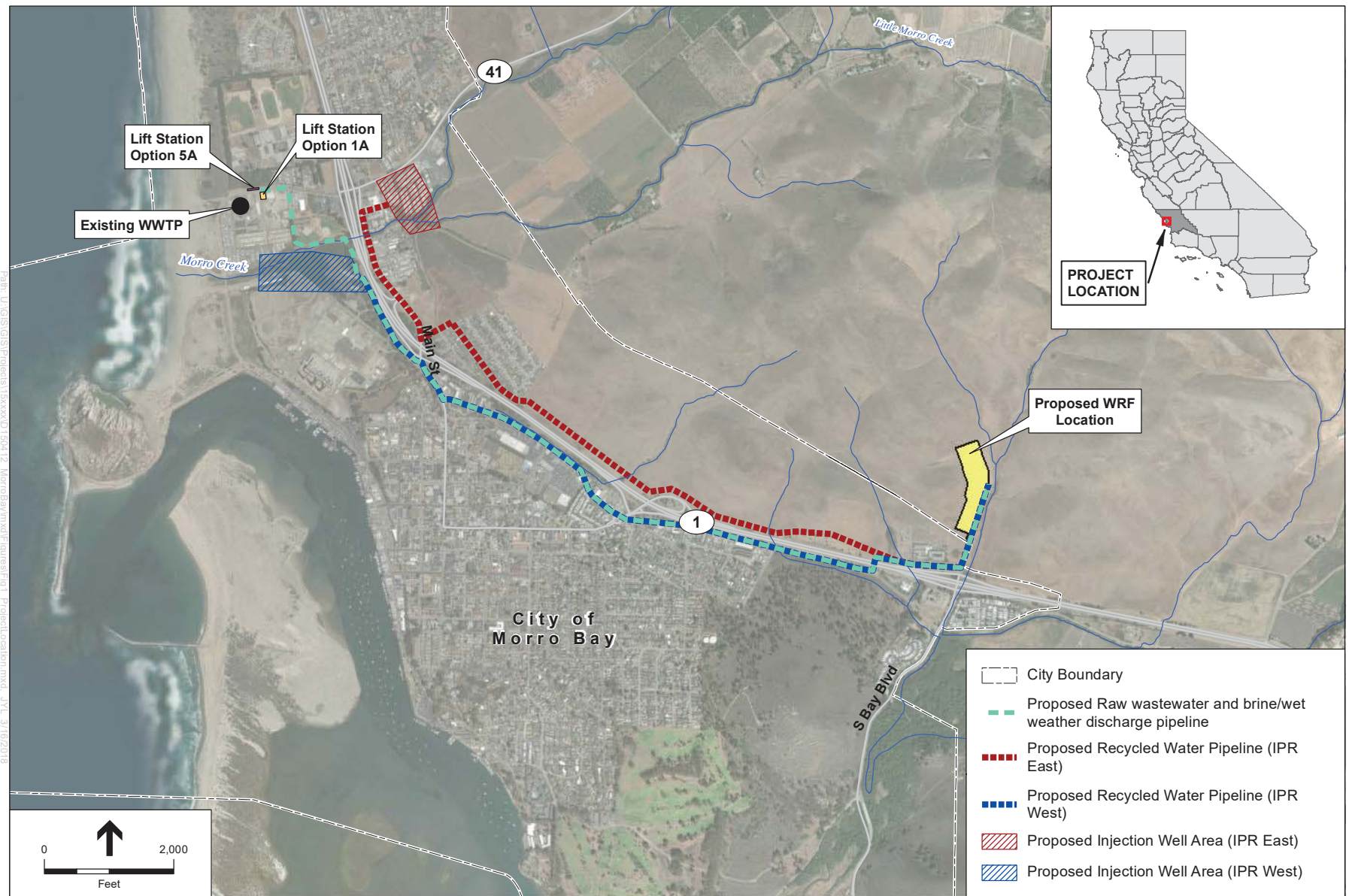
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## ES.1 Introduction

The City of Morro Bay (City), as the Lead Agency pursuant to the California Environmental Quality Act (*CEQA*) and State *CEQA* Guidelines (*CEQA Guidelines*), has prepared this Draft Environmental Impact Report (Draft EIR) to provide the public and pertinent agencies with information about the potential effects on the local and regional environment associated with the proposed Morro Bay Water Reclamation Facility (WRF) Project (proposed project). The proposed project would provide wastewater treatment services for the City and potentially additional surrounding communities or customers. The existing wastewater treatment facility, the Morro Bay-Cayucos Wastewater Treatment Plant (WWTP), would be replaced by the proposed project and the new treatment facility planned by the Cayucos Sanitary District (CSD). The proposed project is intended to provide opportunities for the City to produce and beneficially reuse advanced treated recycled water and to meet or exceed all wastewater treatment requirements of the California State Water Resources Control Board (SWRCB). The potential beneficial end use for the advanced treated recycled water is indirect potable reuse (IPR) through groundwater replenishment. The project components are shown in **Figure ES-1**.

As described in Section 15121(a) of the *CEQA Guidelines*, this Draft EIR is intended to serve as an informational document for pertinent public agency decision makers. Accordingly, this Draft EIR has been prepared to identify the significant environmental effects of the proposed project, identify mitigation measures to minimize significant effects, and consider reasonable project alternatives. The environmental impact analyses in this Draft EIR are based on a variety of sources, including agency consultation, technical studies, and field surveys.

The proposed project is eligible for the State Revolving Fund (SRF) Loan Program. The U.S. Environmental Protection Agency (USEPA) sponsors the SRF Loan Program to provide funding for construction of publicly-owned treatment facilities and water reclamation projects. This funding for capital improvements to wastewater treatment and water recycling facilities is authorized under the federal Clean Water Act. In order to comply with requirements of the SRF Loan Program, which is administered by SWRCB in California, an EIR must fulfill additional requirements known as CEQA-Plus. The CEQA-Plus requirements have been established by the USEPA and are intended to supplement CEQA and the *CEQA Guidelines* with specific requirements for environmental documents acceptable to the SWRCB when reviewing applications for wastewater treatment facility loans. They are not intended to supersede or replace *CEQA Guidelines*. The USEPA's CEQA-Plus requirements have been incorporated into the



SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

**Figure ES-1**  
Project Location



SWRCB's 2004 *Environmental Review Process Guidelines for SRF Loan Applicants (SRF Guidelines)*. This Draft EIR has been prepared in accordance the CEQA-Plus requirements.

## ES.2 Project Background

The USEPA or the SWRCB regulate municipal wastewater discharges into the Pacific Ocean through National Pollutant Discharge Elimination System (NPDES) Permits in accordance with Section 402 of the federal Clean Water Act. USEPA or the California Regional Water Quality Control Boards issue (or reissue) NPDES permits to wastewater dischargers every five years. The existing WWTP serves the City and the community of Cayucos, and is owned and operated jointly by the City and the CSD. Prior to the current 2017 NPDES Permit No. CA0047881 and Waste Discharge Requirements (WDR) Order No R3-2017-0050, the WWTP discharged to the Pacific Ocean under NPDES Permit No. CA0047881 and WDR Order No. R3-2008-0065, which was a Clean Water Act Section 301(h) modified NPDES permit that waived full secondary treatment requirements for biological oxygen demand (BOD) and total suspended solids (TSS). The existing WWTP has operated under that modified permit since its last upgrade in 1984. On July 7, 2003, the City submitted an application for renewal o NPDES permit to USEPA and Central Coast Regional Water Quality Control Board (RWQCB) which expired in March 2014. The final renewed discharge permit was adopted by the RWQCB on December 7, 2017. The 301(h) modifications were no longer included in the 2017 renewal. A time schedule order will be provided by RWQCB for compliance with full secondary treatment requirements.

Based on an agreement with the RWQCB, the City and CSD had previously pursued bringing the existing facility to full secondary treatment in place of continued requests for a 301(h) modified discharge permit. The agreement allowed the City and CSD to pursue secondary treatment on a schedule that was mutually agreed upon by both agencies and the RWQCB. In February 2015, the RWQCB stated the new facility was expected to be fully operational by 2021 in order to meet its goals.

The existing WWTP is located in the Coastal Zone; as such, in order to upgrade the existing WWTP at its existing location, a Coastal Development Permit (CDP) is required from the California Coastal Commission (CCC). However, in January 2013, the CCC denied the City and CSD's project application for the CDP to demolish the existing WWTP and construct a new treatment facility on the same site. The basis for that denial included the CCC's assessment that the new facilities would be inconsistent with the City's Local Coastal Plan (LCP) zoning provisions, failed to avoid coastal hazards, failed to include a sizeable reclaimed water component, and that the project location was within an LCP-designated sensitive view area.

Following this denial, the City began planning a new WRF and pursuing alternative locations for a new upgraded wastewater treatment plant. The City realized that the denial presented an opportunity to design and construct a WRF to enhance the City's water supply portfolio through the production of recycled water. From 2013 to the beginning of 2014, the community defined goals to guide the planning and design process for the new WRF. Public outreach was conducted through stakeholder meetings, stakeholder interviews, and public workshops, which gathered input related to cost, environmental concerns, engineering and design issues, site-related issues,

and logistics and process issues. Through that public outreach program, criteria were determined for the siting process, and various studies were conducted to examine the suitability of each site. Some of the criteria included, but were not limited to, compliance with NPDES Permit requirements, distance to the City sewer collection system, avoidance of coastal hazards, minimal visual impacts, and sustainable use of public resources. In order to ensure public involvement during this process, a Citizens Advisory Committee (WRFCAC) was created in July 2014 to help oversee and evaluate the siting process.

Five comparative siting studies were performed between 2013 and 2017. Starting with the results of the Rough Screening Evaluation, 17 study sites were first examined for the potential location of the WRF. By December 2013, it was narrowed down to seven study sites (Chevron, Morro Valley, Chorro Valley, California Men's Colony (CMC) Wastewater Treatment Plant site, Power plant – southern portion, Panorama, and Giannini), which ranged in size and number of properties included in each. Finally, the City Council narrowed the sites down to focus on the Morro Valley, Chorro Valley, and Giannini Property in May 2014. Within those three general areas, there were four specific locations: Rancho Colina and Righetti (both in Morro Valley), Tri-W (now called the "South Bay Boulevard" site, in Chorro Valley) and Giannini. It should be noted there was also a feasibility analysis performed for a regional facility at the CMC site that could serve the needs of the City and partner agencies; however, it concluded not to be feasible. In April 2016, after direction to investigate other potential sites, the list of potential sites was revised to include Rancho Colina, Righetti, Tri-W, Chevron/Toro Creek, and Madonna. After the 2016 comparative study was completed, the Tri-W site, which became known as the South Bay Boulevard site, was found to be the final site preference, and preliminary planning efforts began at that location based on City Council direction at that time. The CCC supports the proposed new treatment plant location and has been supportive in the concept of working with the City and, as needed, San Luis Obispo County (County), on a CDP for a WRF at that location.

In April 2015, the CSD decided to pursue an independent path from the City to build its own new wastewater facility, and unilaterally adopted a resolution to that effect on April 30, 2015. From that point forward, the City's efforts have been focused on finding a suitable site to build a WRF to serve only its customers, exclusive of CSD customers. Thus, current plans are for the City and CSD to build separate treatment facilities and, once operational, decommission the jointly-owned WWTP. The City has welcomed CSD to continue to participate in a joint venture since that time. CSD has consistently indicated it has no further interest in that approach, and, in fact, has found a site and made plans for a facility at a different location that would address its long-range wastewater disposal needs.

## **ES.3 Project Objectives**

The Morro Bay City Council refined and adopted the project objectives for the proposed project on October 24, 2017. The primary goals of the proposed project have not changed. The following refined objectives reflect the input of the community and stakeholders since issuance of the

Notice of Preparation (NOP) in 2016, demonstrating the purpose and value of the CEQA scoping process:

- All aspects of the WRF project shall be completed ensuring economic value with a special emphasis on minimizing rate payer and City expense
- Communicate WRF project progress including general project status, milestones, and budget/cost information to our community members regularly
- Produce tertiary disinfected wastewater in accordance with 22 California Code of Regulations (CCR) 60001, *et seq.* requirements for unrestricted urban irrigation
- Design to produce reclaimed wastewater to augment the City's water supply, by either direct or indirect means, as described in a master water reclamation plan and to maximize funding opportunities
- Include features in the WRF project to maximize the City's opportunities to secure funding and maximize efficiencies, including energy generation and recovery.
- Design to minimize the impacts from contaminants of emerging concern in the future
- Ensure compatibility with neighboring land uses

## ES.4 Project Description

The proposed project would include new wastewater treatment facilities at the WRF site that would produce advanced treated recycled water that meets or exceeds 22 CCR 60001 *et seq.* (Title 22) requirements for IPR. The proposed project would allow the City to meet the SWRCB requirements and timeline for upgrading to at least full secondary treatment, and would exceed this minimal requirement through development of an advanced water treatment facility. The proposed project would not require modification of the existing sewer collection system. All wastewater would continue to flow to a collection point near the existing WWTP site, where new offsite conveyance facilities would be built to connect the existing wastewater infrastructure to the proposed WRF site. As part of the proposed project, a new lift station and new conveyance pipelines would be installed.

Implementation of the proposed project would allow for the decommissioning of the existing WWTP, once CSD's new and independent wastewater facility is completed and operational. During operation, advanced treated recycled water produced at the WRF would be used for groundwater recharge in the Morro Valley Groundwater Basin using subsurface application like injection wells. A recycled water distribution system would be built to convey water to one of two injection well areas. Project facilities may include, but not be limited to, recycled water conveyance pipeline, a pump station, injection wells and monitoring wells. Brine produced by the treatment process will be discharged through the existing ocean outfall.

The proposed project facilities are described in detail in the draft Water Reclamation Facility Master Plan (Black & Veatch, November 2016) and Master Water Reclamation Plan (MKN & Associates, March 2017). The pertinent details about the project as they pertain to the analysis of environmental impacts are presented in Chapter 2, Project Description, in the Draft EIR. For

additional detail, the Water Reclamation Facility Master Plan and Master Water Reclamation Plan can be found on the project web site: <http://morrobaywrf.com/>.

## ES.5 Summary of Impacts

**Table ES-1**, at the end of this chapter, presents a summary of the impacts and mitigation measures identified for the proposed project. This Draft EIR provides analysis of impacts for those environmental topics where it was determined in the NOP, or through subsequent analysis that the proposed project would result in “potentially significant impacts.”

“Significant effect” is defined by the *CEQA Guidelines* §15382 as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.”

Determining the severity of project impacts is fundamental to achieving the objectives of CEQA. The level of significance for each impact examined in this Draft EIR was determined by considering the predicted magnitude of the impact to baseline environmental conditions against the applicable threshold. Thresholds were developed using criteria from the *CEQA Guidelines* and checklist; state, federal, and local schemes; local/regional plans and ordinances; accepted practice; consultation with recognized experts; and other professional opinions.

Each potentially significant impact includes a numbered impact statement with and significance determination for the environmental impact as follows:

- **Class I. Significant and Unavoidable:** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the State CEQA Guidelines.
- **Class II. Significant but Mitigable:** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings to be made under §15091 of the State CEQA Guidelines.
- **Class III. Not Significant:** An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **Class IV. Beneficial:** An effect that would reduce existing environmental problems or hazards.

The impacts associated with the proposed project would occur during both construction and operational phases. Most construction impacts would be short term and temporary and would be either considered less than significant or reduced to less than significant levels with appropriate mitigation measures. However, significant impacts of the proposed project include unavoidable direct and cumulative impacts to historic and archaeological resources and human remains due to

construction of the proposed conveyance pipelines and the IPR injection and monitoring wells. Operation of the proposed project would primarily affect hydrology and groundwater, in particular changes in groundwater levels and groundwater quality during recharge and recovery operations. Operational impacts either are considered less than significant or are reduced to less than significant levels with appropriate mitigation measures.

## ES.6 Project Alternatives

According to the *CEQA Guidelines*, an EIR must describe a reasonable range of alternatives to a project that could feasibly attain most of the basic project objectives, and would avoid or substantially lessen the project's significant environmental effects. The alternatives analysis in the Draft EIR summarizes the alternatives screening process conducted to identify feasible alternatives that meet project objectives. As required by CEQA and the *CEQA Guidelines*, the analysis first considers which alternatives can meet most of the basic project objectives, and then to what extent those remaining alternatives can avoid or reduce the environmental impacts associated with the project. Information used to select an "environmentally superior alternative" is also provided.

According to the *CEQA Guidelines*, an EIR must describe a range of reasonable alternatives to the project or alternative project locations that could feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the significant environmental impacts of the proposed project. This Draft EIR indicates implementation of the proposed project could result in significant and unavoidable impacts to cultural resources (historic and archaeological resources and human remains) that cannot be reduced to less than significant levels, even with mitigation measures. The alternatives analysis must include the "No Project Alternative" as a point of comparison. The No Project Alternative includes existing conditions and reasonably foreseeable future conditions that would exist if the proposed project were not approved (*CEQA Guidelines* §15126.6). The following alternatives are discussed further in Chapter 6, Alternatives Analysis, in the Draft EIR.

### Alternative 1: No Project Alternative

Pursuant to Section 15126.6(e) of the *CEQA Guidelines*, the No Project Alternative shall be evaluated to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The No Project Alternative shall:

*discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time the environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.*

The No Project Alternative would result in the continued operation and maintenance of the existing WWTP and associated wastewater treatment infrastructure. Given the CSD is moving forward with its own treatment project, under the No Project Alternative the WWTP would provide treatment for influent wastewater only from the City's service area. However, operating



the WWTP in accordance with the status quo would not comply with the effluent water quality criteria and the SWRCB/RWQCB order to upgrade the plant to meet discharge water quality criteria, resulting in increased costs associated with fines. As required to be considered by CEQA, what would be reasonably expected to occur in the foreseeable future if the project were not approved would be upgrades to the existing plant to provide full secondary treatment to meet the State's minimum water quality criteria for all discharges through the existing outfall.

Upgrade of the WWTP was considered in the September 2007 WWTP Facility Master Plan Report (Carollo Engineers, 2007). The Report recommended new headworks, oxidation ditch and secondary clarifiers, biosolids handling facilities, disinfection, and electrical and control facilities. Construction of those facilities would occur within the existing WWTP footprint and would provide full secondary treatment for influent at a capacity that meets the projections of the City's future wastewater generation without participation of the CSD. To mitigate for potential inundation during a 100-year flood event, the new facilities would be elevated at least one foot above the flood depth, which could be as great as six feet.

Under the No Project Alternative, the proposed project would not be constructed, nor would the lift station, associated conveyance pipelines, or injection and monitoring wells. As a result, the significant impacts to historic and archaeological resources, as well as human remains, would not occur. The No Project Alternative would avoid those significant and unavoidable impacts associated with the proposed project. However, the No Project Alternative also would not achieve the benefits of the proposed project, including removing critical community infrastructure from a coastal hazard area subject to flooding and sea level rise. In addition, the No Project Alternative would not meet any of the project objectives, including the ability to provide reclaimed wastewater to augment the City's water supply or to meet wastewater effluent conditions that reduce impacts from contaminants of emerging concern.

The No Project Alternative is not feasible because it would require a CDP from the CCC, which previously denied the same permit for an upgrade to the WWTP. The basis for that denial included the CCC's assessment such upgraded facilities would be inconsistent with the City's LCP's zoning provisions, would fail to avoid coastal hazards and would fail to include a sizeable reclaimed water component; and the project location would be within an LCP-designated sensitive view area. It is expected the CCC would similarly deny a CDP for the proposed No Project Alternative.

## Alternative 2: Pipeline Alignment Alternative

Alternative 2 would result in construction of all the same facilities as the proposed project, except for a segment of the raw wastewater pipeline that would have a different alignment and result in the construction of approximately 2,500 linear feet of additional pipeline. The additional pipeline construction would be along Embarcadero Road to the west of the existing WWTP and proposed lift station, traveling south and then east along Pacific Street, and meeting with the currently proposed raw wastewater pipeline at Butte Street. This segment under Alternative 2 would result in construction near two different and known cultural resources sites, may result in geotechnical challenges along the waterfront, and would result in a significant increase of construction impacts related to traffic, air quality and noise due to the location of construction within higher traffic

corridors (residential and commercial), and the location of construction equipment relative to sensitive receptors (residences). Further, this segment of pipeline under Alternative 2 would require additional rights of way through residential property. While there would be an increase in the severity of impacts related to the additional linear feet of construction, all impacts would be reduced to less than significant using the same mitigation measures presented for the proposed project. However, impacts to cultural resources, while reduced in number of impacted sites, would remain significant and unavoidable under Alternative 2, even with mitigation. Additionally, Alternative 2 would result in higher cost due to the additional length of construction and rights of way compensation.

### Alternative 3: WRF Design Alternative

During preparation of the draft Facility Master Plan and Master Water Reclamation Plan (MWRP), alternative treatment technologies and associated site plan configurations were considered. Under Alternative 3, the proposed level of treatment would be changed to either remove advanced treatment or implement full secondary treatment only. Removing advanced treatment would reduce the proposed WRF footprint by approximately 7,000 square feet (0.16 acres). Implementing full secondary treatment would be achieved by either proceeding with the sequencing batch reactor (SBR) treatment train, but removing the filters or changing to the treatment process to a more traditional secondary treatment process, such as an activated sludge or oxidation ditch process. Proceeding with the SBR treatment train and removing the filters would have a small incremental reduction to the proposed WRF footprint in addition to removing advanced treatment. The footprint associated with a traditional secondary treatment process would be greater than that currently planned for the proposed WRF.

The current preliminary design at the preferred South Bay Boulevard WRF site is intended to minimize the proposed WRF footprint, while still providing the facilities required to provide the level of treatment that would meet the proposed project goals. As documented in this Draft EIR, the preliminary design for the proposed project would not have significant effects to:

- **scenic resources** due to architectural treatments to be included in the design and the restricted line of sight from Highway 1 and public vantage points to the low-lying WRF site which is partially screened by the hillside topography.
- **agriculture** due to the small percentage of rangeland within the 396-acre parcel that would be occupied by the facilities.
- **neighboring land use** due to the small percentage of rangeland within the 396-acre parcel that would be occupied by the facilities allowing the majority of the site to continue to be used for grazing.
- **riparian habitat** due to the distance of the proposed WRF from jurisdictional features.
- **water quality** in downstream drainages due to compliance with the requirements of the City's Storm Water Management Plan and NPDES General Construction Permit that require retention and control of storm water onsite during both construction and operation

As documented in this Draft EIR, the preferred WRF site would have benefits to:

- **coastal hazards** and flooding due to the removal of the WWTP from the flood hazard zone and location of the WRF in an area that is not a flood hazard zone.

Implementation of alternative treatment technologies at the preferred WRF site would have similar impacts and benefits as the proposed project. For example, removing advanced treatment would lessen the WRF footprint by 7,000 square feet or 0.16 acres, which is roughly 1% of the 10- to 15-acre area of disturbance for the proposed project. Although a smaller footprint would have relative fewer impacts to agricultural lands, scenic resources, neighboring land use, and water quality, no impacts would be eliminated or avoided and the same mitigation measures and regulatory requirements would apply. Implementation of a traditional full secondary treatment process at the preferred WRF site may require a larger footprint; as such, relatively greater impacts to agricultural lands, scenic resources, neighboring land use, and water quality would occur. A greater footprint would have potential to encroach on riparian habitat, and could result in potentially significant impacts that would be greater than the proposed project. Otherwise, however, with application of the same mitigation measures and regulatory requirements as the proposed project, there would likely be no other significant impacts.

With regard to energy use, removing advanced treatment and the filters would lessen the amount of energy required during the treatment process; standard full secondary treatment also would use less energy relative to the proposed project. However, the proposed project would not result in significant impacts to energy or GHGs as a result of operational energy use.

Alternative 3 would preclude the City from meeting key project objectives, including production of tertiary treated recycled water and augmenting the City's water supply. Removing advanced treatment would still produce recycled water that could be used for municipal and agricultural irrigation; however, the MWRP found that such urban and agricultural demands are not great enough to substantially offset potable water supply end uses, which limits the benefits of Alternative 3.

## Alternatives Rejected from Further Consideration

CEQA requires this Draft EIR briefly describe the rationale for selection and rejection of alternatives. The City may make an initial determination as to which alternatives are potentially feasible and, therefore, merit in-depth consideration, and which are clearly infeasible.

Alternatives that are remote and speculative, or the effects of which cannot be reasonably predicted, need not be considered (*CEQA Guidelines*, section 15126.6(f)(3)).

In Chapter 6, Alternatives Analysis, the Draft EIR describes the various and extensive alternative screening processes that have been conducted for the WRF location and the lift station location, including criteria upon which the preferred locations were based and alternative locations rejected. In addition, the reasons for rejection of joint ventures with the CSD and Los Osos are described. The City Council's decision to remove the Corporation Yard from the proposed WRF site is explained, and an explanation of the assessment for recycled water reuse alternatives is also

provided, including criteria upon which the decision to implement IPR was based and other beneficial uses (e.g., agricultural irrigation) were rejected.

## Summary of Alternative Analysis

The analysis of alternatives taken together with the analysis of the proposed project provide a basis to identify the environmentally superior alternative under CEQA (*CEQA Guidelines* section 15126.6). The environmentally superior alternative is the alternative identified as meeting most of the basic project objectives and resulting in the fewest or least severe combination of significant environmental impacts. *CEQA Guidelines* section 15126.6 provides, if the No Project Alternative is the environmentally superior alternative, then the EIR shall also identify an environmentally superior alternative among the other alternatives. Here, the No Project Alternative may in some respects qualify as the environmentally superior alternative because it would avoid the significant and unavoidable impacts to historic and archaeological resources, and human remains. However, it would not meet any of the basic project objectives; it would have considerable economic and regulatory consequences in the future (e.g., mounting number of fines from the SWRCB/RWQCB or infeasibility due to CDP denial), and could result in different or more severe impacts than the proposed project or other possible alternatives given the failure of the No Project Alternative to meet water quality discharge criteria, to produce recycled water to augment the City's supply, and to move critical public infrastructure out of the coastal hazard zone. For that reason, the discussion below focuses on selecting another environmentally superior alternative from among Alternative 2, Alternative 3 and the proposed project presented in this Draft EIR.

It is important to recognize the selection of the environmentally superior alternative is not always a straightforward and formulaic exercise. In some cases, including here, no alternative can eliminate all significant and unavoidable, long-term environmental effects. There are environmental tradeoffs among the alternatives and even within resource issue areas or topics, making it difficult to summarize the net effect of the alternatives. As such, considerable weighing among the severity of impacts of the alternatives and professional judgment as to the relative importance of topical impact areas is necessary. Such judgment, while based on reasoning grounded in the scientific study that comprises this Draft EIR, can be subjective. Comparison of Alternative 2 impacts to the proposed project impacts, above, indicate Alternative 2 would meet the proposed project's objectives, and would result in a reduction in impacts on number of cultural resources sites. However, Alternative 2 would increase the costs to the City related to construction and would result in more severe impacts on air quality, noise, and traffic. Alternative 3 overall would result in similar impacts to the proposed project, and would not avoid any potentially significant impacts. Depending on the alternate treatment process chosen, the relative impacts would be incrementally smaller or greater, and require similar mitigation measures. Under Alternative 3, many of the City's key project objectives would not be met. Therefore, this Draft EIR identifies the proposed project as the environmentally superior alternative.

## ES.7 Areas of Controversy

Pursuant to Section 15123(b)(2) of the *CEQA Guidelines*, a lead agency is required to include areas of controversies raised by agencies and the public during the public scoping process for this Draft EIR. Areas of controversy have been identified for the proposed project, based on comments made during the 30-day public review period in response to information published in the NOP. Forty-seven comment letters were received during the NOP scoping period. Those comments are included in Appendix A to this Draft EIR. Commenting parties have requested the EIR evaluate impacts related to traffic at major freeway ramps and on surface roadways during the pipeline and lift station construction. Additional comments were received on impacts related to a sewage spill risk downstream of the facility, odor, and the compatibility of industrial facilities on agricultural land. The greatest area of known controversy from an environmental perspective are perceived land use compatibility issues with the WRF, including visual, noise, and odor concerns. Those concerns are the reason why great efforts have been made to evaluate and screen alternative locations as described above and in Section 1.2. While project cost is also an area of known controversy, that is not an issue appropriately addressed in an EIR based on CEQA requirements.

## ES.8 Significant Unavoidable Environmental Effects and Irreversible Environmental Changes

The environmental review process under CEQA requires a brief discussion of the irreversible impacts or irretrievable commitment of resources associated with the proposed project. Specifically, *CEQA Guidelines* section 15126.2 (b) and (c) require that the significant and unavoidable impacts of a proposed project, as well as any significant irreversible environmental changes that would result from project implementation be addressed in an EIR.

### Significant Unavoidable Impacts

As required by *CEQA Guidelines* section 15126.2(b), an EIR must describe any significant impacts that cannot be avoided, including those impacts that can be mitigated but not reduced to a less than significant level. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons the project is being proposed, notwithstanding their effect, should be described.

Chapter 3 of this Draft EIR describes the potential environmental impacts of the proposed project and recommends mitigation measures to reduce impacts, where feasible. As discussed in this Draft EIR, implementation of the proposed project, particularly construction of conveyance pipelines and IPR injection and monitoring wells, would result in significant and unavoidable impacts to historic and archaeological resources and human remains that would not be reduced to less than significant levels even with mitigation. The alternatives analysis considers a Pipeline Alignment Alternative that may reduce the number of cultural resources affected but would not completely avoid such resources, and as such would also result in significant and unavoidable impacts.

## Significant Irreversible Environmental Changes

Section 21100(b)(2)(b) of the Public Resources Code and Section 15126.2(c) of the CEQA Guidelines require that an EIR analyze the extent to which the project's primary and secondary effects would affect the environment and commit nonrenewable resources to uses that future generations would not be able to reverse. "Significant irreversible environmental changes" include the use of nonrenewable natural resources during the initial and continued phases of the project, should this use result in the unavailability of these resources in the future. Primary impacts and, secondary impacts generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of these resources are required to be evaluated in an EIR to ensure that such consumption is justified (*CEQA Guidelines* §15126.2(c)).

Per Section 15126.2(c) of the *CEQA Guidelines*, a project would result in an irreversible and irretrievable commitment of resources if it:

- Involved a large commitment of nonrenewable resources;
- Created primary and secondary impacts that would generally commit future generations to similar uses;
- Involved uses in which irreversible damage would result from any potential environmental accidents associated with the project; or
- Proposed consumption of resources that were not justified (e.g., the project involves the wasteful use of energy).

Construction and operation of the proposed project requires the use of energy derived from nonrenewable resources. Energy consumption during project construction and operations would be relatively negligible and not excessive or wasteful. The proposed project's energy requirements are within PG&E's existing and planned electricity capacity and supplies would be sufficient to support the project's demand. Transportation fuels (gasoline and diesel) are produced from crude oil which is imported from various regions around the world. Based on current proven reserves, crude oil production would be sufficient to meet over 50 years of consumption (BP, 2017). The proposed project would also comply with CAFE fuel economy standards, which would result in more efficient use of transportation fuels (lower consumption). Project-related vehicle trips would also comply with Low Carbon Fuel Standards which are designed to reduce vehicle GHG emissions but would also result in fuel savings in addition to CAFÉ standards. Therefore, proposed project construction and operation activities would have a negligible effect on the transportation fuel supply. As the proposed project would not lead to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation.

Operation of the proposed project would implement the beneficial reuse of a renewable resource – recycled water. This renewable resource would provide a benefit to the City of Morro Bay in the form of a new water supply, improving reliability of the City's water supply portfolio through the use of a local resource and decreasing the degree of dependency on imported water through the State Water Project.

## ES.9 Organization of this EIR

This Draft EIR is organized into the following chapters and appendices:

**Executive Summary:** This chapter summarizes the contents of this Draft EIR.

**Chapter 1, Introduction and Project Background:** This chapter provides an overview of the proposed project, the purpose of the EIR, and provides the background information for the proposed project.

**Chapter 2, Project Description:** This chapter provides an overview of the proposed project, described the need for and objectives of the proposed project, and provides detail on the characteristics of the proposed project.

**Chapter 3, Environmental Setting, Impacts and Mitigation Measures:** This chapter describes the environmental setting and identifies direct and indirect impacts of the proposed project for each of the following environmental resources areas, for which the project was determined to have potentially significant impacts: Aesthetics; Agriculture and Forestry Resources; Air Quality; Biological Resources; Cultural Resources; Geology, Soils, and Seismicity; Greenhouse Gas Emissions and Energy; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Noise and Vibration; Environmental Justice; Public Services; Traffic and Transportation; Tribal Cultural Resources; and Utilities and Services Systems. If necessary, then measures to mitigate significant impacts of the proposed project are presented for each resource area.

**Chapter 4, Cumulative Impacts:** This chapter describes the cumulative impacts of the proposed project together with past, current, and probable future projects within the region.

**Chapter 5, Growth Inducement:** This chapter describes the potential for the proposed project to induce growth.

**Chapter 6, Alternatives:** This chapter presents an overview of the alternatives development process, describes the alternatives to the proposed project that were considered, and describes the potential impacts of feasible alternatives relative to those of the proposed project.

**Chapter 7, CEQA-Plus Considerations:** This chapter summarizes the proposed project's compliance with the SWRCB CEQA-Plus requirements.

**Chapter 8, Report Preparers:** This chapter identifies those involved in preparing this Draft EIR, including persons and organizations consulted.

**Appendices:** The Appendices contain important information used to support the analyses and conclusions made in this Draft EIR.

## References

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MKN & Associates, 2017. Master Water Reclamation Plan. Prepared for the City of Morro Bay, March 2017.





**TABLE ES-1**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures
<b>Class I. Significant and Unavoidable</b>	
<b>Cultural Resources</b>	
<p><b>3.5-1:</b> The proposed project could cause a substantial adverse change in the significance of a historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5.</p>	<p><b>CUL-1: Retention of a Qualified Archaeologist.</b> Within 30 days after the City's approval of the final design plans and prior to start of any ground-disturbing activities (<i>i.e.</i>, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the City shall retain a Qualified Archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior, 1983) to carry out all mitigation related to archaeological resources.</p> <p><b>CUL-2: Pre-Construction Phase I Cultural Resources Survey.</b> Within 30 days after the City's approval of the final design plans and prior to the start of any ground-disturbing activity (<i>i.e.</i>, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the Qualified Archaeologist shall conduct pre-construction Phase I Cultural Resources Survey of all areas that have not been previously surveyed within the last 5 years.</p> <p>The survey shall document resources potentially qualifying as historical resources or unique archaeological under CEQA. The Qualified Archaeologist shall document the results of the survey in a Phase I Cultural Resources Survey Report that follows <i>Archaeological Resource Management Reports (ARMR): Recommended Contents and Format</i> (OHP, 1990). The Qualified Archaeologist shall also prepare Department of Parks and Recreation 523 forms for resources encountered during the survey, which shall be appended to the report. If historic architectural resources are encountered that could potentially be impacted by the project, the Qualified Archaeologist shall consult with a Qualified Architectural Historian meeting the Secretary of the Interior's Professional Qualifications Standards for architectural history (U.S. Department of the Interior, 1983). The Qualified Archaeologist shall submit the draft Phase I Cultural Resources Survey Report to the City within 30 days after completion of the survey. The final Phase I Cultural Resources Survey Report shall be submitted to the City within 10 days after receipt of City's comments. The Qualified Archaeologist shall also submit the final Phase I Cultural Resources Survey Report to the Central Coast Information Center.</p> <p>In the event resources potentially qualifying as historical resources or unique archaeological resources under CEQA are identified during the survey, avoidance and preservation in place shall be the preferred</p>

Environmental Impact	Mitigation Measures
Class I. Significant and Unavoidable	<p>manner of mitigating impacts to the resources in accordance with <b>CUL-3</b>. If avoidance of the identified resources is determined by the City to be infeasible in light of factors such as the nature of the find, proposed project design, costs, and other considerations, then the portion of the resource within the Area of Direct Impact (ADI) shall be subject to presence/absence testing and if potentially significant deposits are identified, the resource shall be evaluated for significance under all four National Register/California Register Criteria (A/1-D/4). If a resource is found to be significant (i.e., meets the definition for historical resource in <i>CEQA Guidelines</i> subdivision 15064.5(a) or unique archaeological resource in PRC subdivision 21083.2(g)), then it shall be incorporated into the Archaeological Resources Data Recovery and Treatment Plan outlined in <b>CUL-4</b>.</p> <p><b>CUL-3: Avoidance and Preservation in Place of Archaeological Resources.</b> The City shall avoid and preserve in place resources CA-SLO-16, -43, -165, -239, -2222, and -2845, and any other resources that are identified as potentially qualifying as historical resources or unique archaeological resources under CEQA, through proposed project re-design. Avoidance and preservation in place is the preferred manner of mitigating impacts to archaeological resources. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that avoidance and preservation in place of a resource is determined by the City to be infeasible in light of factors such as project design, costs, and other considerations, then <b>CUL-4</b> shall be implemented for that resource. If avoidance and preservation in place of a resource is determined by the City to be feasible, then <b>CUL-5</b> shall be implemented for that resource.</p> <p><b>CUL-4: Development of an Archaeological Resources Data Recovery and Treatment Plan.</b> The Qualified Archaeologist shall prepare an Archaeological Resources Data Recovery and Treatment Plan for all significant resources that will be impacted by the proposed project. The plan shall be submitted to the City for review and approval prior to the start of field work for data recovery efforts for resources that are eligible under Criterion D/4 (data potential). Data recovery field work shall be completed prior to the start of any project-related ground-disturbing activity. Treatment for resources that are eligible under Criteria A/1 (events), B/2 (persons), and/or C/3 design/workmanship) shall be completed within 3 years of completion of the project. The Archaeological Resources Data Recovery and Treatment Plan shall include:</p>

Environmental Impact	Mitigation Measures
<b>Class I. Significant and Unavoidable</b>	<ul style="list-style-type: none"> <li>• <i>Research Design.</i> The plan shall outline the applicable cultural context(s) for the region, identify research goals and questions that are applicable to each resource or class of resources, and list the data needs (types, quantities, quality) required to answer each research question. The research design shall address all four National Register/California Register Criteria (A/1-D/4) and identify the methods that will be required to inform treatment, such as subsurface investigation, documentary/archival research, and/or oral history, depending on the nature of the resource.</li> <li>• <i>Data Recovery for Resources Eligible under Criterion D/4.</i> The plan shall outline the field and laboratory methods to be employed, and any specialized studies that will be conducted, as part of the data recovery effort for resources that are eligible under National Register/California Register Criterion D/4 (data potential). If a resource is eligible under additional criteria, treatment beyond data recovery shall be implemented (see CUL-4c).</li> <li>• <i>Treatment for Resources Eligible under Criteria A/1, B/2, and/or C/3.</i> In the event a resource is eligible under National Register/California Register Criteria A/1 (events), B/2 (persons), or C/3 (design/workmanship), then resource-specific treatment shall be developed to mitigate project-related impacts to the degree feasible. That could include forms of documentation, interpretation, public outreach, ethnographic and language studies, publications, and educational programs, depending on the nature of the resource, and may require the retention of additional technical specialists. Treatment measures shall be generally outlined in the plan based on existing information on the resource. Once data recovery is completed and the results are available to better inform resource-specific treatment, the treatment measures shall be formalized and implemented. Treatment shall be developed by the Qualified Archaeologist in consultation with the City and Native American Tribal representatives for resources that are Native American in origin.</li> <li>• <i>Security Measures.</i> The plan shall include recommended security measures to protect archaeological resources from vandalism, looting, and non-intentionally damaging activities during field work.</li> <li>• <i>Procedures for Discovery of Human Remains and Associated Funerary Objects.</i> The plan shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects are encountered during field work. These shall include stop-work and protective measures, notification protocols, and compliance with California Health and Safety Code section 7050.5 and PRC section 5097.98. See also CUL-14.</li> </ul>

Environmental Impact	Mitigation Measures
<b>Class I. Significant and Unavoidable</b>	<ul style="list-style-type: none"> <li> <p><i>Reporting Requirements.</i> Upon completion of data recovery for resources eligible under Criterion D/4, the Qualified Archaeologist shall document the findings in an Archaeological Data Recovery Report. The draft Archaeological Data Recovery Report shall be submitted to the City within 360 days after completion of data recovery, and the final Archaeological Data Recovery Report shall be submitted to the City within 60 days after the receipt of City comments. The Qualified Archaeologist shall also submit the final Archaeological Data Recovery Report to the Central Coast Information Center.</p> <p>Upon completion of all other treatment for resources eligible under Criteria A/1, B/2, and C/3, the Qualified Archaeologist shall document the resource-specific treatment that was implemented for each resource and verification that treatment has been completed in a technical document (report or memorandum). The document shall be provided to the City within 30 days after completion of treatment.</p> </li> <li> <p><i>Curation Requirements.</i> Disposition of Native American archaeological materials shall be determined through consultation between Native American representatives, the Qualified Archaeologist, and the City. Disposition of human remains and associated funerary objects shall be determined by the landowner in consultation with the City and Most Likely Descendant (see <b>CUL-14</b>).</p> <p>Any historic-period archaeological materials that are not Native American in origin shall be curated at a repository accredited by the American Association of Museums that meets the standards outlined in 36 Code of Federal Regulations (CFR) 79.9. If no accredited repository accepts the collection, then it may be curated at a non-accredited repository as long as it meets the minimum standards set forth by 36 CFR 79.9. If neither an accredited nor a non-accredited repository accepts the collection, then it may be offered to a public, non-profit institution with a research interest in the materials, or donated to a local school or historical society in the area for educational purposes, to be determined by the Qualified Archaeologist in consultation with the City.</p> </li> <li> <p><i>Protocols for Native American Monitoring and Input.</i> The plan shall outline the role and responsibilities of Native American Tribal representatives. It shall include communication protocols and an opportunity and timelines for review of cultural resources documents. The plan shall include provisions for full-time Native American monitoring during field work (see <b>CUL-8</b>).</p> <p><b>CUL-5: Development of a Cultural Resources Monitoring and Mitigation Program (CRMMP).</b> Within 60 days of the award of the contractor's bid and prior to the start of any ground-disturbing activity</p> </li> </ul>

Environmental Impact	Mitigation Measures
<b>Class I. Significant and Unavoidable</b>	<p>(i.e., demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the Qualified Archaeologist shall prepare a Cultural Resources Mitigation and Monitoring Program (CRMMP) based on the final City-approved project design plans. The CRMMP shall include:</p> <ul style="list-style-type: none"> <li>• <i>Establishment of Environmentally Sensitive Areas.</i> The CRMMP shall outline areas that will be designated Environmentally Sensitive Areas (including maps). Significant or unevaluated cultural resources that are being avoided and are within 50 feet of the construction zone shall be delineated with exclusion markers to ensure avoidance. These areas will not be marked as archaeological resources, but will be designated as “exclusion zones” on project plans and protective fencing in order to discourage unauthorized disturbance or collection of artifacts.</li> <li>• <i>Provisions for Archaeological Monitoring.</i> Full-time archaeological monitoring shall be required for all ground disturbance. The CRMMP shall outline the archaeological monitor(s) responsibilities and requirements (see <b>CUL-7</b>).</li> <li>• <i>Procedures for Discovery of Archaeological Resources.</i> Procedures to be implemented in the event of an archaeological discovery shall be fully defined in the CRMMP, and shall include stop-work and protective measures, notification protocols, procedures for significance assessments, and appropriate treatment measures. The CRMMP shall state avoidance or preservation in place is the preferred manner of mitigating impacts to historical resources and unique archaeological resources, but shall provide procedures to follow should avoidance be infeasible in light of factors such as the nature of the find, project design, costs, and other considerations. See also <b>CUL-9</b>.</li> </ul> <p>If, based on the recommendation of the Qualified Archaeologist, it is determined a discovered archaeological resource constitutes a historical resource or unique archaeological resource pursuant to CEQA, then avoidance and preservation in place shall be the preferred manner of mitigating impacts to such a resource in accordance with <b>CUL-3</b>. In the event that preservation in place is determined to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Data Recovery and Treatment Plan shall be prepared and implemented following the procedures outlined in <b>CUL-4</b>. The City shall consult with appropriate Native American representatives in determining treatment of resources that are Native American in origin to ensure cultural values ascribed to the resource, beyond those that are scientifically important, are considered.</p>

Environmental Impact	Mitigation Measures
Class I. Significant and Unavoidable	<ul style="list-style-type: none"> <li>• <i>Procedures for Discovery of Human Remains and Associated Funerary Objects.</i> The CRMMP shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects are encountered during construction. These shall include stop-work and protective measures, notification protocols, and compliance with California Health and Safety Code section 7050.5 and PRC section 5097.98 (see <b>CUL-14</b>).</li> <li>• <i>Reporting Requirements.</i> The CRMMP shall outline provisions for weekly, monthly, and final reporting. The Qualified Archaeologist shall prepare weekly status reports detailing activities and locations observed (including maps) and summarizing any discoveries for the duration of monitoring to be submitted to the City via email for each week in which monitoring activities occur. Monthly progress reports summarizing monitoring efforts shall be prepared and submitted to the City for the duration of ground disturbance. The Qualified Archaeologist shall prepare a draft Archaeological Resources Monitoring Report and submit it to the City within 180 days after completion of the monitoring program or treatment for significant discoveries should treatment extend beyond the cessation of monitoring. The final Archaeological Resources Monitoring Report shall be submitted to the City within 60 days after receipt of City comments. The Qualified Archaeologist shall also submit the final Archaeological Resources Monitoring Report to the Central Coast Information Center. If human remains are encountered, a confidential report documenting all activities shall be submitted to the California Native American Heritage Commission within 90 days after completion of any treatment (see <b>CUL-14</b>).</li> <li>• <i>Curation Requirements.</i> Disposition of Native American archaeological materials shall be determined through consultation between Native American representatives, the Qualified Archaeologist, and the City. Disposition of human remains and associated funerary objects shall be determined by the landowner in consultation with the City and Most Likely Descendant (see <b>CUL-14</b>).</li> </ul> <p>Any historic-period archaeological materials that are not Native American in origin shall be curated at a repository accredited by the American Association of Museums that meets the standards outlined in 36 CFR 79.9. If no accredited repository accepts the collection, then it may be curated at a non-accredited repository as long as it meets the minimum standards set forth by 36 CFR 79.9. If neither an accredited nor a non-accredited repository accepts the collection, then it may be offered to a public, non-profit institution with a research interest in the materials, or donated to a local school or historical society in the area for educational</p>

Environmental Impact	Mitigation Measures
<b>Class I. Significant and Unavoidable</b>	<p>purposes, to be determined by the Qualified Archaeologist in consultation with the City.</p> <ul style="list-style-type: none"> <li> <p><i>Protocols for Native American Monitoring and Input.</i> The CRMMP shall outline the role and responsibilities of Native American Tribal representatives. It shall include communication protocols, an opportunity and timelines for review of cultural resources documents related to discoveries that are Native American in origin, and provisions for Native American monitoring. The CRMMP shall include provisions for full-time Native American monitoring of all project-related ground disturbance, as well as during any subsurface investigation and data recovery for discovered resources that are Native American in origin (see <b>CUL-8</b>).</p> </li> </ul> <p> <b>CUL-6: Construction Worker Cultural Resources Sensitivity Training.</b> Prior to start of any ground-disturbing activities (<i>i.e.</i>, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the Qualified Archaeologist, or his/her designee, and a Native American representative shall conduct cultural resources sensitivity training for all construction personnel. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains, confidentiality of discoveries, and safety precautions to be taken when working with cultural resources monitors. The City shall ensure construction personnel are made available for and attend the training and retain documentation demonstrating attendance. That training may be conducted in coordination with paleontological sensitivity training required by <b>CUL-11</b>.         </p> <p> <b>CUL-7: Archaeological Resources Monitoring.</b> All project-related ground disturbance (<i>i.e.</i>, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) shall be monitored by an archaeological monitor(s) familiar with the types of resources that could be encountered and shall work under the direct supervisor of the Qualified Archaeologist. The number of archaeological monitors required to be on-site during ground disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another         </p>



Environmental Impact	Mitigation Measures
<b>Class I. Significant and Unavoidable</b>	<p>will require additional monitors. The archaeological monitor(s) shall keep daily logs detailing the types of activities and soils observed, and any discoveries. Archaeological monitor(s) shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance and treatment implemented, if necessary, based on the recommendations of the Qualified Archaeologist in coordination with the City, and the Native American representatives in the event the resource is Native American in origin, and in accordance with the protocols and procedures outlined in the CRMMP (see <b>CUL-5</b>).</p> <p><b>CUL-8: Native American Monitoring.</b> The City shall retain a Native American monitor(s) from a Tribe that is culturally and geographically affiliated with the project site (according to the California Native American Heritage Commission). The Native American monitor shall monitor all project-related ground disturbance (<i>i.e.</i>, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) and all ground disturbance related to subsurface investigation and data recovery efforts for discovered resources that are Native American in origin. The number of Native American monitors required to be on-site during ground disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another require additional monitors. Native American monitors shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance.</p> <p><b>CUL-9: Inadvertent Discovery.</b> In the event archaeological resources are encountered during construction of the proposed project, all activity in the vicinity of the find shall cease (within 100 feet), and the protocols and procedures for discoveries outlined in the CRMMP (see <b>CUL-5</b>) shall be implemented. The discovery shall be evaluated for potential significance by the Qualified Archaeologist. If the Qualified Archaeologist determines that the resource may be significant (<i>i.e.</i>, meets the definition for historical resource in <i>CEQA Guidelines</i> subdivision 15064.5(a) or unique archaeological resource in PRC subdivision 21083.2(g)), the Qualified Archaeologist shall develop an Archaeological Resources Data Recovery and Treatment Plan for the resource in accordance with the CRMMP (see <b>CUL-5</b>) and following the procedures outlined in <b>CUL-4</b>. When assessing significance and developing treatment for resources that are Native American in origin, the Qualified Archaeologist and the City shall consult with the appropriate Native American representatives. The Qualified</p>

Environmental Impact	Mitigation Measures
Class I. Significant and Unavoidable	
<p><b>3.5-3:</b> The proposed project could disturb human remains during construction, including those interred outside of formal cemeteries.</p>	<p>Archaeologist shall also determine if work may proceed in other parts of the project site while data recovery and treatment is being carried out.</p> <p>Implement <b>CUL-1</b> through <b>CUL-9</b>.</p> <p><b>CUL-14. Inadvertent Discovery of Human Remains:</b> If human remains are encountered, then the City shall halt work in the vicinity (within 100 feet) of the discovery and contact the County Coroner in accordance with PRC section 5097.98 and Health and Safety Code section 7050.5. If the County Coroner determines the remains are Native American, then the Coroner will notify the California Native American Heritage Commission in accordance with Health and Safety Code subdivision 7050.5(c), and PRC section 5097.98. The California Native American Heritage Commission will designate a Most Likely Descendent for the remains per PRC section 5097.98. Until the landowner has conferred with the Most Likely Descendent, the contractor shall ensure the immediate vicinity where the discovery occurred is not disturbed by further activity, is adequately protected according to generally accepted cultural or archaeological standards or practices, and that further activities take into account the possibility of multiple burials. If human remains are encountered, the Qualified Archaeologist, in consultation with the Most Likely Descendant shall prepare a confidential report documenting all activities and it shall be submitted to the California Native American Heritage Commission within 90 days after completion of any treatment.</p>
<p><b>4-5:</b> Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative long-term impacts to cultural resources.</p>	<p>Implement Mitigation Measures <b>CUL-1</b> through <b>CUL-14</b>.</p>

Environmental Impact	Mitigation Measures
Class II. Significant but Mitigable	
<b>Aesthetics</b>	
<p><b>3.1-4:</b> Construction of the proposed injection wells would require nighttime lighting during 24-hour drilling activities. Measures that require lighting to be shielded and directed away from neighboring light sensitive land uses would reduce impacts associated with light and glare</p>	<p><b>AES-1: Nighttime Construction Lighting.</b> Lighting used during nighttime construction, including any associated 24-hour well drilling, shall be shielded and pointed away from surrounding light-sensitive land uses.</p>
<b>Air Quality</b>	
<p><b>3.3-2:</b> Proposed project construction would cause temporary increases in localized air pollutant emissions of ROG, NOx and DPM in excess of SLOAPCD construction thresholds which could lead to a violation of an air quality standard. Implementation of fugitive dust control measures and other standard control measures for construction equipment would reduce emissions.</p>	<p><b>AQ-1a: Fugitive Dust Control Measures.</b> Construction projects shall implement the following dust control measures so as to reduce PM10 emissions in accordance with SLOAPCD requirements.</p> <ul style="list-style-type: none"> <li>• Reduce the amount of the disturbed area where possible;</li> <li>• Water trucks or sprinkler systems shall be used during construction in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency shall be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water shall be used whenever possible;</li> <li>• All dirt stock pile areas shall be sprayed daily as needed;</li> <li>• Permanent dust control measures identified in the approved project revegetation and landscape plans shall be implemented as soon as possible following completion of any soil disturbing activities;</li> <li>• Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading shall be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established;</li> <li>• All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by SLOAPCD;</li> <li>• All roadways, driveways, sidewalks, etc. to be paved shall be completed as soon as possible after grading unless seeding or soil binders are used;</li> <li>• Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;</li> <li>• All trucks hauling dirt, sand, soil, or other loose materials are to be covered or shall maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code section 23114;</li> <li>• Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site;</li> </ul>

Environmental Impact	Mitigation Measures
<b>Class II. Significant but Mitigable</b>	<ul style="list-style-type: none"> <li>Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water shall be used where feasible;</li> <li>All of these fugitive dust mitigation measures shall be shown on grading and building plans; and</li> <li>The construction contractor shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20 percent opacity, and to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to SLOAPCD Compliance Division prior to the start of any grading, earthwork or demolition.</li> </ul> <p><b>AQ-1b: Standard Control Measures for Construction Equipment.</b> Standard mitigation measures for reducing NOx, ROG, and DPM emissions from construction equipment are listed below:</p> <ul style="list-style-type: none"> <li>Maintain all construction equipment in proper tune according to manufacturer's specifications;</li> <li>Fuel all off-road and portable diesel powered equipment with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);</li> <li>Use diesel construction equipment meeting ARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation;</li> <li>Use on-road heavy-duty trucks that meet the ARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;</li> <li>Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NOx exempt area fleets) may be eligible by proving alternative compliance;</li> <li>All on- and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit;</li> <li>Diesel idling within 1,000 feet of sensitive receptors is not permitted;</li> <li>Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;</li> <li>Electrify equipment when feasible;</li> </ul>

Environmental Impact	Mitigation Measures
<b>Class II. Significant but Mitigable</b>	<ul style="list-style-type: none"> <li>Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and,</li> <li>Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel.</li> </ul> <p><b>AQ-1c: BACT for Construction Equipment.</b> The following BACT for diesel-fueled construction equipment shall be implemented during construction activities at the project site, where feasible:</p> <ul style="list-style-type: none"> <li>Further reducing emissions by expanding use of Tier 3 and Tier 4 off-road and 2010 on-road compliant engines where feasible;</li> <li>Repowering equipment with the cleanest engines available; and</li> <li>Installing California Verified Diesel Emission Control Strategies, such as level 2 diesel particulate filters. These strategies are listed at: <a href="http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm">http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm</a></li> </ul> <p><b>AQ-1d: Architectural Coatings.</b> To reduce ROG and NOx emissions during the architectural coating phase, low or no VOC emission paints and finishes shall be used with levels of 50 g/L or less.</p>
<b>Biological Resources</b>	<p><b>3.4-1:</b> Ground disturbing activities during construction of the proposed project could have impacts to special status plant and wildlife species, including Morro shoulderband snail, American badger, and nesting birds, as well as indirect impacts to special status plant species such as San Luis Obispo owl's clover. Pre-construction surveys will be conducted to determine presence or absence of species prior to initiation of construction activities. If species are present, measures to avoid or relocate individuals or avoid nests would be implemented to mitigate potential adverse impacts.</p> <p><b>BIO-1: Construction Worker Environmental Awareness Training and Education Program.</b> Prior to the commencement, and for the duration of proposed construction activities, all construction workers shall attend an Environmental Awareness Training and Education Program, developed and presented by the Lead Biologist. The Training and Education shall include:</p> <ul style="list-style-type: none"> <li>The program shall include information on San Luis Obispo owl's clover and the life history of steelhead, CRLF, MSS, and other raptors; nesting birds; as well as other wildlife and plant species that may be encountered during construction activities. The program will also include descriptions of sensitive habitats (drainages, riparian habitat, and wetlands) and The program shall also discuss the legal protection status of each species and sensitive habitat, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the project proponent is implementing to protect each species and sensitive habitat, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species and sensitive habitats, and penalties for violation of the Federal Endangered Species Act or California Endangered Species Act.</li> <li>An acknowledgement form signed by each worker indicating that Environmental Awareness Training and Education Program has been completed would be kept on record;</li> </ul>

Environmental Impact	Mitigation Measures
<b>Class II. Significant but Mitigable</b>	<ul style="list-style-type: none"> <li>• A sticker shall be placed on hard hats indicating that the worker has completed the Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker;</li> <li>• A copy of the training transcript, training video or informational binder for specific procedures shall be kept available for all personnel to review and be familiar with as necessary.</li> <li>• The construction crews and contractor(s) shall be responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits.</li> </ul> <p><b>BIO-2: Avoidance and Protection of Biological Resources.</b> During proposed construction, operations and maintenance, and decommissioning the City and/or contractor shall implement the following general avoidance and protective measures:</p> <ul style="list-style-type: none"> <li>• All proposed impact areas, including staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided.</li> <li>• The project proponent shall limit the areas of disturbance to the maximum extent that is practicable. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.</li> <li>• Riparian habitat, drainages, and wetlands will be flagged and signed to restrict project access into these areas.</li> <li>• Spoils shall be stockpiled in disturbed areas that lack native vegetation. Best Management Practices shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan (SWPPP; as described in Chapter 3.9).</li> <li>• To prevent inadvertent entrapment of American badgers or other wildlife during construction, all excavated, steep-walled holes or trenches shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks. If trapped animals are observed, the appropriate agency shall be consulted and escape ramps or structures shall be installed immediately to allow escape. If a listed species is trapped, the U.S. Fish and</li> </ul>

Environmental Impact	Mitigation Measures
<b>Class II. Significant but Mitigable</b>	<p>Wildlife Service and/or California Department of Fish and Wildlife shall be contacted immediately.</p> <ul style="list-style-type: none"> <li>• Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated work areas shall be prohibited.</li> <li>• Workers shall be prohibited from bringing pets and firearms to the project site and from feeding wildlife.</li> <li>• Intentional killing or collection of any plant or wildlife species shall be prohibited.</li> </ul> <p><b>BIO-3: Morro Shoulderband Snail.</b> The following mitigation measures shall be implemented to avoid or minimize impacts to Morro shoulderband snail (MSS):</p> <ul style="list-style-type: none"> <li>• During project design, if project components would be located in areas determined to have soils and vegetation that could support MSS (e.g., see Figure 3.4-7), then a qualified biologist shall conduct a survey to delineate the extent of potential habitat. The survey information shall be incorporated into the project design such that facilities are located to avoid potential MSS habitat. The following project components have either been mapped as Baywood fine sands or dunes, or are in areas adjacent to known populations (see Figure 3.4.7): <ul style="list-style-type: none"> <li>○ Option 5A lift station adjacent to Atascadero Road;</li> <li>○ the western pipeline alignment adjacent to the southeast corner of the WWTP;</li> <li>○ a portion of the eastern pipeline alignment at Drainage 1A; and</li> <li>○ the northwest corner of the IPR-West wellfield.</li> </ul> </li> <li>• For pipeline alignments or other project components that are sited in areas adjacent to vegetated areas that have capacity to support MSS, silt fencing shall be installed, under the direction of a qualified biologist, to restrict project activities into these areas and to deter MSS movement into the project area.</li> <li>• If avoidance of MSS habitat is not feasible, then protocol levels surveys for MSS shall be conducted to determine presence/absence and distribution of MSS. Surveys shall be conducted by a biologist in possession of a valid recovery permit for the species. If the survey results are negative, the City shall request a concurrence determination for the project based on absence of the species. Coordination with USFWS during project design may facilitate receipt of a concurrence determination.</li> <li>• If survey results are negative and a concurrence authorization is granted, then vegetation shall be removed under supervision of the permitted biologist, and the site(s) shall be graded/grubbed</li> </ul>

Environmental Impact	Mitigation Measures
<b>Class II. Significant but Mitigable</b>	<p>down to bare mineral soil, and bordered with silt fence to preclude MSS from subsequently entering the area(s).</p> <ul style="list-style-type: none"> <li>• If live MSS are found within areas proposed for impact, then consultation with USFWS will be necessary and the issuance of a Biological Opinion (B.O.) may be required to allow individuals to be moved out of project areas prior to construction. A permitted biologist must be retained to move MSS per the B.O. requirements, and to monitor vegetation clearing activities occurring within the MSS habitat area(s).</li> <li>• If equipment use, materials stockpiling, lift station construction, or any other uses are proposed on the north side of Atascadero Road opposite the existing WWTP, then all such areas shall be delineated by installation of silt fencing to create a barrier between potential MSS habitat and project activities. If fenced areas are utilized during or immediately following rain events or dense fog conditions, then a permitted biologist will survey and clear the work areas each morning prior to start of work to ensure that no MSS have entered the site.</li> <li>• Work crews will undergo an environmental training session conducted by a qualified biologist prior to start of construction activities in or adjacent to MSS habitat areas. Environmental training would inform project personnel of the constraints associated with working within and adjacent to MSS habitat, and the appropriate protocol should MSS be encountered during construction activities.</li> </ul> <p><b>BIO-4: American Badger.</b> A pre-construction survey for active badger dens will be conducted within the proposed construction impact footprint and surrounding accessible areas of the mapped annual grassland portions of the eastern pipeline alignment (between the WRF and Downing Street on the west; see Figures 3.4-3 through 3.4-5) and the WRF site at least two weeks prior to any ground disturbing activities. The survey will be conducted by a qualified biologist. In order to avoid potential direct impacts to adults and nursing young, no grading should occur within 50 feet of an active badger den as determined by the project biologist. Construction activities between July 1 and February 28 shall comply with the following measures to avoid direct take of adult and weaned juvenile badgers through the forced abandonment of dens:</p> <ul style="list-style-type: none"> <li>• A qualified biologist will conduct a focused survey at least two (2) weeks prior to the start of construction;</li> <li>• If a potential den is located that is too long to see the end, then a fiber optic scope (or other acceptable method such as using tracking medium for a three-night period) will be used to determine if the den is being actively used by a badger;</li> </ul>



Environmental Impact	Mitigation Measures
<b>Class II. Significant but Mitigable</b>	<ul style="list-style-type: none"> <li>• Inactive dens will be excavated by hand with a shovel or using a small excavator to prevent badgers from re-using them during construction.</li> <li>• Badgers will be discouraged from using currently active dens prior to the grading of the site by partially blocking the entrance of the den with sticks, debris and soil for three to five days. Access to the den shall be incrementally blocked to a greater degree over this period. This should cause the badger to abandon the den and move elsewhere. After badgers have stopped using any den(s) within the project boundary, the den(s) will be hand-excavated with a shovel or carefully excavated with the use of an excavator to prevent re-use.</li> <li>• The qualified biologist will be present during the initial clearing and grading activity. If additional badger dens are found, all work within the area will cease until the biologist can complete measures described above for inactive and active dens. Once the badger dens have been excavated, work in the area may resume.</li> </ul> <p><b>BIO-5: Nesting Birds.</b> The following mitigation measures are recommended to avoid or minimize impacts to nesting bird species, including special-status species and species protected by the Migratory Bird Treaty Act.</p> <ul style="list-style-type: none"> <li>• Any removal of trees and disturbance of annual grassland habitat will be limited to the time period between September 1 and February 14 if feasible. If tree removal and grassland impacts cannot be conducted during this time period, a qualified biologist shall conduct pre-construction surveys for active bird nests within the limits of the project.</li> <li>• If active nest sites of bird species protected under the Migratory Bird Treaty Act and/or FGC section 3503 are observed within or adjacent to the study area, then the project shall be modified and/or delayed as necessary to avoid direct take of the identified nests, eggs, and/or young. Potential project modifications may include establishing appropriate "no activity" buffers around the nest site. The buffer will be 500 feet for raptors and 250 feet for other bird species, or as otherwise determined and documented by a qualified biologist. Construction activities shall not occur in the buffer until the project biologist has determined that the nesting activity has ceased.</li> <li>• Active nests shall be documented and monitored by the project biologist, and a letter report will be submitted to the USFWS and CDFW, documenting project compliance with the MBTA and applicable project mitigation measures.</li> </ul>

Environmental Impact	Mitigation Measures
Class II. Significant but Mitigable	
<p><b>3.4-2:</b> Construction of proposed conveyance pipelines could result in direct and indirect impacts to riparian habitat. Construction of proposed wells could impact riparian habitat associated with Morro Creek and Little Morro Creek. The proposed project would use trenchless construction methods to install pipelines across Morro Creek to avoid direct impacts, and wells would be sited in upland areas to avoid riparian habitat. Implementation of best management practices during construction would minimize indirect impacts to adjacent riparian areas.</p> <p><b>3.4-3:</b> Construction of proposed conveyance pipelines could result in temporary impacts to wetlands associated with ephemeral drainages; construction of the proposed wells could impact adjacent wetlands associated with Morro Creek and Little Morro Creek. The proposed project would use trenchless construction methods to install pipelines across wetlands and avoid direct impacts. Siting of the wells in upland areas would avoid direct impacts to wetlands. Implementation of best management practices during construction would minimize indirect impacts to adjacent wetland areas.</p>	<p><b>BIO-6: Riparian Habitat Avoidance.</b> During proposed project design, a qualified biologist shall identify the project boundaries adjacent to Morro Creek and the allowable limits of construction activities to avoid direct and indirect impacts to riparian habitat. Those limits shall be used during proposed project design to identify a pipeline alignment that avoids impacts to riparian habitat as well as areas to be avoided for siting injection and monitoring wells. During construction, the riparian boundaries and limits shall be clearly flagged or fenced so that contractors are aware of the limits of allowable site access and disturbance. Areas to be preserved should be clearly flagged as off-limits to avoid unnecessary damage and potential erosion.</p> <p><b>BIO-7: Trenching Buffer for Jurisdictional Features.</b> During construction of proposed project pipelines, trenching shall stop at least 50 feet away from jurisdictional features, such as the top of stream banks, riparian habitat and wetlands, and the remaining distance shall be installed using trenchless construction methods, such as horizontal directional drilling.</p> <p><b>BIO-8: Construction BMPs to Protect Jurisdictional Features and Aquatic Habitat.</b> The following mitigation measures should be implemented prior to and during construction near Morro Creek and Little Morro Creek, as well as Drainages 1, 1A, 1B, 2, 2A, 2B, 3, 3A, and 3B, and wetlands:</p> <ol style="list-style-type: none"> <li>1. Prior to start of construction activities, the applicant should retain a qualified biological monitor to ensure compliance with all permit requirements and avoidance and minimization measures (i.e.: pre-construction surveys, worker environmental training, and construction monitoring) during work within and adjacent to drainage features.</li> <li>2. The qualified biological monitor will conduct pre-construction surveys to identify any new wetland areas and the expansion of existing wetland to determine their limits. The results will be used in the implementation of Mitigation Measure BIO-7.</li> <li>3. Prior to issuance of construction permits, an Erosion Control Plan incorporating up to date Best Management Practices should be prepared by the project engineer to minimize impacts to jurisdictional features and aquatic habitats. The plan should address installation and maintenance of both temporary and permanent measures to control erosion and dust, contain spills, protect stockpiles, and generally maintain good housekeeping practices within the worksite. All project plans should show that erosion, sediment, and dust control measures must be installed prior to start of any ground disturbing work.</li> <li>4. All applicable plans should clearly show project stockpile and materials staging areas. These areas would be at least 50 feet</li> </ol>

Environmental Impact	Mitigation Measures
Class II. Significant but Mitigable	<p>from drainage features, wetlands, and active storm drain inlets, and must conform to BMPs applicable for storm drain protection.</p> <ol style="list-style-type: none"><li>Prior to start of work, the contractor should prepare and implement a Spill Prevention Plan to ensure prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. All project-related hazardous materials spills within the project site should be cleaned up immediately. Spill prevention and cleanup materials should be on-site at all times during the course of the project.</li><li>All refueling, maintenance, and washing of equipment and vehicles should occur on paved areas in a location where a spill would not travel onto bare ground or to a storm drain inlet. This fueling/staging area will conform to BMPs applicable to attaining zero discharge of stormwater runoff. At a minimum, all equipment and vehicles must be checked and maintained on a daily basis to ensure proper operation and avoid potential leaks or spills. Washing of equipment should occur only in a location where polluted water and materials can be contained for subsequent removal from the site.</li><li>A designated concrete washout location should be established onsite, in an area at least 50 feet from any drainage or storm drain inlet. The washout should be maintained and inspected weekly, and will be covered prior to and during any rain event. Concrete debris should be removed whenever the washout container reaches the 1/2 full mark.</li><li>BMP's for dust abatement shall be a component of the project's construction documents. Dust control requirements should be carefully implemented to prevent water used for dust abatement from transporting pollutants to storm drains leading to the creek channel.</li><li>During project activities, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.</li></ol> <p><b>BIO-9: Preparation of a Frac-Out Contingency Plan.</b> A Frac-Out Contingency Plan shall be prepared prior to initiation of construction activities that involve horizontal direction drilling activities. The Frac-Out Plan shall be implemented during HDD construction activities. At a minimum, the Frac-Out Plan will include the following:</p> <ol style="list-style-type: none"><li>Minimize the potential for a frac-out associated with horizontal directional drilling activities</li><li>Provide for the timely detection of frac-outs</li></ol>

Environmental Impact	Mitigation Measures
Class II. Significant but Mitigable	
<p><b>3.4-4:</b> Construction of the proposed project could affect southern steelhead, a migratory fish species, in Morro Creek and its critical habitat, as well as native wildlife nursery sites in Morro Bay. Implementation of trenchless construction methods to install conveyance pipelines across Morro Creek would avoid direct impacts to steelhead and its habitat. Implementation of a Storm Water Pollution Prevent Plan and best management practices to protect water quality in ephemeral drainages that flow to Morro Creek, Chorro Creek, and Morro Bay would minimize indirect impacts to steelhead and its habitat.</p>	<ol style="list-style-type: none"> <li>12. Protect areas that are considered environmentally sensitive (streams, wetlands, other biological resources, cultural resources)</li> <li>13. Ensure an organized, timely, and "minimum-impact" response in the event a frac-out and release of drilling mud occurs</li> <li>14. Ensure that all appropriate notifications are made to the appropriate environmental specialists immediately (e.g., qualified biological monitor), and to appropriate regulatory agencies in 24 hours and that documentation is completed.</li> </ol>
<p><b>3.4-5:</b> Construction of the proposed project could affect streams, which are designated as Environmentally Sensitive Habitat Areas. The proposed project would use trenchless construction methods to install pipelines across streams and avoid direct impacts. Implementation of best management practices during construction would minimize indirect impacts to streams. While no trees are expected to be removed, construction of the proposed project could impact protected trees within the City limits. Protection measures would be put in place to avoid impacts from construction activities.</p>	<p>Implementation of <b>BIO-1, BIO-2, BIO-7, BIO-8, and BIO-9.</b></p> <p><b>BIO-10: Tree Protection.</b> For public trees, protection will be established at a minimum distance of 1.5 times the dripline (<i>i.e.</i>, the distance from the trunk to the outermost limits of leaves and branches). During development, orange construction fencing or sufficient staking to identify the protection area will surround each tree or clusters of trees.</p>
<p><b>Cultural Resources</b></p>	
<p><b>3.5-2:</b> Construction-related excavation for the proposed project could affect a unique paleontological resource. Implementation of worker training and monitoring during construction would reduce the potential for adverse effects to paleontological resources.</p>	<p><b>CUL-10: Retention of a Qualified Paleontologist.</b> Within 60 days prior to the start of any ground-disturbing activity (<i>i.e.</i>, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the City shall retain a paleontologist who meets the (SVP) Standards (SVP, 2010) (Qualified Paleontologist) to carry out all mitigation measures related to paleontological resources.</p> <p><b>CUL-11: Paleontological Resources Sensitivity Training.</b> The Qualified Paleontologist, or his/her designee, shall conduct construction worker paleontological resources sensitivity training prior to the start of ground disturbing activities. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the project site and the procedures to be followed if they are found. The City shall ensure construction personnel are made available for and attend the training and retain documentation demonstrating attendance. That</p>

Environmental Impact	Mitigation Measures
<b>Class II. Significant but Mitigable</b>	
<b>Geology, Soils and Seismicity</b>	
<p><b>3.6-1:</b> The geologic conditions at the proposed project sites include potential for seismic-induced ground shaking, liquefaction, and landslides that could damage structures or cause injury to employees at manned facilities. However, implementation of engineering design criteria as specified by required geotechnical investigations would reduce the risk of loss, injury, or death.</p>	<p>training may be conducted in coordination with construction worker cultural resources sensitivity training required by CUL-6.</p> <p><b>CUL-12: Paleontological Resources Monitoring.</b> All ground disturbance in excess of 5 feet within areas that are mapped as younger alluvial gravel (Qa) and beach and dune sands (Qs) shall be monitored on a full-time basis during initial ground disturbance. The Qualified Paleontologist shall spot check the excavation on an intermittent basis and recommend whether the depth of required monitoring should be revised based on his/her observations. If the Qualified Paleontologist determines full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, then the Qualified Paleontologist may recommend that monitoring be reduced to periodic spot-checking or cease entirely. Paleontological resources monitoring shall be performed by a qualified paleontological monitor (meeting the standards of the SVP, 2010) under the direction of the Qualified Paleontologist. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to recover the fossil specimens. Any significant fossils collected during project-related excavations shall be prepared to the point of identification and curated into an accredited repository with retrievable storage. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The Qualified Paleontologist shall prepare a Paleontological Resources Monitoring Report detailing the locations of monitoring and any discoveries. The report shall be submitted to the City within 60 days after completion of the monitoring program, or treatment for significant discoveries should treatment extend beyond the cessation of monitoring.</p> <p><b>CUL-13: Inadvertent Discovery of Fossils.</b> If construction or other proposed project personnel discover any potential fossils during construction, regardless of the depth of work or location, then work at the discovery location shall cease in a 50-foot radius of the discovery until the Qualified Paleontologist has assessed the discovery and made recommendations as to the appropriate treatment. If the find is deemed significant, it shall be salvaged following the standards of the SVP (2010) and curated with a certified repository.</p> <p><b>GEO-1 Geotechnical Investigation:</b> A geotechnical investigation shall be prepared by a certified engineer for all facilities involving substantial ground disturbance or excavation. The investigation shall assess geologic and seismic hazards, including but not limited to, subsidence, liquefaction, landslide, expansive soil potential and collapsible soil potential of each facility site. Structural mitigation recommendations provided in the geotechnical investigation shall be incorporated into the design of the facility prior to construction. The contents of the</p>

Environmental Impact	Mitigation Measures
<b>Class II. Significant but Mitigable</b>	
<p><b>3.6-2:</b> Construction of proposed project facilities would result in ground disturbance and exposure of soils to erosion. Implementation of best management practices during construction and site restoration post-construction would minimize the potential for soil erosion or loss of top soil.</p>	<p>geotechnical investigation shall vary depending on the jurisdiction and risks associated with each facility's location.</p>
<p><b>3.6-3:</b> The geologic conditions at various proposed project sites include potential for liquefaction, landslides, lateral spreading, and collapsible soils. However, implementation of engineering design criteria as specified by required geotechnical investigations would reduce the potential for the proposed project to result in unstable soils.</p>	<p><b>GEO-2: Post-Construction Site Restoration.</b> After construction of project pipelines, disturbed areas shall be managed to control erosion, including without limitation: repaving areas within roadways, restoring vegetated areas, and regrading surfaces to minimize changes in drainage patterns.</p> <p>Implementation of <b>GEO-1</b> is required.</p>
<p><b>3.6-4:</b> The proposed project facilities could be located on expansive soils, which could create risks to life or structures. However, implementation of engineering design criteria as specified by required geotechnical investigations would reduce the risk of loss or injury.</p>	<p>Implementation of <b>GEO-1</b> is required.</p>
<b>Hazards and Hazardous Materials</b>	
<p><b>3.8-6:</b> Construction of proposed project components within public rights-of-way could result in partial or full lane closures and/or blocked access to roadways, which could physically interfere with an emergency response or evacuation plan. However, implementation of a Traffic Control Plan would require construction contractors to notify emergency responders including the City's Fire Department, Police Department and ambulances of planned road closures and roadway blockages.</p>	<p>Implementation of <b>TRAF-1</b> is required (See below: Class II Transportation and Traffic Mitigation Measures).</p>
<b>Hydrology and Water Quality</b>	
<p><b>3.9-4:</b> Installation of the proposed project components would alter topography and drainage patterns at each site; however, compliance with the City's Storm Water Management Plan and other NPDES regulatory requirements would minimize erosion, siltation, and flooding onsite and offsite. Implementation of mitigation requiring post-construction restoration of conveyance pipeline alignments would also ensure long-term impacts associated with erosion, siltation or flooding during storm events would be minimized.</p>	<p>Implementation of <b>GEO-2</b> is required.</p>
<b>Noise</b>	
<p><b>3.11-1:</b> Construction of the proposed injection and monitoring wells would require continuous drilling for 24-hour periods, at noise levels in excess of standards established in the Morro Bay Municipal Code. Implementation of a Construction Noise Reduction Plan approved by the City's building official would reduce noise levels to acceptable levels.</p>	<p><b>NOISE-1: Construction Noise Reduction Measures.</b> The City shall develop and submit a Construction Noise Reduction Plan to the building official prior to initiating construction activities during hours that are not included in the exemption under the Morro Bay Municipal Code. The City or its contractor shall implement the Construction Noise Reduction Plan. A disturbance coordinator shall be designated for the project to implement the provisions of the Plan. At a minimum, the Construction Noise Reduction Plan shall implement the following measures:</p>

Environmental Impact	Mitigation Measures
<b>Class II. Significant but Mitigable</b>	
<p><b>3.11-2:</b> Operation of the proposed injection wells in close proximity to sensitive receptors could generate noise in excess of standards established in the Morro Bay Municipal Code. A qualified noise consultant will determine the noise reduction measures to be incorporated into project design to ensure noise levels would not exceed the City's daytime and nighttime noise standards.</p>	<ul style="list-style-type: none"> <li>• Distribute to the potentially affected residences and other sensitive receptors within 150 feet of project construction boundary a "hotline" telephone number, which shall be attended during active construction working hours, for use by the public to register complaints. The distribution shall identify a noise disturbance coordinator who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaints and institute feasible actions warranted to correct the problem. All complaints shall be logged noting date, time, complainant's name, nature of complaint, and any corrective action taken. The distribution shall also notify residents adjacent to the project site of the construction schedule.</li> <li>• All construction equipment shall have intake and exhaust mufflers recommended by the manufacturers thereof, to meet relevant noise limitations.</li> <li>• Maintain maximum physical separation, as far as practicable, between noise sources (construction equipment) and sensitive noise receptors. Separation may be achieved by locating stationary equipment to minimize noise impacts on the community.</li> <li>• Impact tools (e.g., jack hammers, pavement breakers) used during construction activities will be hydraulically or electrically powered where feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used.</li> <li>• Use construction noise barriers such as paneled noise shields, blankets, or enclosures adjacent to noisy stationary equipment. Noise control shields, blankets or enclosures shall be made featuring a solid panel and a weather-protected, sound-absorptive material on the construction-activity side of the noise shield.</li> </ul> <p><b>NOISE-2: Operational Noise Reduction Measures.</b> Prior to final design of the proposed injection wells, the City shall prepare an Operational Noise Reduction Plan demonstrating that the proposed injection wells will not expose the nearest sensitive receptor to noise levels that would exceed the City's daytime and nighttime noise standards (see Table 3.11-4). The operational noise reduction plan shall be prepared by a qualified noise consultant. Once all noise reduction measures outlined in the Operational Noise Reduction Plan are implemented, the City shall measure noise at the nearest sensitive receptor property line to validate the effectiveness of the measures and to demonstrate that operational noise levels are below the City's noise standards.</p>

Environmental Impact	Mitigation Measures
<b>Class II. Significant but Mitigable</b>	
<p><b>3.11-4:</b> Operation of the proposed injection wells in close proximity to sensitive receptors could result in a substantial permanent increase in ambient noise levels. A qualified noise consultant will determine the noise reduction measures to be incorporated into project design to ensure operational noise levels do not exceed the City's daytime and nighttime noise standards.</p>	Implement Mitigation Measure NOISE-2.
<p><b>3.11-5:</b> Construction of the proposed injection and monitoring wells would require continuous drilling for 24-hour periods, which would result in temporary increases in ambient noise levels. Implementation of a Construction Noise Reduction Plan approved by the City's building official would reduce noise levels to acceptable levels.</p>	Implement Mitigation Measure NOISE-1.
<b>Transportation and Traffic</b>	
<p><b>3.14-1:</b> Construction of the proposed project would result in partial lane closures, which could significantly impact the operations of the local and regional circulation systems. However, implementation of a Traffic Control Plan would reduce impacts to a less than significant level.</p>	<p><b>TRAF-1: Traffic Control Plan.</b> Prior to the start of construction of project components that would occur within a roadway right-of-way, the City shall require the construction contractor to prepare a Traffic Control Plan. The Traffic Control Plan will show all signage, striping, delineated detours, flagging operations and any other devices that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City's Public Works Director and Fire and Police Chiefs. When construction activities disrupt travel on major collectors or arterials, electronic signing shall be used to provide the public, on all transportation modes, with current construction information and the availability of alternate travel routes.</p> <p>The Traffic Control Plan will be prepared in accordance with the City's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties, and that emergency access will not be restricted. Additionally, the Traffic Control Plan shall also include a scheduling plan showing the hours of operation to minimize congestion during the peak hours and special events. The scheduling plan will ensure that congestion and traffic delay are not substantially increased as a result of the construction activities. Further, the Traffic Control Plan will include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks.</p> <p>In addition, the City shall provide written notice at least two weeks prior to the start of construction to owners/occupants along streets to be affected during construction. During construction, the City will maintain continuous vehicular and pedestrian access to any affected residential driveways from the public street to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, the City shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure.</p>



Environmental Impact	Mitigation Measures
Class II. Significant but Mitigable	
<p><b>3.14-3:</b> Construction of the proposed project would require temporary partial lane closures, which could affect roadway safety or create a hazardous design feature. However, implementation of the Traffic Control Plan would minimize the effects of the partial lane closures on roadway safety to a less than significant level.</p>	<p>The Traffic Control Plan shall include provisions to ensure that the construction of the lift station, conveyance pipelines, and the IPR injection and monitoring wells do not interfere unnecessarily with the work of other agencies such as mail delivery, school buses, and municipal waste services.</p> <p>The City shall also notify local emergency responders of any planned partial or full lane closures or blocked access to roadways or driveways required for construction of the proposed project facilities. Emergency responders include fire departments, police departments, and ambulances that have jurisdiction within the proposed project area. Written notification and disclosure of lane closure location must be provided at least 30 days prior to the planned closure to allow for emergency response providers adequate time to prepare for lane closures.</p> <p>Implementation of <b>TRAF-1</b>.</p>
<p><b>3.14-4:</b> Construction of the proposed project would include temporary partial lane closures, which could significantly impact emergency access in proximity to the project components. However, implementation of the Traffic Control Plan would require coordination with emergency responders, which include the fire department, police department, and ambulances to ensure adequate emergency access is provided.</p>	<p>Implementation of <b>TRAF-1</b>.</p>
<p><b>3.14-5:</b> Construction of the proposed project would include temporary partial lane closures, which could significantly impact alternative transportation routes around the project components. However, implementation of the Traffic Control Plan would require include detours or alternative routes for transit, bicyclists using on-street bicycle lanes, and for pedestrians using adjacent sidewalks.</p>	<p>Implementation of <b>TRAF-1</b>.</p>

Environmental Impact	Mitigation Measures
<b>Class III. Not Significant</b>	
<b>Aesthetics</b>	
<b>3.1-1:</b> The proposed project would not have an adverse effect on scenic vistas. The proposed project would not have sufficient scale or height to significantly affect scenic vistas. The WRF would be briefly visible from Highway 1, but would resemble rural agricultural buildings similar to others along the Highway 1 corridor.	None required.
<b>3.1-2:</b> The proposed project would be visible from Highway 1 and State Route 41 corridors, a State Scenic Highway and Eligible Scenic Highway, respectively. However, implementation of specific design criteria for development would ensure that scenic resources would not be adversely effected by implementation of proposed facilities.	None required.
<b>3.1-3:</b> The proposed WRF would not degrade the visual character of the site due to implementation of specific design criteria for architectural treatments that blend with the surrounding rural and agricultural area. The remaining project components would also be similar in size and scale as surrounding development and would not degrade visual character.	None required.
<b>Aesthetics</b>	
<b>4-1:</b> Concurrent construction and operation of the proposed project and related projects in the vicinity of the WRF, lift station, and wells would not result in cumulatively considerable impacts to aesthetics.	None required.
<b>Agriculture and Forestry Resources</b>	
<b>3.2-1:</b> The proposed IPR East groundwater wells could potentially convert Prime Farmland to non-agricultural use. However, based on the results of the LESA model, the conversion of farmland to non-agricultural use would be considered less than significant.	None required.
<b>3.2-2:</b> The proposed project would not conflict with a Williamson Act contract. Project components located on lands zoned for agricultural use would be consistent with applicable Land Use and zoning requirements through implementation of City and County policies and permit procedures.	None Required.

Environmental Impact	Mitigation Measures
<b>Class III. Not Significant</b>	
<b>3.2-5:</b> The proposed WRF would be located on a parcel that is currently rangeland and used for grazing. The majority of the parcel would continue to be used for grazing after implementation of the proposed project. The proposed WRF would implement City and County policies related to public services with agricultural lands, and would not substantially reduce the area available for grazing and rangeland, so impacts to this area are less than significant. In addition, agricultural impacts related to the location of IPR wells are considered Class III, Less than Significant.	None required.
<b>4-2:</b> Concurrent implementation of the proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to agriculture.	None required.
<b>Air Quality</b>	
<b>3.3-1:</b> The project would not conflict with the population and vehicle travel projections for the project area nor would it conflict with the transportation control measures contained in the applicable air quality plan.	None required.
<b>3.3-3:</b> Proposed project operation would generate air pollutant emissions of ROG, NO <sub>x</sub> and PM, but the increase would be less than the applicable SLOAPCD significance thresholds for operation and would therefore not lead to a violation of an air quality standard or contribute substantially to an existing or projected air quality violation.	None required.
<b>3.3-4:</b> The proposed project would not expose sensitive receptors to substantial pollutant concentrations that would lead to adverse health risks.	None required.
<b>3.3-5:</b> Operation of the proposed WRF would generate odor, but the proposed project design includes odor control facilities to capture and treat air produced during the wastewater treatment process. A substantial number of people would not be affected by objectionable odor.	None required.
<b>4-3:</b> Concurrent construction of the mitigated proposed project and related projects in the South Central Coast Air Basin would not result in cumulatively considerable impacts to air quality.	None required.
<b>Biological Resources</b>	
<b>4-4:</b> Concurrent construction and operation of the mitigated proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to biological resources.	None required.
<b>Geology, Soils, and Seismicity</b>	
<b>4-6:</b> Concurrent construction and operation of the proposed project and related projects in the geographic scope would result in site-specific impacts related to geology, soils, and seismicity, however, when considered together, would not combine to create cumulatively considerable impacts.	None required.

Environmental Impact	Mitigation Measures
<b>Class III. Not Significant</b>	
<b>Greenhouse Gas Emissions and Energy</b>	
<b>3.7-1:</b> The proposed project would generate GHG emissions, either directly or indirectly, that would not have a significant impact on the environment.	None required.
<b>3.7-2:</b> The proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.	None required.
<b>3.7-3:</b> The proposed project would not lead to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation, which would conflict with applicable energy efficiency policies or standards.	None required.
<b>4-7:</b> Concurrent construction and operation of the proposed project and related projects would not result in global cumulative impacts to greenhouse gas emissions and energy.	None required.
<b>Hazards and Hazardous Materials</b>	
<b>3.8-1:</b> Construction and operation of the proposed project would include the routine transport, use, and disposal of hazardous materials. However, the proposed project would be required to comply with all applicable federal, state, and local regulations regarding the use and disposal of hazardous materials and wastes which would reduce the potential for impacts to human health, public safety, and the environment.	None required.
<b>3.8-2:</b> Although portions of the proposed project are located adjacent to Morro Bay High School, adherence to the applicable hazardous materials regulations would reduce potential impacts regarding hazardous materials emissions within 0.25 mile of a school.	None required.
<b>3.8-3:</b> The proposed project components would not be located on sites that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment.	None required.
<b>3.8-7:</b> The proposed project would not be located in a very high fire hazard severity zone and as such, the potential for wildfires is considered low. All project components would be designed to comply with all applicable fire codes and fire protection requirements established by the CCR and the City's building codes, would not be constructed of highly flammable materials, and would contain water thereby reducing flammability.	None required.
<b>4-8:</b> Concurrent construction and operation of the mitigated proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to emergency response plans.	None required.

Environmental Impact	Mitigation Measures
<b>Class III. Not Significant</b>	
<b>Hydrology and Water Quality</b>	
<b>3.9-1:</b> As a Groundwater Recharge Reuse Project, the proposed project would inject advanced treated recycled water into the Morro Valley Groundwater Basin for subsequent withdrawal as potable water supply. The proposed project would not result in violating water quality standards or waste discharge requirements or otherwise substantially degrade water quality.	None required.
<b>3.9-2:</b> The proposed project could degrade surface water or groundwater quality in the event of pipeline rupture or accidental spill. Implementation of regulatory requirements, including a leak detection system and preventative maintenance program for new proposed project pipelines would ensure water quality in the project area is not adversely affected.	None required.
<b>3.9-3:</b> As a Groundwater Recharge Reuse Project, the proposed project would inject advanced treated recycled water into the Morro Valley Groundwater Basin for subsequent withdrawal as potable water supply. The project would not result in a net deficit in aquifer volume or lowering of the local groundwater table.	None required.
<b>3.9-5:</b> Installation of the proposed project components would add impervious surfaces that could increase stormwater runoff from proposed project sites. Compliance with the City's Storm Water Management Plan, Stormwater Ordinance, and other NPDES regulatory requirements would require drainage control features and LID features to be incorporated into proposed project design to control and prevent increases in stormwater runoff and minimize impacts to the existing capacity of the storm drain system.	None required.
<b>3.9-7:</b> The proposed project would remove the existing WWTP from the tsunami hazard zone, but construct a new lift station within the tsunami hazard zone. Floodproof design features and compliance with the City's Tsunami Emergency Response Plan would minimize service disruptions to the wastewater system due to the potential effects of tsunami inundation of the lift station.	None required.
<b>4-9:</b> Concurrent construction and operation of the proposed project and related projects in the Morro Creek and Morro Bay watersheds and Morro Valley Groundwater Basin would not result in cumulatively considerable impacts.	None required.
<b>Land Use and Planning</b>	
<b>4-10:</b> Concurrent construction and operation of the proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to land use and planning.	None required.
<b>Noise</b>	
<b>3.11-3:</b> The proposed project would not expose people to excessive groundborne vibration either during construction or operation.	None required.

Environmental Impact	Mitigation Measures
<b>Class III. Not Significant</b>	
<b>4-11:</b> Concurrent construction and operation of the mitigated proposed project and adjacent related projects would not combine to create cumulatively considerable impacts to noise and vibration.	None required.
<b>Environmental Justice</b>	
<b>3.12-1:</b> The aboveground facilities of the proposed project would not be located near communities that are disproportionately comprised of low income or minority populations.	None required.
<b>Public Services</b>	
<b>3.13-1a:</b> The number of workers required to construct and operate the proposed project would not be large enough to significantly affect the demand for housing. Thus, the proposed project would not affect service ratios or other performance objectives for fire and police protection	None required.
<b>4-13:</b> Concurrent construction and operation of the proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to public services.	None required.
<b>Traffic and Transportation</b>	
<b>4-14:</b> Concurrent construction of the mitigated proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to traffic and transportation.	None required.
<b>Utilities and Service Systems</b>	
<b>3.16-2:</b> The proposed project includes the construction of a new wastewater treatment facility, which has been evaluated throughout the Draft EIR. No additional water or wastewater treatment facilities would be required to operate the proposed project.	None required.
<b>3.16-3:</b> Proposed project construction and operation would not generate excessive stormwater runoff such that new or expanded stormwater drainage facilities are required.	None required.
<b>3.16-6:</b> The proposed project would generate solid waste that could require disposal at a landfill, including construction debris and biosolids during WRF operation. Existing landfills have sufficient remaining capacity to accommodate construction-related solid waste; biosolids would be reused by a biosolids management firm rather than disposed at a landfill. The proposed project would comply with all federal, state, and local statutes and regulations related to solid waste.	None required.
<b>4-16:</b> Concurrent construction and operation of the proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to utilities and service systems.	None required.

Environmental Impact	Mitigation Measures
<b>Class IV. Beneficial</b>	
<b>Hydrology and Water Quality</b>	
<p><b>3.9-6:</b> The proposed lift station and IPR wells would be located within a 100-year flood hazard area; however, the relatively small footprint would be negligible and would not impede or redirect flood flows. This would be a Class III impact, Less than Significant. In addition, decommissioning of the WWTP would remove treatment facilities from the same 100-year flood hazard area, which is beneficial because it would remove a substantial impediment within the flood plain. Overall, the introduction of IPR wells combined with the removal of the existing WWTP would result less impervious surface than the current condition, which is a net beneficial impact</p>	None required.
<b>Utilities and Service Systems</b>	
<p><b>3.16-1:</b> Once operational, the proposed WRF would provide tertiary treatment and advanced treatment of wastewater, thereby exceeding the secondary treatment requirements mandated by the Central Coast Regional Water Quality Control Board.</p>	None required.
<p><b>3.16-4:</b> Operation of the proposed project would allow for the development of 650 to 825 AFY of advanced treated recycled water for indirect potable reuse, thereby enhancing water supplies in the project area and providing water supply reliability with a new local renewable water supply.</p>	None required.
<p><b>3.16-5:</b> The proposed WRF will be designed to accommodate the City's projected wastewater treatment capacity needs in the future based on buildout projections under the General Plan Update. The proposed WRF infrastructure would be more reliable than the existing WWTP, thereby reducing potential service interruptions.</p>	None required.

Environmental Impact	Mitigation Measures
<b>No Impact</b>	
<b>Agriculture and Forestry Resources</b>	
<b>3.2-3:</b> The project is not located within forest land or timberland. Thus, the project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland or timberland zoned Timberland Production	None required.
<b>3.2-4:</b> The project is not located within forest land so it would not result in the loss of forest land or conversion of forest land to non-forest use.	None required.
<b>Biological Resources</b>	
<b>3.4-6:</b> The proposed project is not located within the boundaries of a habitat conservation plan or natural community conservation plan.	None required.
<b>Geology, Soils and Seismicity</b>	
<b>3.6-5:</b> The proposed project would not include septic tanks and would not result in impacts regarding soils incapable of supporting those alternative systems. There would be no impact.	None required.
<b>Hazards and Hazardous Materials</b>	
<b>3.8-4:</b> The proposed project area is not within the boundaries of an airport land use plan. Construction and operation of the proposed project would not result in a safety hazard at a public airport.	None required.
<b>3.8-5:</b> The City does not include a private airstrip within its boundaries. Construction and operation of the proposed project would not affect a private airstrip or create a safety hazard.	None required.
<b>Land Use and Planning</b>	
<b>3.10-1:</b> The proposed project would not physically divide an established community. Project components are located in areas that are not established residential communities and would not disconnect any established communities.	None required.
<b>3.10-2:</b> The project would not conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect, including the City or County General Plan, Local Coastal Plan, Coastal Zone Land Use Ordinance, or Zoning Ordinance.	None required.
<b>3.10-3:</b> The project would not be not located in or adjacent to a habitat conservation plan or a natural community conservation plan and therefore would not conflict with a habitat conservation plan or natural community conservation plan.	None required.
<b>Noise</b>	
<b>3.11-6:</b> The proposed project would not be located within an airport land use plan area or in the vicinity of a private airport.	None required.



Environmental Impact	Mitigation Measures
<b>No Impact</b>	
<b>Public Services</b>	
<b>3.13-1b:</b> The proposed project would not induce population growth and would not require the construction of new schools.	None required.
<b>3.13-1c:</b> The proposed project would not induce population growth and would not require the construction of new parks or other public facilities.	None required.
<b>Transportation and Traffic</b>	
<b>3.14-2:</b> Since there are no public or private airports within the City limits, implementation of the proposed project would not result in a change in air traffic patterns, including either an increase in air traffic levels or a change in location that results in substantial safety risks.	None required.
<b>Tribal Cultural Resources</b>	
<b>3.15-1:</b> The proposed project would not cause a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources.	None required.
<b>3.15-2:</b> The proposed project would not cause a substantial adverse change to a tribal cultural resource.	None required.
<b>4-15:</b> The proposed project would not affect a Tribal Cultural Resource and when considered together with related projects, would not result in a cumulatively considerable impact to Tribal Cultural Resources.	None required.

# CHAPTER 1

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## Introduction and Project Background

### 1.1 Purpose of the EIR

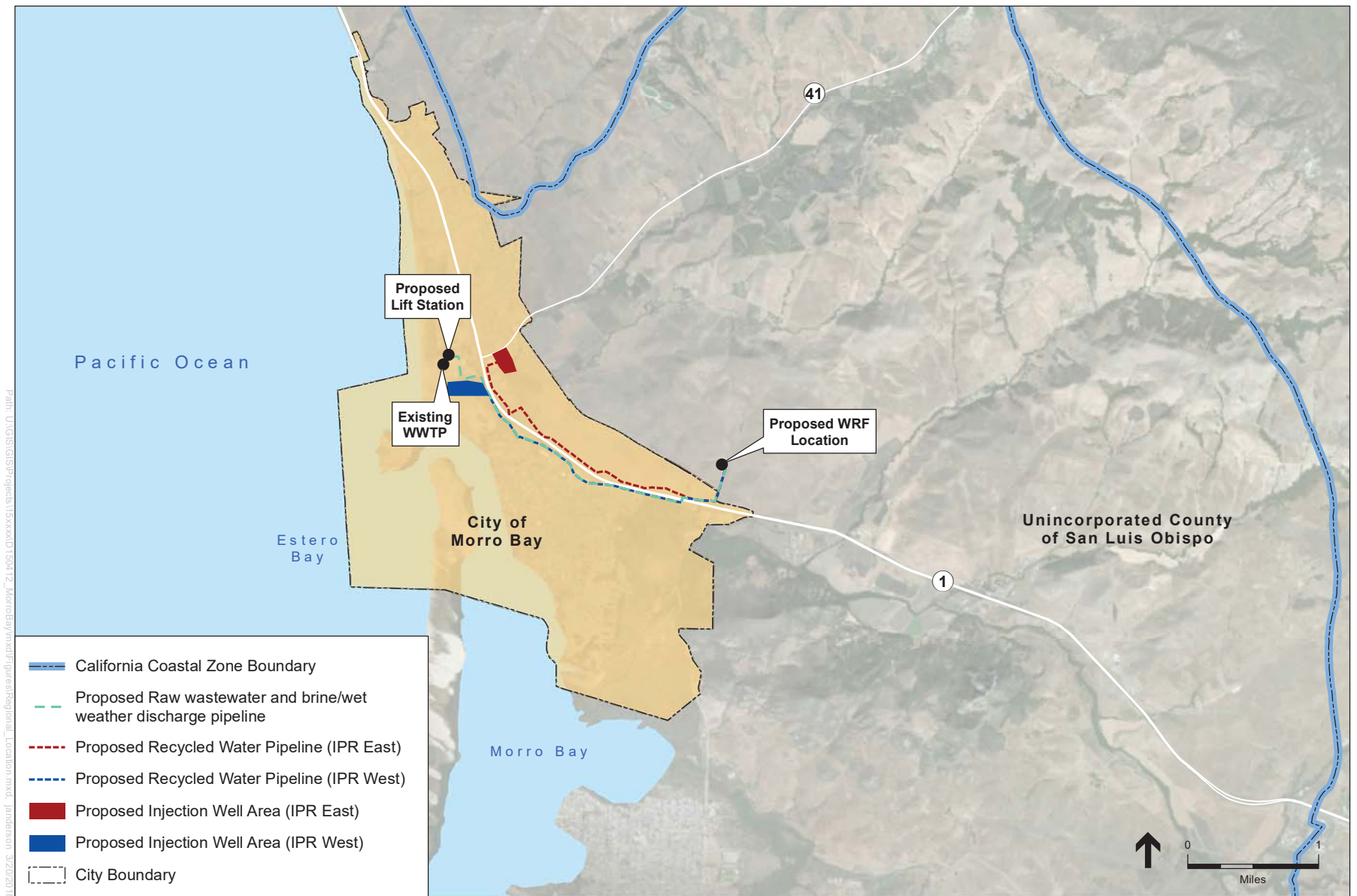
The City of Morro Bay (City), as the Lead Agency pursuant to the California Environmental Quality Act (*CEQA*) and State *CEQA* Guidelines (*CEQA Guidelines*), has prepared this Draft Environmental Impact Report (Draft EIR) to provide the public and pertinent agencies with information about the potential effects on the local and regional environment associated with the proposed Morro Bay Water Reclamation Facility (WRF) Project (proposed project). The proposed project would provide wastewater treatment services for the City and potentially additional surrounding communities or customers. The existing wastewater treatment facility, the Morro Bay-Cayucos Wastewater Treatment Plant (WWTP), would be replaced by the proposed project and the new treatment facility planned by the Cayucos Sanitary District. The proposed project is intended to provide opportunities for the City to produce and beneficially reuse advanced treated recycled water and to meet or exceed all wastewater treatment requirements of the California State Water Resources Control Board (SWRCB). The potential beneficial end use for the advanced treated recycled water is indirect potable reuse (IPR) through groundwater replenishment. The project components are shown in **Figure 1-1**.

As described in Section 15121(a) of the *CEQA Guidelines*, this Draft EIR is intended to serve as an informational document for pertinent public agency decision makers. Accordingly, this Draft EIR has been prepared to identify the significant environmental effects of the proposed project, identify mitigation measures to minimize significant effects, and consider reasonable project alternatives. The environmental impact analyses in this Draft EIR are based on a variety of sources, including agency consultation, technical studies, and field surveys.

### 1.2 Project Background

The U.S. Environmental Protection Agency (USEPA) or the SWRCB regulate municipal wastewater discharges into the Pacific Ocean through National Pollutant Discharge Elimination System (NPDES) Permits in accordance with Section 402 of the federal Clean Water Act. USEPA or the California Regional Water Quality Control Boards issue (or reissue) NPDES permits to wastewater dischargers every five years. The existing Morro Bay-Cayucos Wastewater Treatment Plant (WWTP) serves the City and the community of Cayucos, and is owned and operated jointly by the City and the Cayucos Sanitary District (CSD). Prior to the current 2017 NPDES Permit No. CA0047881 and Waste Discharge Requirements (WDR) Order No R3-2017-0050, the WWTP discharged to the Pacific Ocean under NPDES Permit No.





SOURCE: ESRI 2015

Morro Bay Water Reclamation Facility Project. 150412

**Figure 1-1**  
Regional Location



CA0047881 and WDR Order No. R3-2008-0065, which was a Clean Water Act Section 301(h) modified NPDES permit that waived full secondary treatment requirements for biochemical oxygen demand (BOD) and total suspended solids (TSS). The existing WWTP has operated under that modified permit since its last upgrade in 1984. On July 7, 2003, the City submitted an application for renewal of NPDES permit to USEPA and Central Coast Regional Water Quality Control Board (RWQCB) which expired in March 2014. The final renewed discharge permit was adopted by the RWQCB on December 7, 2017. The 301(h) modifications were no longer included in the 2017 renewal. A time schedule order will be provided by RWQCB for compliance with full secondary treatment requirements.

Based on an agreement with the RWQCB, the City and CSD had previously pursued bringing the existing facility to full secondary treatment in place of continued requests for a 301(h) modified discharge permit. The agreement allowed the City and CSD to pursue secondary treatment on a schedule that was mutually agreed upon by both agencies and the RWQCB. In February 2015, the RWQCB stated the new facility was expected to be fully operational by 2021 in order to meet its goals.

The existing WWTP is located in the Coastal Zone; as such, in order to upgrade the existing WWTP at its existing location, a Coastal Development Permit (CDP) is required from the California Coastal Commission (CCC). However, in January 2013, the CCC denied the City and CSD's project application for the CDP to demolish the existing WWTP and construct a new treatment facility on the same site. The basis for that denial included the CCC's assessment the new facilities would be inconsistent with the City's Local Coastal Plan (LCP) zoning provisions, failed to avoid coastal hazards, failed to include a sizeable reclaimed water component, and that the project location was within an LCP-designated sensitive view area.

Following this denial, the City began planning a new WRF and pursuing alternative locations for a new upgraded wastewater treatment plant. The City realized that presented an opportunity to design and construct a WRF to enhance the City's water supply portfolio through the production of recycled water. From 2013 to the beginning of 2014, the community defined goals to guide the planning and design process for the new WRF. Public outreach was conducted through stakeholder meetings, stakeholder interviews, and public workshops which gathered input related to cost, environmental concerns, engineering and design issues, site-related issues, and logistics and process issues. Through that public outreach program, criteria were determined for the siting process, and various studies were conducted to examine the suitability of each site. Some of the criteria included, but were not limited to, compliance with NPDES Permit requirements, distance to the City sewer collection system, avoidance of coastal hazards, minimal visual impacts, and sustainable use of public resources. In order to ensure public involvement during this process, a Citizens Advisory Committee (WRFCAC) was created in July 2014 to help oversee and evaluate the siting process.

Five comparative siting studies were performed between 2013 and 2017. Starting with the results of the Rough Screening Evaluation, 17 study sites were first examined for the potential location of the WRF. By December 2013, it was narrowed down to seven study sites (Chevron, Morro Valley, Chorro Valley, California Men's colony (CMC) Wastewater Treatment Plant site, Power

plant – southern portion, Panorama, and Giannini), which ranged in size and number of properties included in each. Finally, the City Council narrowed the sites down to focus on the Morro Valley, Chorro Valley, and Giannini Property in May 2014. Within those three general areas, there were four specific locations: Rancho Colina and Righetti (both in Morro Valley), Tri-W (now called the “South Bay Boulevard” site, in Chorro Valley) and Giannini. It should be noted there was also a feasibility analysis performed for a regional facility at the CMC site that could serve the needs of the City and partner agencies; however, it concluded not to be feasible. In April 2016, after direction to investigate other potential sites, the list of potential sites was revised to include Rancho Colina, Righetti, Tri-W, Chevron/Toro Creek, and Madonna. After the 2016 comparative study was completed, the Tri-W site, which became known as the South Bay Boulevard site, was found to be the final site preference, and preliminary planning efforts began at that location based on City Council direction at that time. The CCC supports the proposed new treatment plant location and has been supportive in the concept of working with the City and, as needed, San Luis Obispo County (County), on a CDP for a WRF at that location.

In April 2015, the CSD decided to pursue an independent path from the City to build its own new wastewater facility, and unilaterally adopted a resolution to that effect on April 30, 2015. From that point forward, the City’s efforts have been focused on finding a suitable site to build a WRF to serve only its customers, exclusive of CSD customers. Thus, current plans are for the City and CSD to build separate treatment facilities and, once operational, decommission the jointly-owned WWTP. The City has welcomed CSD to continue to participate in a joint venture since that time. CSD has consistently indicated it has no further interest in that approach, and, in fact, has found a site and made plans for a facility at a different location that would address its long-range wastewater disposal needs.

### **1.3 Intended Use of the EIR**

The purpose of this Draft EIR is to evaluate the proposed project in accordance with CEQA and *CEQA Guidelines*. The proposed project is a multi-jurisdictional project that would be implemented by the City, as the CEQA Lead Agency. The decision-making body of a lead agency and those of responsible agencies are required to consider a certified EIR prior to acting upon or approving the proposed project (*CEQA Guidelines* §15050(b)). After the Final EIR is certified by the City, the City, and to the extent needed the responsible agencies, may proceed with approving and implementing the proposed project. The CEQA process is further described below in Section 1.5.

### **1.4 CEQA-Plus Requirements**

The USEPA sponsors the State Revolving Fund (SRF) Loan Program to provide funding for construction of publicly-owned treatment facilities and water reclamation projects. This funding for capital improvements to wastewater treatment and water recycling facilities is authorized under the federal Clean Water Act. The proposed project is eligible for SRF funding. In order to comply with requirements of the SRF Loan Program, which is administered by SWRCB in California, an EIR must fulfill additional requirements known as CEQA-Plus. The CEQA-Plus requirements have been established by the USEPA and are intended to supplement CEQA and the

*CEQA Guidelines* with specific requirements for environmental documents acceptable to the SWRCB when reviewing applications for wastewater treatment facility loans. They are not intended to supersede or replace *CEQA Guidelines*. (See Section 1.5 below for an explanation of the CEQA process.)

The USEPA's CEQA-Plus requirements have been incorporated into the SWRCB's *Environmental Review Process Guidelines for SRF Loan Applicants (SRF Guidelines)* (SWRCB, 2004). The SWRCB's *SRF Guidelines* include the following requirements for compliance with CEQA-Plus. Eight copies of the Final EIR must be sent to the SWRCB, which then forwards the copies directly to federally designated agencies. The federal agencies must have at least fifty-one calendar days to review the Final EIR from the date it was mailed to the reviewing agency. Federal consultation must be completed before an SRF funding agreement can be approved by the SWRCB. The proposed project must be in compliance with Section 7 of the federal Endangered Species Act (FESA), undergo a Clean Air Act conformity analysis (if in a nonattainment area or an attainment area subject to a maintenance plan), and be in compliance with Section 106 of the National Historic Preservation Act. The CEQA document must also disclose all project-specific information listed in the outline provided by the SWRCB and demonstrate compliance with federal laws and regulations, including the Clean Water Act, Farmland Protection Policy Act, Migratory Bird Treaty Act, Flood Plain Management Act, Wild and Scenic Rivers Act, and Coastal Zone Management Act. This Draft EIR has been prepared to comply with CEQA-Plus requirements and can be used to support the required federal consultations as described below. In addition, Chapter 7 of this Draft EIR addresses all federal laws and regulations required by *SRF Guidelines*.

## **Federal Endangered Species Act**

The SWRCB Division of Financial Assistance (Division) is the designated non-federal representative under the Federal Endangered Species Act (FESA) for water reclamation projects that involve a SRF loan. To ensure compliance with Section 7 of the FESA, the Division reviews all SRF projects to determine the potential effects to federally listed species. This EIR includes the documentation required by the Division to disclose the proposed project's effects on sensitive species (see Chapter 3.4). The Division staff will use this information to confer informally (and formally if necessary) with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service, as appropriate.

## **Federal Clean Air Act**

The federal Clean Air Act (CAA) requires the USEPA to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM<sub>10</sub>, PM<sub>2.5</sub>, and lead. Pursuant to the 1990 FCAA Amendments, the USEPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for these criteria air pollutants, based on whether or not the NAAQS have been achieved. The CAA requires each state to prepare a State Implementation Plan (SIP), which is an air quality control plan that includes pollution control measures for states that violate the NAAQS. For SRF-funded projects, CEQA-Plus requirements include a CAA general conformity analysis for projects in a federal nonattainment area or an attainment area subject to a SIP. The



proposed project is not in a federal nonattainment area as explained in Chapter 3.3. If a CAA general conformity analysis is required, the information provided in this EIR would be used to support the analysis.

## **National Historic Preservation Act**

CEQA-Plus requires SRF-funded projects to comply with Section 106 of the National Historic Preservation Act. Consultation with the State Historic Preservation Officer (SHPO) is required to demonstrate/confirm that Section 106 compliance has been achieved. The SWRCB Division's Cultural Resources Officer (CRO) is responsible for the consultation with the SHPO. This EIR and the administrative record includes the information and documentation that the Division CRO is required to provide to the SHPO to initiate the Section 106 consultation, including, (1) identification of the proposed project's Area of Potential Effects (APE), (2) cultural records searches for the APE at the appropriate Information Centers, (3) documentation of Native American consultation, (4) cultural resources field surveys of the APE, (4) evaluations of elements of the built environment in and around the APE that are eligible for the National Register of Historic Places, and (5) Determination of Eligibility for any cultural resources that cannot be avoided during project construction.

## **1.5 CEQA Environmental Review Process**

### **1.5.1 CEQA Process Overview**

The basic purposes of CEQA are to (1) inform decision makers and the public about the potential, significant adverse environmental effects of proposed governmental decisions and activities, (2) identify the ways those environmental effects can be avoided or significantly reduced, (3) prevent significant, avoidable and adverse environmental effects by requiring changes in projects through the use of alternatives or mitigation measures when feasible, and (4) disclose to the public the reasons why an implementing agency may approve a project even if significant unavoidable environmental effects are involved.

An EIR uses a multidisciplinary approach, applying social and natural sciences to make a qualitative and quantitative analysis of all the foreseeable environmental impacts that a proposed project would exert on the surrounding area. As stated in *CEQA Guidelines* section 15151:

*An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible.*

This Draft EIR has been prepared to comply with CEQA and the *CEQA Guidelines* and is to be used by local regulators and the public in their review of the potential significant adverse environmental impacts of the proposed project and alternatives, and mitigation measures that would minimize or avoid those potential environmental effects. The City will consider the information presented in this Draft EIR, along with other factors, prior to considering and making any final decisions regarding the proposed project.

## 1.5.2 Notice of Preparation and Public Scoping

Pursuant to Section 15082 of *CEQA Guidelines*, the lead agency is required to send a Notice of Preparation (NOP) stating that an EIR will be prepared to the State Office of Planning and Research (OPR), Responsible and Trustee agencies, and federal agencies involved in funding or approving the project. The NOP must provide sufficient information in order for responsible agencies to make a meaningful response. At a minimum, the NOP must include a description of the project, location of the project, and probable environmental effects of the project (*CEQA Guidelines* section 15082(a)(1)). Within 30 days after receiving the NOP, responsible and trustee agencies and OPR shall provide the lead agency with specific detail about the scope and content of the environmental information related to that agency's area of statutory responsibility that must be included in this Draft EIR (*CEQA Guidelines* section 15082(b)).

On August 8, 2016, an NOP for the proposed project was submitted to the California OPR, and distributed to Responsible and Trustee agencies and other interested parties for a 30-day review period that ended September 7, 2016. The NOP was mailed to local, state, and federal agencies and groups or individuals who had expressed interest in the project. Copies of the NOP were made available for public review on the Morro Bay WRF website (<http://morrobaywrf.com>) and at the City offices located at 595 Harbor Street, Morro Bay, CA 93442. Comments on the NOP were received from several individuals and the following public and local agencies: U.S. Fish and Wildlife Service (USFWS), U.S. Bureau of Reclamation, California Department of Fish and Wildlife (CDFW), California Department of Transportation (Caltrans), California Native American Heritage Commission (NAHC), Local Agency Formation Commission (LAFCO), Morro Bay National Estuary Program, Bay Pines Travel Trailer Park, and WRF Citizens Advisory Committee.

Pursuant to *CEQA Guidelines* section 15083, a lead agency may initiate public consultation regarding potential adverse environmental impacts associated with the proposed project. If a project is determined to have statewide, regional, or areawide significance, the lead agency is required to conduct at least one scoping meeting to gauge the range of actions to be analyzed in this Draft EIR pursuant to *CEQA Guidelines* section 15206. One public scoping meeting was held during the 30-day NOP public review period. The meeting was held on August 8, 2016, at the Veterans Memorial Building at 209 Surf Street Morro Bay, CA 93442. The City mailed postcards to all City addresses and property owners on record announcing that public meeting and inviting broad public comments on the scope and content of the analysis to be included in this Draft EIR.

**Appendix A** includes a copy of the NOP and includes a report containing summaries of the comments received during the scoping meeting, as well as written comments submitted on the NOP. **Table 1-1** presents a summary of comments made relevant to the environmental analyses to be included in this Draft EIR.

**TABLE 1-1  
SUMMARY OF SCOPING COMMENTS**

<b>Environmental Topic</b>	<b>Comment</b>
Alternatives	<ul style="list-style-type: none"> <li>Consider alternative WRF sites, including Righetti, Rancho Colina, Giannini, and other Morro Valley sites, and existing WWTP site</li> <li>Opposition to alternative sites also expressed, in conjunction with support for South Bay Boulevard site.</li> <li>Consider locating a desalination plant at the power plant to produce potable water.</li> <li>Consider alternatives that include different site sizes and different assemblages of potential municipal use</li> </ul>
Aesthetics	<ul style="list-style-type: none"> <li>Evaluate the visibility of the WRF from northbound Highway 1.</li> <li>Evaluate visual compatibility of the WRF with agricultural surroundings.</li> <li>Evaluate the potential for the project to increase nighttime light pollution.</li> </ul>
Agriculture	<ul style="list-style-type: none"> <li>Evaluate impacts of converting agricultural land to municipal uses.</li> <li>Evaluate compatibility of WRF facilities with neighboring agricultural land uses.</li> </ul>
Air Quality	<ul style="list-style-type: none"> <li>Evaluate potential for odor to affect neighboring sensitive receptors including the adjacent nursing home and mobile home parks.</li> </ul>
Biological Resources	<ul style="list-style-type: none"> <li>Evaluate the flow in Chorro Creek</li> <li>Evaluate the potential for spills to pollute the estuary.</li> <li>Evaluate the potential for project effects to federally listed species and their critical habitat within the designated critical habitat unit SLO-3. Species that may be in the vicinity of the project include California red-legged frog, Chorro Creek bog thistle, Chorro shoulderband snail.</li> </ul>
Cultural Resources	<ul style="list-style-type: none"> <li>Consult with all California Native American tribes within the geographic area of the proposed project, in compliance with AB 52 and SB 19.</li> <li>Evaluate the potential for the project to affect paleontological resources and Tribal resources.</li> </ul>
Greenhouse Gas Emissions	<ul style="list-style-type: none"> <li>Evaluate increases in carbon emissions associated with pumping wastewater to WRF site and pumping recycled water to injection wells.</li> </ul>
Geology, Soils, and Seismicity	<ul style="list-style-type: none"> <li>Evaluate the potential for an earthquake to cause a sewage spill and affect downstream habitat, species, residents, water quality in the estuary, and emergency response.</li> </ul>
Hydrology & Water Quality	<ul style="list-style-type: none"> <li>Evaluate impacts of increasing impervious surfaces at the WRF site and associated runoff.</li> <li>Evaluate impacts to water quality in the Morro Bay Watershed.</li> </ul>
Land Use	<ul style="list-style-type: none"> <li>Evaluate consistency with the Comprehensive Conservation and Management Plan</li> </ul>
Traffic	<ul style="list-style-type: none"> <li>Evaluate potential for the project to increase traffic along Highway 1 and South Bay Boulevard.</li> <li>Evaluate the potential to increase traffic due to solid waste deliveries</li> <li>Evaluate the potential for increased traffic at the Highway 1 on/off ramps at South Bay Boulevard.</li> <li>Evaluate the impacts related to construction traffic at the WRF site, along pipeline alignments, and at the lift station.</li> <li>Complete an intersection and ramp analysis for the State Route 1 and South Bay Blvd interchange using Highway Capacity Manual (HCM) methodology, including construction and operational impacts to the interchange.</li> </ul>

### 1.5.3 Draft EIR

This Draft EIR has been prepared pursuant to the requirements of *CEQA Guidelines* section 15126. The environmental issues addressed in this Draft EIR were established through review of environmental documentation developed for the project, environmental documentation for nearby projects, and public and agency responses to the NOP. This Draft EIR provides an analysis of reasonably foreseeable impacts associated with the construction and operation of the proposed project. The environmental baseline for determining potential impacts is the date of publication of the NOP for the proposed project, unless otherwise indicated (*CEQA Guidelines* section 15125(a)). The baseline environmental setting for each resource assessed in this Draft EIR describes the existing conditions as of January 2018. The impact analysis is based on changes to existing conditions that result due to implementation of the proposed project.

In accordance with the *CEQA Guidelines* section 15126, this Draft EIR describes the proposed project and the baseline environmental setting, identifies short-term, long-term, and cumulative adverse environmental impacts associated with all phases of project implementation, identifies mitigation measures for significant adverse impacts, analyzes potential growth-inducing impacts, and provides an analysis of alternatives. Significance criteria have been developed for each environmental resource analyzed in this Draft EIR. The significance criteria are defined at the beginning of each impact analysis section.

### Environmental Impact Analysis

This Draft EIR provides analysis of impacts for those environmental topics where it was determined in the NOP, or through subsequent analysis that the proposed project would result in “potentially significant impacts.” Sections 3.1 through 3.16 discuss the environmental impacts that may result with approval and implementation of the proposed project.

“Significant effect” is defined by the *CEQA Guidelines* §15382 as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.”

Determining the severity of project impacts is fundamental to achieving the objectives of CEQA. The level of significance for each impact examined in this Draft EIR was determined by considering the predicted magnitude of the impact to baseline environmental conditions against the applicable threshold. Thresholds were developed using criteria from the *CEQA Guidelines* and checklist; state, federal, and local schemes; local/regional plans and ordinances; accepted practice; consultation with recognized experts; and other professional opinions.

The assessment of each issue area begins with any relevant baseline setting information that is needed to provide context for the impact analysis that follows. Extraneous setting information that does not shed light on the impact analysis is not included in this Draft EIR.

The impact analysis includes any necessary description of methodologies used and the “significance thresholds,” which are those criteria adopted by the State, County, City, or other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. Each effect under consideration for an issue area is separately listed with the discussion of the effect and its significance following. Each potentially significant impact includes a numbered impact statement with and significance determination for the environmental impact as follows:

- Class I. Significant and Unavoidable: An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the State *CEQA Guidelines*.
- Class II. Significant but Mitigable: An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings to be made under §15091 of the State *CEQA Guidelines*.
- Class III. Not Significant: An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- Class IV. Beneficial: An effect that would reduce existing environmental problems or hazards.

Following each environmental effect discussion is a list of mitigation measures (if required) and the residual effects or level of significance remaining after the implementation of the measures. In those cases, where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed as a residual effect.

Please refer to the Executive Summary of this Draft EIR, which clearly summarizes all impacts and mitigation measures that apply to the proposed project.

## **Known Areas of Controversy and Issues of Concern**

Pursuant to Section 15123(b)(2) of the *CEQA Guidelines*, a lead agency is required to include areas of controversies raised by agencies and the public during the public scoping process for this Draft EIR. Areas of controversy have been identified for the proposed project, based on comments made during the 30-day public review period in response to information published in the NOP. Forty-seven comment letters were received during the NOP scoping period. Those comments are included in Appendix A. Commenting parties have requested the EIR evaluate impacts related to traffic at major freeway ramps and on surface roadways during the pipeline and lift station construction. Additional comments were received on impacts related to a sewage spill risk downstream of the facility, odor, and the compatibility of industrial facilities on agricultural land. The greatest area of known controversy from an environmental perspective are perceived land use compatibility issues with the WRF, including visual, noise, and odor concerns. Those concerns are the reason why great efforts have been made to evaluate and screen alternative locations as described above and in Section 1.2. While project cost is also an area of known controversy, that is not an issue appropriately addressed in an EIR based on CEQA requirements.

### 1.5.4 Public Review

In accordance with *CEQA Guidelines* section 15105, this Draft EIR has been submitted to the OPR State Clearinghouse for review by state agencies and, as such, is available for public review and comment for a 45-day review period. This Draft EIR or a Notice of Availability has been circulated to federal, state, and local agencies and interested parties, who may wish to review and issue comments on its contents. All comments should be directed to:

**Rob Livick, P.E.**  
Public Works Director  
City of Morro Bay  
955 Shasta Avenue  
Morro Bay, CA 93442  
rlivick@morrobayca.gov

During the 45-day public review period, the City will conduct one public meeting open to the general public to answer questions and receive oral comments on this Draft EIR. The time and location of such a meeting will be publicly noticed consistent with the City's adopted noticing procedures.

All oral and written comments received on this Draft EIR will be responded to and included in the Final EIR. Comments on this Draft EIR must be received by 5:00 p.m. on the last day of the 45-day review period unless the City of Morro Bay grants an extension.

### 1.5.5 Final EIR Publication and Certification

Once this Draft EIR public review period has ended, the City will prepare written responses to all comments. The Final EIR will be comprised of this Draft EIR, responses to comments received on this Draft EIR, and any changes or corrections to this Draft EIR that are made as part of the responses to comments. As the Lead Agency, the City will make the Final EIR available for public review prior to it considering any final decision regarding approval of the proposed project (*CEQA Guidelines* §15089(b)). The Final EIR must be available to commenting agencies at least 10 days prior to certification (*CEQA Guidelines* §15088(b)).

Prior to considering the proposed project for approval, the City will review and consider the information presented in the Final EIR and will certify that the Final EIR has been adequately prepared in accordance with CEQA. Once the Final EIR is certified, the City's City Council may proceed to consider any final decisions regarding the proposed project (*CEQA Guidelines* §15090, §15096(f)). Prior to approving the proposed project, the City must make written Findings in accordance with Section 15091 of the *CEQA Guidelines*. In addition, the City must adopt a Statement of Overriding Considerations (SOC) concerning each significant environmental effect identified in the Final EIR (if any) that cannot be fully mitigated to a less than significant level (see Class I impacts described above). If one is needed, then the SOC will be included in the record of the proposed project's approval and mentioned in the Notice of Determination (NOD) following *CEQA Guidelines* section 15093(c). Pursuant to Section 15094 of the *CEQA*

*Guidelines*, the City will file an NOD with the State Clearinghouse and County Clerk within five working days, if the proposed project is approved.

### 1.5.6 Mitigation Monitoring and Reporting Program

CEQA requires lead agencies to “adopt a reporting and mitigation monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment” (*CEQA Guidelines* §15097.) The mitigation measures, if any, adopted as part of the Final EIR will be included in a Mitigation Monitoring and Reporting Program (MMRP) and implemented by the City of Morro Bay.

## 1.6 Organization of this Draft EIR

This Draft EIR is organized into the following chapters and appendices:

- **ES. Executive Summary:** This chapter summarizes the contents of this Draft EIR.
- **Chapter 1, Introduction and Project Background:** This chapter provides an overview of the proposed project, the purpose of the EIR, and provides the background information for the proposed project.
- **Chapter 2, Project Description:** This chapter provides an overview of the proposed project, described the need for and objectives of the proposed project, and provides detail on the characteristics of the proposed project.
- **Chapter 3, Environmental Setting, Impacts and Mitigation Measures:** This chapter describes the environmental setting and identifies direct and indirect impacts of the proposed project for each of the following environmental resources areas, for which the project was determined to have potentially significant impacts: Aesthetics; Agriculture and Forestry Resources; Air Quality; Biological Resources; Cultural Resources; Geology, Soils, and Seismicity; Greenhouse Gas Emissions and Energy; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Noise and Vibration; Environmental Justice; Public Services; Traffic and Transportation; Tribal Cultural Resources; and Utilities and Services Systems. If necessary, then measures to mitigate significant impacts of the proposed project are presented for each resource area.
- **Chapter 4, Cumulative Impacts:** This chapter describes the cumulative impacts of the proposed project together with past, current, and probable future projects within the region.
- **Chapter 5, Growth Inducement:** This chapter describes the potential for the proposed project to induce growth.
- **Chapter 6, Alternatives:** This chapter presents an overview of the alternatives development process, describes the alternatives to the proposed project that were considered, and describes the potential impacts of feasible alternatives relative to those of the proposed project.
- **Chapter 7, CEQA-Plus Considerations:** This chapter summarizes the proposed project’s compliance with the SWRCB CEQA-Plus requirements.
- **Chapter 8, Report Preparers:** This chapter identifies those involved in preparing this Draft EIR, including persons and organizations consulted.
- **Appendices:** The Appendices contain important information used to support the analyses and conclusions made in this Draft EIR.

# CHAPTER 2

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## Project Description

### 2.1 Introduction

The City of Morro Bay, as the Lead Agency pursuant to CEQA, is proposing to construct the Morro Bay Water Reclamation Facility (WRF) Project (proposed project). The proposed project would provide wastewater treatment services for the City and potentially additional surrounding communities or customers. The existing wastewater treatment facility, the Morro Bay-Cayucos Wastewater Treatment Plant (WWTP), would be replaced by the proposed project and the new treatment facility planned by the CSD. In addition to a new WRF, the proposed project would include (i) administration, operations and maintenance (O&M) buildings, (ii) a new collection system including a lift station and pipelines to convey raw/treated wastewater flows to/from the new WRF and (iii) a new distribution system to convey recycled water from the WRF to new injection wells in the Morro Valley.

The proposed project is intended to provide opportunities for the City to produce and beneficially reuse advanced treated recycled water and to meet or exceed all wastewater treatment requirements of the State Water Resources Control Board. The potential beneficial end use for the advanced treated recycled water is indirect potable reuse (IPR).

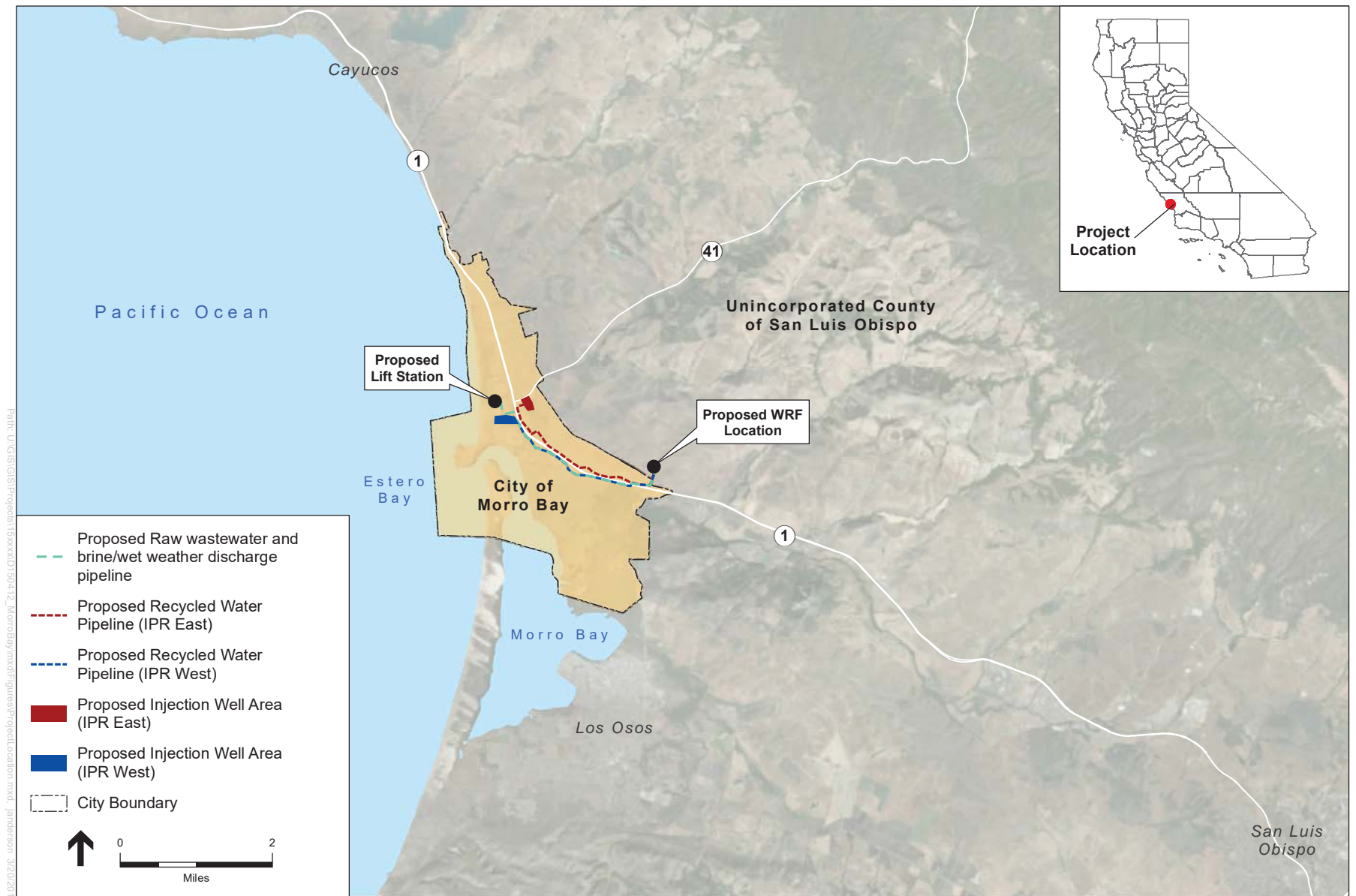
### 2.2 Project Location

The proposed project is located within the City and in unincorporated area of the County of San Luis Obispo adjacent to the City boundaries (see **Figure 2-1**). The preferred WRF site is currently located in an unincorporated portion of the County adjacent to the City, while the remaining proposed infrastructure is located in the City itself. The WRF would be constructed on an approximately 10- to 15-acre area within a 396-acre parcel that is located along Highway 1, north of the northern terminus of South Bay Boulevard. The proposed Operations and Maintenance buildings would also be located within the WRF site.

The existing WWTP that will be decommissioned is located at 160 Atascadero Road in the City. Note the timing of the decommissioning process will depend in part on the completion of the CSD's proposed wastewater facility, because full decommissioning cannot occur until both new facilities are online. The collection system would include a lift station adjacent to the existing WWTP and multiple pipelines running along an alignment between the lift station and WRF site. The alignment shown in **Figure 2-2** would include: (i) a force main pipeline to convey raw wastewater from the lift station to the WRF site and (ii) a waste discharge pipeline to convey brine or extreme wet weather flows to the ocean outfall.







SOURCE: ESRI 2015

Morro Bay Water Reclamation Facility Project. 150412

**Figure 2-1**  
Project Location





SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

**Figure 2-2**  
Proposed Project



Specifically, the proposed pipeline alignment would travel westward from the WRF generally in the vicinity of Highway 1 (though not in the right-of-way itself, except where it crosses the highway), then along Quintana Road to the proposed lift station. The proposed lift station would be located within the City's existing Corporation Yard on Atascadero Road (Option 1A) or adjacent to Atascadero Road along a public right-of-way (Option 5A). **Figure 2-3** shows the two potential lift station locations, Option 1A and Option 5A. Please refer to Chapter 6 Alternatives Analysis for a summary of the site selection process for the lift station.

The WRF would produce recycled water for reuse. A recycled water pipeline would run from the WRF, either along the same alignment described above (IPR-West) or along a parallel alignment running east and north of Highway 1 (IPR-East) (see Figure 2-2). The pipelines would lead to new groundwater injection wells at one of the two proposed wellfield areas associated with the IPR-West and IPR-East pipelines.

## 2.3 Project Objectives

The Morro Bay City Council refined and adopted the project objectives for the proposed project on October 24, 2017. The primary goals of the proposed project have not changed. The following refined objectives reflect the input of the community and stakeholders since issuance of the NOP in 2016, demonstrating the purpose and value of the CEQA scoping process:

- All aspects of the WRF project shall be completed ensuring economic value with a special emphasis on minimizing rate payer and City expense
- Communicate WRF project progress including general project status, milestones, and budget/cost information to our community members regularly
- Produce tertiary disinfected wastewater in accordance with 22 California Code of Regulations (CCR) 60001, *et seq.* requirements for unrestricted urban irrigation
- Design to produce reclaimed wastewater to augment the City's water supply, by either direct or indirect means, as described in a master water reclamation plan and to maximize funding opportunities
- Include features in the WRF project to maximize the City's opportunities to secure funding and maximize efficiencies, including energy generation and recovery.
- Design to minimize the impacts from contaminants of emerging concern in the future
- Ensure compatibility with neighboring land uses







SOURCE: ESRI 2015

Morro Bay Water Reclamation Facility Project. 150412

**Figure 2-3**  
Proposed Lift Station Alternatives





## 2.4 Project Description

The proposed project would include new wastewater treatment facilities at the WRF site that would produce advanced treated recycled water that meets or exceeds 22 CCR 60001 *et seq.* (Title 22) requirements for indirect potable reuse. The proposed project would allow the City to meet the State Water Resources Control Board (SWRCB) requirements and timeline for upgrading to at least full secondary treatment, and would exceed this minimal requirement through development of an advanced water treatment facility (AWTF). Implementation of the proposed project would allow for the decommissioning of the existing WWTP, once CSD's new and independent wastewater facility is completed and operational. During operation, advanced treated recycled water produced at the WRF would be used for groundwater recharge. Brine produced by the treatment process will be discharged through the existing ocean outfall.

The proposed project facilities are described in detail in the draft Water Reclamation Facility Master Plan (Black & Veatch, November 2016) and Master Water Reclamation Plan (MKN & Associates, March 2017). The pertinent details about the project as they pertain to the analysis of environmental impacts are presented in this chapter. For additional detail, the Water Reclamation Facility Master Plan and Master Water Reclamation Plan can be found on the project web site: <http://morrobaywrf.com/>.

### 2.4.1 WRF

#### Treatment Facility

The WRF would provide tertiary treatment to wastewater generated within the City's service area. The WRF would treat a maximum peak daily flow of 2.75 million gallons per day (MGD) and maximum average annual daily flow rate of 0.97 MGD. The resulting tertiary-treated recycled water would be in compliance with 22 CCR 60001 *et seq.* recycled water quality requirements for unrestricted use, and the majority of that water would be further treated and injected for indirect potable reuse. The facility design includes primary treatment; biological and tertiary treatment via or membrane bioreactor (MBR) or process that produces a similar level of water quality; advanced water treatment including membrane filtration (if needed), reverse osmosis, ultraviolet (UV) radiation disinfection, and reverse osmosis; and solids dewatering with off-site solids disposal or on-site reuse. The City is proceeding with a design-build procurement process for the WRF that could allow construction of an alternative treatment technology that would meet the same water quality requirements as an MBR system. Regardless of the secondary and treatment process selected, advanced water treatment consistent with groundwater recharge requirements will be provided. All treatment processes would be covered or housed in one of the proposed WRF buildings. **Table 2-1** lists all of the proposed WRF facilities while **Figure 2-4** shows the conceptual site plan for the WRF site.

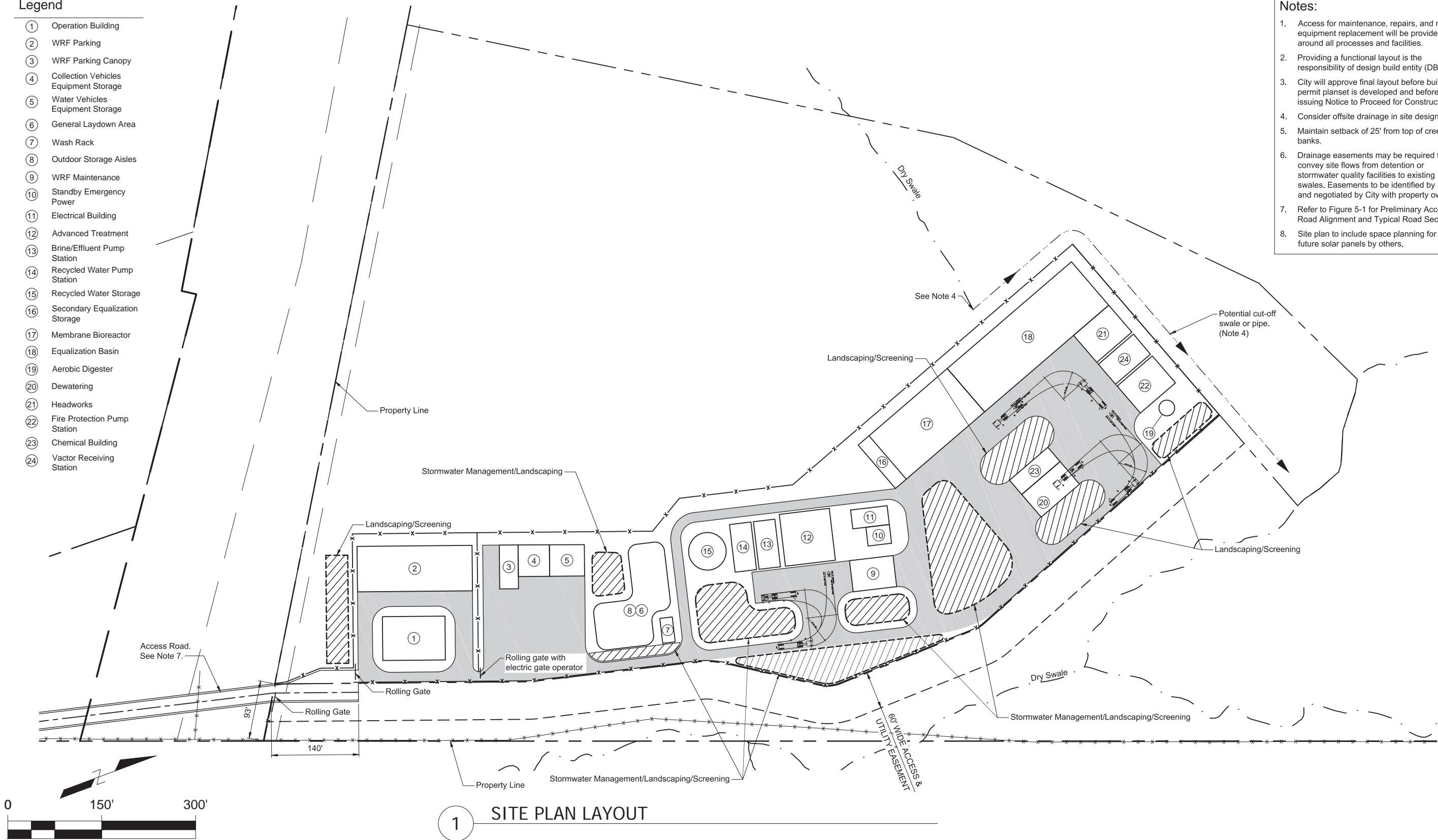


Legend

- ① Operation Building
- ② WRF Parking
- ③ WRF Parking Canopy
- ④ Collection Vehicles Equipment Storage
- ⑤ Water Vehicles Equipment Storage
- ⑥ General Laydown Area
- ⑦ Wash Rack
- ⑧ Outdoor Storage Aisles
- ⑨ WRF Maintenance
- ⑩ Standby Emergency Power
- ⑪ Electrical Building
- ⑫ Advanced Treatment
- ⑬ Brine/Effluent Pump Station
- ⑭ Recycled Water Pump Station
- ⑮ Recycled Water Storage
- ⑯ Secondary Equalization Storage
- ⑰ Membrane Bioreactor
- ⑱ Equalization Basin
- ⑲ Aerobic Digester
- ⑳ Dewatering
- ㉑ Headworks
- ㉒ Fire Protection Pump Station
- ㉓ Chemical Building
- ㉔ Vector Receiving Station

Notes:

- 1. Access for maintenance, repairs, and major equipment replacement will be provided around all processes and facilities.
- 2. Providing a functional layout is the responsibility of design build entity (DB).
- 3. City will approve final layout before building permit planset is developed and before issuing Notice to Proceed for Construction.
- 4. Consider offsite drainage in site design.
- 5. Maintain setback of 25' from top of creek banks.
- 6. Drainage easements may be required to convey site flows from detention or stormwater quality facilities to existing swales. Easements to be identified by DB and negotiated by City with property owner.
- 7. Refer to Figure 5-1 for Preliminary Access Road Alignment and Typical Road Section.
- 8. Site plan to include space planning for future solar panels by others.





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**TABLE 2-1  
WRF FACILITIES**

<b>WRF Facility</b>	<b>Approx. Square Feet (SF)</b>
Headworks	3,500
Odor Control	1,750
Equalization Basin	20,910
Sequencing Batch Reactor or Membrane Bioreactor Basin	13,280
Dewatering Basin	3,850
Sludge Storage Tank	530
Standby/Emergency Power	1,140
Electric Building	1,860
Secondary Equalization Tank	1,260
Microfiltration, Reverse Osmosis, UV Building	6,720
Effluent Pump Station	2,630
Waste Discharge Pump Station	1,800
Chemical/Clean in Place Chemical Storage	4,800
Storm Basin	1,230
<b>Total</b>	<b>65,260 SF</b>

The proposed treatment facility components are described in detail in the following sections.

### ***Tertiary Disinfection***

Tertiary disinfection would be achieved via a Combined Secondary/Tertiary Treatment process, or a functional equivalent that is introduced through the design-build procurement process.

**Figure 2-5** illustrates the basic process flow for Combined Secondary/Tertiary Treatment.

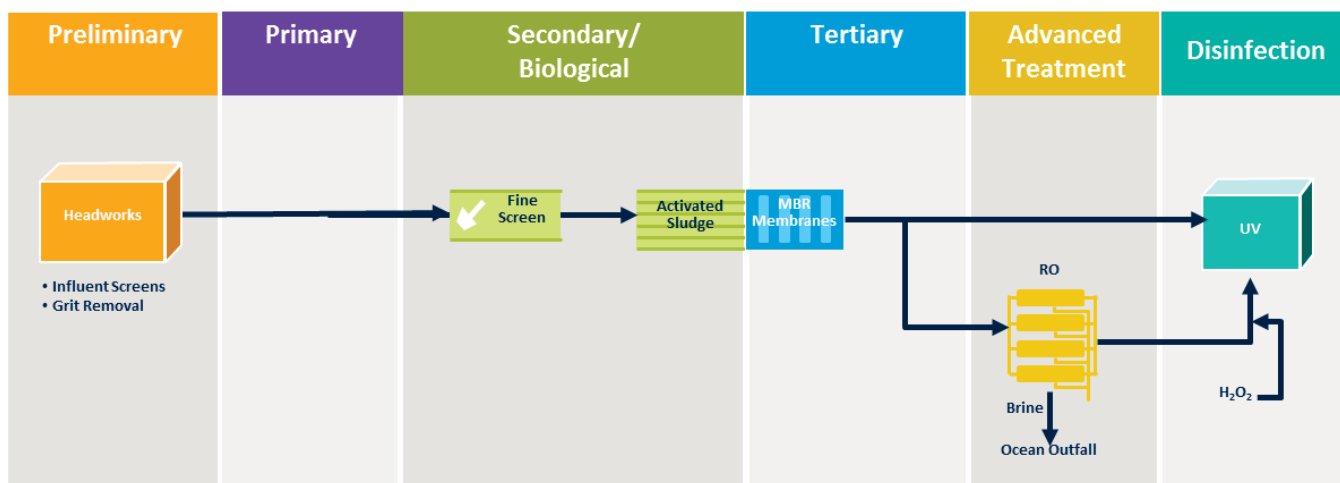
### **Combined Secondary/Tertiary Treatment**

The combined secondary and tertiary treatment process train consists of several stages including preliminary treatment, biological (secondary) treatment, tertiary treatment, and disinfection. Primary treatment was determined to not be cost effective to include. Biological and tertiary treatment would be accomplished through a membrane bioreactor (MBR) process, described below. It should be noted that a functional process equivalent could be provided later in the design-build stage.

#### **Headworks (Preliminary Treatment)**

The headworks or preliminary treatment includes influent screening and grit removal. Influent screening would occur via two mechanically-cleaned screens, one on stand-by and one on duty. Grit removal would be achieved via horizontal flow grit chambers, aerated grit chambers, or vortex grit chambers. One chamber would be used while the other is on standby. Two screening washers and compactors (of which one would be on standby) and one grit washer would also be included in the headworks. The influent flow would then be sent to a concrete equalization basin. The preliminary estimate of size for the basin is 3.3 MG and 20,910 square feet.





Combined Secondary/Tertiary Treatment

### Membrane Bioreactor Process (MBR) (Secondary and Tertiary Treatment)

Secondary or biological treatment aims to remove biodegradable organic material and nutrients using an aerobic process where microorganisms oxidize organic matter into simpler products (City of Morro Bay draft FMP, 2015). Subsequent filtration and disinfection processes are required to provide tertiary treatment. The MBR process includes both a biological treatment process and a filtration process. The biological treatment involves activated sludge and membranes accomplish solids separation. When used with domestic wastewater, MBR processes can produce high quality effluent that can be recycled and is approved for unrestricted irrigation uses per 22 CCR 60001 *et seq.*

### Odor Treatment Facilities and Technology

The WRF would be equipped with odor control facilities to capture and treat foul smelling gases produced by raw wastewater before it is exhausted from channels and tanks. Influent untreated wastewater and waste activated solids release a variety of gases as they decompose, including hydrogen sulfide and ammonia. The headworks and preliminary treatment operations tend to release high concentrations of hydrogen sulfide while negligent hydrogen sulfide concentrations and slightly higher concentrations of ammonia are typically produced in the dewatering of anaerobically digested sludge. The odor treatment facilities for the WRF include the Influent Scrubber Complex. The Influent Scrubber Complex would be located near the head of the WRF and would serve to process exhaust air from the headworks.

The Influent Scrubber Complex would use biological scrubbers and/or carbon scrubbers for odor removal. Exhaust air with higher concentrations of hydrogen sulfide gas collected from influent channels, bar screens, the grit removal system, and the regularly utilized portion of the equalization basin would be channeled to the Influent Scrubber Complex to be treated through these biological and/or carbon scrubbers before being released to the atmosphere.

Odor control for the solids dewatering facility will be provided by enclosing the dewatering system in a building with provisions for a future passive or active filtration system. Neither of the two solids dewatering technologies proposed typically produce substantial obnoxious odors.

### Solids Management

The process to treat and reuse or dispose of biosolid products would be sludge dewatering and offsite hauling by a regional composting operation. One 1,500 SF (maximum size) sludge storage tank (up to 500,000 gallons) would be used. Sludge dewatering would occur within Dewatering Basin building via a belt press, screw press, or centrifuge.

After biosolids are dewatered, they would be reused by a contracted biosolids management firm. The City would contract with a third-party to haul the WRF biosolids to offsite facilities for composting. Land application would involve applying the biosolids to nonpublic contact sites (e.g. agricultural land, forests) or public parks, plant nurseries or roadsides for the purpose of conditioning the soil or fertilizing crops.

### **Clean in Place Chemical Storage Facility**

A Clean in Place (CIP) chemical storage facility would be constructed for hazardous materials containment and handling. The CIP facility would include a metal canopy to cover chemical tanks, bins, and/or totes in a concrete containment area. Hazardous materials associated with the treatment process include MF/RO membrane cleaning chemicals, disinfection chemicals, and other treatment-related chemicals. Chemicals such as sodium hypochlorite, citric acid, sodium bisulfite, and sulfuric acid would be stored in the CIP. All bulk chemical storage would be located in chemical containment areas fitted to contain spills. Spills would be conveyed to blind sumps for manual pumping and disposal by truck.

### **Storm Water Management**

The WRF would include pavement, roofs, and other impervious areas that would drain to a new onsite storm water basin. A detention pond or multiple ponds are a requirement for City facilities and the County's Coastal Development Permit (CDP). Unlined ponds would be located around the site to retain stormwater and percolate.

### **Site Access**

Access to the WRF site would be provided via South Bay Boulevard off State Highway 1. Although the City is currently in the process of developing easement areas at the WRF site for access, the main access road that would run along the east edge of the property is currently designed to be a 60-foot wide easement with two 12-foot wide lanes and unpaved shoulders. All other access roads would be 16 to 22 feet wide.

### **Security**

The 10- to 15-acre WRF site would be secured by a fence. An electrical gate would be located near the front of the property and be controlled by a key from the O&M buildings and would be monitored by a video surveillance camera.

### **Lighting**

The WRF would be equipped with nighttime lighting sufficient to enable operations. The lighting would be controlled to prevent nighttime glare or direct light shining offsite.

### **Advanced Treatment Facility**

Implementation of the proposed project would include construction and operation of an AWTF at the WRF and associated infrastructure to convey advanced-treated recycled water to the ultimate end uses. Such facilities are described in the Master Reclamation Plan (MKN & Associates, April, 2017). This includes recycled water pipelines to deliver advanced treated water to new groundwater injection wells for groundwater replenishment then utilizing existing City wells to extract groundwater for treatment at the City's water treatment plant.

### **Reverse Osmosis (RO)**

In order to meet 22 CCR 60001 *et seq.* requirements for groundwater recharge for IPR, advanced treatment is required. Advanced treatment is used to remove dissolved salts, small pathogens like viruses, total organic carbon (TOC), specific organic and inorganic chemicals, and emerging contaminants. Reverse osmosis (RO) is the preferred technology to remove dissolved salts. The

RO would likely be located in the same building where UV is located. The RO system applies water under pressure to semi-permeable membranes so that product water passes through and the contaminants are retained. The brine stream would be discharged to the ocean through the existing ocean outfall.

### **Advanced Oxidation Process (AOP)**

In order to achieve the required pathogen and chemical contaminant removal needed to meet 22 CCR 60001 *et seq.* requirements, AOP would be used. AOP involves the generation of highly reactive free radical intermediates that are applied for the destruction of various contaminants (City of Morro Bay, draft FMP, 2015). The UV disinfection process would be coupled with hydrogen peroxide treatment to provide an AOP.

### **Recycled Water Storage and Pumps**

A 500,000-gallon coated steel recycled water storage tank would provide operation storage for equipment maintenance or rain events that may inhibit the ability to add water to the aquifer. Two 15 or 30 HP recycled water pumps (one on standby) would convey water to offsite injection wells.

## **Operations and Maintenance Buildings**

### ***WRF Operation Building***

As one of the primary onsite support facilities, the Operations Building would be an approximately 7,000 SF single-story building located in the southernmost portion of the WRF site. The Operations Building would consist of WRF employee offices, a reception area, a conference room, a break room, copy room, janitorial room, sample storage room, operations center, restrooms, uniform storage and wash room, map room, server/electrical room, and an outside boot wash.

### ***Maintenance Building***

The proposed Maintenance Building would be approximately 5,600 SF. The Maintenance Building would be constructed as a single-story building with a single occupancy restroom, Operations Room, and an electronics workshop. The building would have two 14-foot wide rolling doors and the remaining area would be an open shop and storage area.

### ***Buildings and Vehicle Storage***

**Table 2-2** lists the types of facilities and vehicle storage facilities to be located within the WRF site.

### ***Site Solar Farm***

In order to offset energy usage and greenhouse gases produced by the WRF, an 800 kW ground-mounted fixed track solar farm that would require up to two-acres may be installed onsite. A roof-mounted solar panel arrangement setup would also be considered. The placement of the solar farm onsite at the WRF would be developed during the design phase of the project.

**TABLE 2-2**  
**BUILDINGS AND VEHICLE STORAGE FACILITIES**

<b>Building and Vehicle Storage Facility</b>	<b>Type</b>	<b>Approximate Area (SF)</b>
Parking & Circulation Driveways	Asphalt	TBD
Collections Pump and Fitting Storage	Building	760
Water Pump and Fitting Storage	Building	760
Water Vehicle Equipment Storage	Covered parking	2,790
Collection Vehicle Equipment Storage	Covered parking	2,500
Wash Rack	Uncovered	800
Outdoor Storage Aisles	Outdoor materials storage bins, partially covered	7,500
General laydown area	Uncovered	2,500

## Architectural Treatments

The proposed WRF building forms and exterior materials reflect community input from the Visual Preference Survey conducted at public workshops in 2016 to 2017. The WRF architectural character would also be informed by other development along the Highway 1 corridor. The overall impression of the architecture of the WRF complex would be intended resemble a dairy farm or ranch. Generally, the proposed building forms would be recognizably agricultural, using simple rectangular floor plates and gable roofs at varying slopes that reflect the use of the enclosed volumes. These building shapes would be articulated where appropriate with clerestories and roof vents. The orientation of and relationship between roofs would be chosen to maximize solar exposure for the potential application of photovoltaics for power generation.

While the individual buildings would borrow their configuration from the agricultural model, exterior materials would be applied in response to functional requirements for durability and maintainability, and would produce a slightly more contemporary, less literal version of this building type. Roofs would be standing-seam metal, and walls would be a combination of exposed concrete masonry, metal siding, cement board siding, and plaster.

Colors would be selected for compatibility with the prevalent pattern along the neighboring stretch of Highway 1, such as red roofs and white or light brown walls to blend well with the surrounding environment, as seen at Cuesta College, Camp San Luis, and a number of the barns on farm properties. Tree plantings will further reinforce the historical settlement pattern of the area and provide some visual screening of structures, using drought tolerant species such as deodor cedar.

### 2.4.2 Collection System

The proposed project would not require modification of the existing sewer collection system. All wastewater would continue to flow to a collection point near the existing WWTP site, where new offsite conveyance facilities would be built to connect the existing wastewater infrastructure to the proposed WRF site. As part of the proposed project, a new lift station and new conveyance pipelines would be installed.

## Lift Station

A new lift station designed to convey up to 7.05 MGD would be constructed near the existing WWTP site to convey raw wastewater uphill through the proposed force main to the new WRF site. **Figure 2-6** shows a general conceptual rendering of the proposed lift station. There are two potential sites for the proposed lift station; in addition, the existing influent pump station will be reused as much as possible:

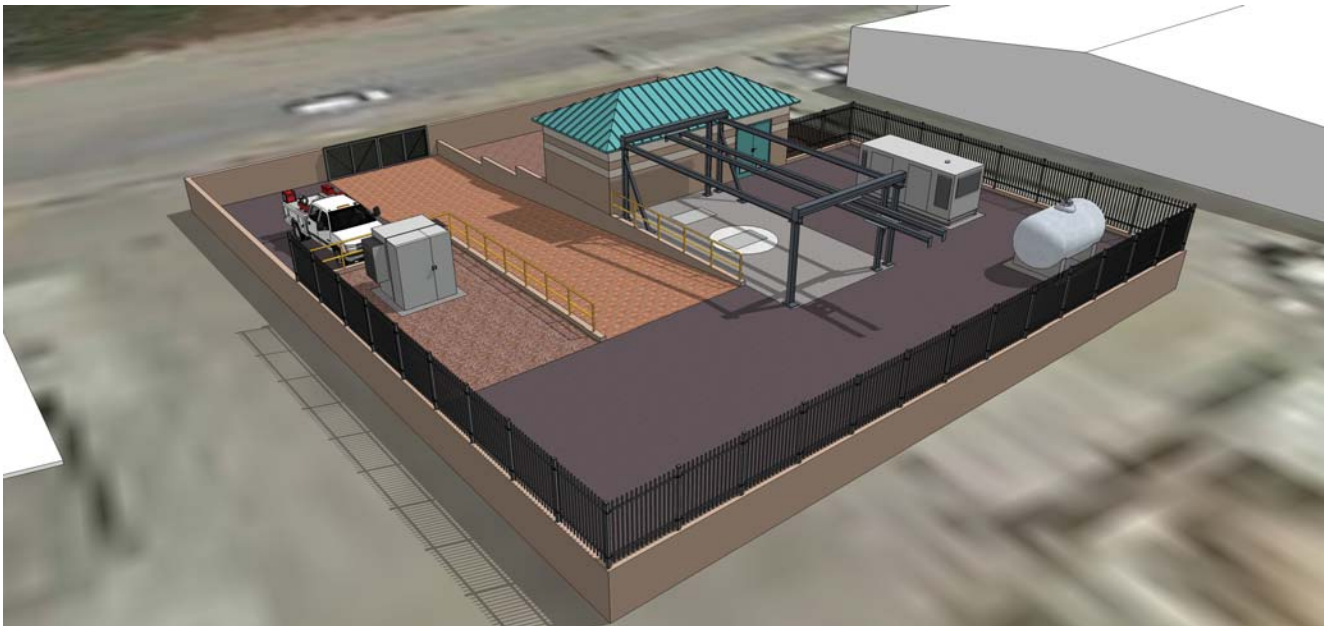
- Option 1A: The site is located directly adjacent to Atascadero Road, on the south side, partially within public right of way. It is located adjacent to the City's existing water treatment plant.
- Option 5A: The site is located directly adjacent to Atascadero Road, on the north side, partially within public right of way. It is located across from the City's existing water treatment plant.

**Figure 2-7a** and **Figure 2-7b** show the specific site layouts for Option 1A and Option 5A. The lift station would house a solids handling wastewater pump in a concrete, rectangular shaped wet well. A separate control building would house electrical equipment, a motor control center, switchgear, and controls for the submersible pump facilities. Odor control measures such as the addition of calcium ammonium nitrate, use of an onsite odor scrubbing system and installation of sealed hatches to reduce the release of odors may also be applied.

## Conveyance Pipelines

The offsite conveyance pipelines are comprised of a new force main to convey raw wastewater from the existing collection system and proposed lift station to the WRF site, a recycled water pipeline to convey treated water from the WRF to injection wells, and a waste discharge pipeline to convey brine or treated wet weather flows (compliant with California Ocean Plan discharge requirements) to the ocean outfall.

The proposed route of the raw wastewater and waste discharge conveyance pipelines is shown in **Figure 2-8**. The two options for the recycled water conveyance pipeline alignments are described further below and shown in **Figure 2-9**. Raw wastewater and brine/wet weather discharge pipelines would run along the proposed alignment that starts from the proposed lift station and travels east along Atascadero Road. The pipeline alignment then travels south along J Street and east around the perimeter of Lila Keiser Park, before following an existing parkway/bike path across Morro Creek. It continues southeast along the Main Street right-of-way until it joins and follows Quintana Road. It should be noted that the alignment route runs through some City streets that already support numerous existing utilities. Continuing in a southeast direction on Quintana Road, the pipeline passes through street crossings of Kennedy Way, Morro Bay Boulevard then Kings Avenue, Bella Vista Drive, and La Loma Avenue. The proposed alignment crosses under Highway 1 west of the South Bay Boulevard interchange and continues along Teresa Road to South Bay Boulevard, where it heads north towards the proposed WRF site. Both the 16-inch force main and 16-inch waste discharge pipeline would require casing for the Highway 1 crossing.



SOURCE: MKN, 2017

Morro Bay Water Reclamation Facility Project . 150412

**Figure 2-6**

Proposed Lift Station: Conceptual Layout for Option 1A





SOURCE: ESRI 2015

Morro Bay Water Reclamation Facility Project. 150412

**Figure 2-7a**

Proposed Lift Station: Option 1A







SOURCE: ESRI 2015

Morro Bay Water Reclamation Facility Project, 150412

**Figure 2-7b**

Proposed Lift Station: Option 5A





SOURCE: ESRI 2015

Morro Bay Water Reclamation Facility Project, 150412

**Figure 2-8**

Proposed Raw Wastewater and Brine/Wet Weather Discharge Pipeline Alignment







SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412  
**Figure 2-9**  
 Proposed Indirect Potable Reuse Overview



Treated wet weather flows and/or brine from the WRF would be discharged through the existing ocean outfall, similar to existing conditions. The size and capacity of the outfall is sufficient to accommodate the proposed project. Thus, a pipeline would be built to convey treated wet weather flows and/or brine from the WRF site back to the ocean outfall in the vicinity of the existing WWTP; a new connection to the ocean outfall would be required. Flow through the pipeline would be pumped from the WRF site to the high point along the Quintana Road alignment, then likely be gravity driven to the outfall based on topography. The pipeline would be designed to handle full capacity flow from the WRF, although discharges through the pipeline and outfall are intended to be minimized as advanced-treated recycled water is diverted elsewhere for beneficial reuse.

### 2.4.3 Recycled Water Distribution System and Injection Wells

One of the ultimate goals of the proposed project is to enhance the City's water supply portfolio. The proposed end use for recycled water produced at the WRF is IPR, which would involve groundwater replenishment in the Morro Valley using subsurface application like injection wells. A recycled water distribution system would be built to convey water to one of two injection well areas. Project facilities may include, but not be limited to, the AWTF, recycled water conveyance pipeline, a pump station, injection wells and monitoring wells.

The wells would be located within proposed wellfield areas either at the Narrows, which is the area east of the City near Highway 41 where Morro Creek and Little Morro Creek converge (IPR-East), or an area west of Highway 1 near the bike path (IPR-West) (see Figure 2-9). Wells would be located on vacant lands owned by the City or within rights-of-way, and sited to avoid environmentally sensitive habitat and riparian/wetlands areas. The injection well casing would be belowground with some aboveground surface piping to connect the wells to the distribution systems. The injection wells would have some valves, a flow meter, and a small control panel with an antenna housed in a small shed or a weatherproof electrical enclosure. The injection well sites would be enclosed with fencing and have relatively small footprints of approximately 200 square feet. Each injection well may have up to two associated monitoring wells, one upgradient and one downgradient of the injection well. If the injection wells are located in close proximity, then it is possible fewer monitoring wells will be required. The monitoring wells will consist of an underground well casing and a lockable well cap. No permanent electrical or mechanical equipment would be associated. Regular access would be required to perform the required groundwater monitoring.

A blend of the injected water and groundwater would be extracted from the existing City wells to be treated at the City's Brackish Water Reverse Osmosis (BWRO) treatment facility at the existing desalination plant adjacent to the existing WWTP (160 Atascadero Road) then distributed for potable use. That end use will require use of the City's existing storage, distribution, pumping, turnouts, and delivery facilities.

**Figure 2-9** shows the proposed location of the IPR-East and IPR-West recycled water pipelines and wellfields, one of which would be selected during subsequent design phases of the proposed project. The IPR-East and IPR-West are described below.



## IPR - East

The potential end use of IPR-East involves the conveyance of recycled water from the WRF to three to five injection wells near the Narrows. The 12-inch, 15,100 linear-foot PVC recycled water pipeline would travel along the eastern side of Highway 1 to Bolton Drive, then east on Radcliff Avenue. It would continue north on Main Street, and west down Errol Street. Two 30-HP recycled water pumps would be installed at the WRF to help convey the recycled water to the injection wells. One of the pumps would be on stand-by.

## IPR – West

Similar to IPR- East, recycled water would be conveyed to three to five separate injection wells located near the bike path north of the power plant from the WRF. The 12-inch, 15,200 linear-foot recycled water pipeline would travel the western side of Highway 1 along Quintana Road to Main Street until the bike path to the injection wells. Up to two monitoring well per each injection well would be installed, upstream and downstream of the injection well locations. Two 15-HP recycled water pumps would be installed at the WRF with one being a standby pump.

### 2.4.4 Decommissioning of Current WWTP

The existing WWTP would continue in operation until the new WRF is in full operation and the system is no longer delivering flow to the existing WWTP. The timing of decommissioning would also depend on when CSD's new wastewater facility is online and operational, since that agency also uses the current WWTP to treat wastewater. The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure such as the piping located four to five feet below grade. **Table 2-3** lists all of the structures to be demolished and removed from the existing WWTP site. All materials would either be discarded and hauled to a nearby landfill or salvaged.

**TABLE 2-3**  
**EXISTING WWTP STRUCTURES TO BE DEMOLISHED**

Structures	
Administration Building	Chlorine Building
Primary Sedimentation Tanks	Chlorine Contact Tank
Biofilter Pump Station and Motor Control Center (MCC) Building	Digesters
Biofilters	Maintenance Building
Secondary Sedimentation Tank	Hydropneumatic Tank
Secondary MCC Building	Waste Gas Burner
Sludge Drying Beds	Collection Shed

The existing WWTP is located on a 5.7-acre site that includes the WWTP and a self-contained household hazardous waste and electronic waste collection facility. It is assumed the WWTP infrastructure would be removed as part of the demolition project. After demolition and removal of facilities, backfilling, compaction, and grading would occur to leave the site cleared, cleaned and available for other uses in the future.

## 2.5 Construction

### 2.5.1 Construction Schedule

The WRF is scheduled to begin construction in June 2019. The proposed project would take approximately 3 years for construction, commissioning, startup, and verification testing and would be completed by Spring of 2022. **Table 2-4** summarizes the proposed construction and estimated duration for those activities. Construction of the proposed project facilities would occur during the weekdays, Monday through Friday, consistent with the City's Noise Ordinance requirements and Morro Bay Municipal Code Subdivisions 9.28.030. I., unless otherwise noted.

**TABLE 2-4**  
**ESTIMATED CONSTRUCTION DETAILS**

Project Component	Activities	Duration	Construction Equipment
WRF	Vegetation removal, grubbing, excavation, stockpiling, truck loading/transport, backfilling, paving	30 Months	Backhoes, excavators, cranes, dump trucks, front end loader, water trucks, paver, rollers, flatbed delivery trucks, concrete trucks, pickup trucks, compressors, and jackhammers
Conveyance Pipelines	Pavement removal, pavement replacement, excavation, trenching	12 Months	Backhoes, excavators, crane, dump trucks, front end loader, water trucks, paver, roller, flatbed delivery trucks, concrete trucks, trenchless construction equipment (horizontal directional drilling rig, pilot tube guided boring machine, auger bore and jack equipment, etc.), pickup truck, compressors, jackhammer
Lift Station	Grading, excavation,	10 Months	Pile driving and/or ground improvement grouting equipment, auger truck, backhoe, boom lift truck, excavator, plate compactor, scaffolding dump trucks, front end loader, pickup truck, water trucks, paver, rollers, flatbed delivery trucks, and concrete trucks
Injection Wells	Drill rig for well completion and equipping of wells	2 Months	Dump trucks, flatbed delivery trucks, pickup truck

### 2.5.2 Construction Equipment

Construction of the new facilities would involve the use of a variety of heavy construction machinery onsite. The majority of equipment and vehicles would be associated with the intensive earthwork and the structural and paving phases of construction. Large construction equipment such as backhoes, compactors, cranes, excavators, haul trucks, pavers, and rollers would be used during the construction phase of the proposed project. **Table 2-5** below describes the anticipated number of construction equipment required for each component and phase of construction, based on professional knowledge of similar projects.



**TABLE 2-5  
ESTIMATED CONSTRUCTION EQUIPMENT REQUIRED**

Equipment	WRF					Lift Station	Injection Wells	Decommission existing plant
	Site Preparation	Grading/Excavation	Construction	Paving	Pipelines			
Auger rig							1	
Auger truck						1		
Backhoes	2	2	2	2	2	1	1	1
Boom lift truck						1		
Stationary Cement and Mortar Mixers			3	3				
Compactor		1	1	1	1	1		1
Cranes			2				1	
Drill rig							1	
Dump truck	1	2	1		1			
Excavators		2			1	1		1
Forklift			1				1	
Jackhammers			2	2				2
Loaders	1	2						1
Pavers				1	1	1		
Paving Equipment				1	1	1		
Pickup trucks	1	1	5		1	1	1	1
Rollers				1				1
Shoring Equipment			1		1	1		
Water trucks	1	1	1	1	1	1		1

**NOTES:**

The types and quantities of equipment are approximate and are intended only for estimating construction related impacts. Actual equipment type and quantity may vary.



### 2.5.3 Construction Activities

The following describes the construction activities required for each facility type of the proposed project. Staging areas for construction are anticipated to be onsite for project components or within existing City properties or City rights-of-way.

#### WRF and O&M Facilities

Construction of the WRF and O&M buildings would consist of site clearing and grading, excavation, construction of treatment buildings and installation of equipment, and site completion. Construction equipment would include backhoe, loader, dump trucks, crew trucks, concrete trucks, cranes, personal vehicles, compactor, delivery trucks, and a water truck.

Traffic entering and leaving the site would include construction workers' daily arrival and departure, equipment deliveries, hauling of excavation spoil, concrete deliveries, and other construction related traffic. It is estimated that 20 to 30 construction workers would be at the WRF site daily for 24 months.

Approximately 26,650 cubic yards (CY) of soil is anticipated to be hauled off site. Assuming 10 CY per truck load on average, approximately 2,665 dump truck trips would be required in order to remove the excavated materials. Approximately 15 acre-feet (AF) of water would be used for dust control. **Table 2-6** summarizes estimated construction haul trips for various materials and equipment.

**TABLE 2-6**  
**ESTIMATED WRF SITE CONSTRUCTION HAUL TRIPS**

<b>Purpose</b>	<b>Number of Truck Trips</b>
Soil Removal	2665
Pavement Deliveries	1,226
Structural Fill Deliveries	934
Concrete Deliveries	1,502
Masonry Deliveries	65
Steel Deliveries	93
Equipment Deliveries	90
<b>Total</b>	<b>6,574</b>

Source: Based on Facility Master Plan (Black & Veatch, 2016)

Estimated quantities for paving the site and access roads using asphalt totaled approximately 10,645 cubic yards of paving materials. Assuming an average truck capacity of 34,000 pounds, or approximately 8.68 cubic yards of pavement material per load, pavement deliveries for the proposed project would result in approximately 1,226 truck trips during construction of the WRF.

Structural fill imported for the WRF is estimated to be approximately 7,125 cubic yards. Assuming an average truck capacity of 34,000 pounds, or approximately 7.63 cubic yards of

structural fill per load, structural fill deliveries for the proposed project would result in approximately 934 truck trips during construction of the WRF.

Based on preliminary sizing of the proposed tanks and buildings, it is estimated that approximately 12,016 cubic yards of concrete would be poured. Since it is estimated that concrete mixers carry an average of 8 cubic yards of concrete, the proposed project would result in approximately 1,502 concrete truck trips during construction of the WRF.

Masonry for buildings and retaining walls was estimated to cover approximately 39,312 square feet of building or wall surface area. Assuming 8-inch thick split face block and an average truck capacity of 34,000 pounds or roughly 605 square feet of building or wall surface area, masonry deliveries for the proposed project would total approximately 65 truck trips during construction of the WRF.

Steel for structural support and roofing of proposed structures is estimated to total approximately 1,559 tons of material. Assuming an average truck capacity of 34,000 pounds, or 17 tons of steel, per load, steel deliveries for the proposed project would result in approximately 93 truck trips during construction of the WRF.

In addition to soil removal, structural fill delivery, and concrete delivery, there would also be other materials and equipment delivered to the site including piping, building materials, concrete forms, roofing materials, HVAC equipment, pumps, diffusers, screens, belt presses, and screw presses. These additional deliveries are estimated to occur with a frequency of every three days and would account for an additional 90, 40-foot flatbed truck trips.

## **Lift Station**

The lift station facility would consist of a rectangular shaped wet well made of concrete, submersible pumps, and a separate control building. The separate control building would house electrical equipment, a motor control center, switchgear, controls for the submersible pump facilities, a standby diesel engine-generator, and odor control facilities/measures. The dimensions for the wetwell would be approximately 16 feet wide, 30 feet long, and 26 feet deep. Construction of the lift station would involve installation of piping and electrical equipment, excavation and structural foundation installation, pump house construction, pump and motor installation, and final site completion.

The construction equipment needed for lift station installation generally includes: auger truck, backhoe, boom lift truck, excavator, plate compactor, and scaffolding. It is estimated 7 to 15 construction workers would be required daily for 6 to 8 months for lift station construction. Excavated soils would be reused onsite to the extent feasible and otherwise disposed offsite. Concrete would be required for construction of lift station foundations and pads.

Approximately 537 cubic yards of soil is anticipated to be hauled off site. Assuming 10 cubic yards per truck load on average, approximately 54 dump truck trips would be required in order to remove the excavated materials. Approximately 4.2 AF of water would be required for the

construction of the lift station. **Table 2-7** summarizes construction haul trips for various materials.

**TABLE 2-7**  
**ESTIMATED LIFT STATION CONSTRUCTION HAUL TRIPS**

<b>Purpose</b>	<b>Number of Truck Trips</b>
Soil Removal	54
Structural Fill Deliveries	5
Concrete Deliveries	51
Masonry Deliveries	6
Steel Deliveries	6
Equipment Deliveries	5
Total	127
Source: Based on Facility Master Plan (Black & Veatch, 2016)	

Structural fill imported for the lift station is estimated to be approximately 36 cubic yards. Assuming an average truck capacity of 34,000 pounds, or approximately 7.6 cubic yards of structural fill, per load, structural fill deliveries for the proposed project would result in approximately 5 truck trips during construction of the lift station.

Based on preliminary sizing of the lift station, it is estimated that approximately 408 CY of concrete would be poured. Since it is estimated that concrete mixers carry an average of 8 CY of concrete, the proposed project would result in approximately 51 concrete truck trips during construction of the lift station.

Masonry, was estimated to cover approximately 3,424 square feet of wall surface area. Assuming 8" thick split face block and an average truck capacity of 34,000 pounds or roughly 605 square feet of building or wall surface area, masonry deliveries for the proposed project would total approximately 6 truck trips during construction of the lift station.

Steel deliveries are estimated to total approximately 48 tons of material. Steel materials include concrete reinforcement, roofing material, and structural members. Assuming an average truck capacity of 34,000 pounds, or 17 tons of steel, per load and that different materials would be delivered separately (for example, rebar would not be delivered on the same truck as steel roofing decks), steel deliveries for the proposed project would result in approximately 6 truck trips during construction of the WRF.

In addition to soil removal, structural fill delivery, and concrete delivery, there would also be other materials and equipment delivered to the site including piping, building materials, concrete forms, roofing materials, HVAC equipment, pumps, diffusers, screens, belt presses, and screw presses. These additional deliveries are estimated to occur with a frequency of every three days and would account for an additional five, 40-foot flatbed truck trips.



## Conveyance Pipelines and Force Main

Construction of proposed conveyance pipelines would involve trenching using a conventional cut and cover technique or trenchless techniques where necessary, such as under Highway 1 and to avoid sensitive drainages and roadway intersections if utilities at a particular location under a street right-of-way are congested. Pipeline would be installed within existing roadway rights-of-ways to the extent feasible.

The trenching technique would include saw cutting of the pavement, trench excavation, pipe installation, backfill operations, and re-surfacing to the original condition. Construction areas in roadways would be approximately 20 feet wide across one traffic lane. Open trenches would be approximately 10 to 15 feet wide. The construction corridor would be wide enough to accommodate the trench, staging areas, and vehicle access. Offsite construction staging areas would be identified by contractors for pipe lay-down, soil stockpiling, and equipment storage. On average 150 feet of pipeline would be installed per day.

Trenches would be backfilled at the end of each work day or temporarily closed by covering with steel trench plates. The construction equipment needed for pipeline installations generally includes: backhoes, excavators, dump trucks, shoring equipment, steam roller, and plate compactor. Typically, 15 to 20 workers would be required for pipeline installations. Excavated suitable soils would be reused as backfill and other disposed offsite.

Trenchless construction methods would be employed to install pipelines under sensitive drainages (e.g., Morro Creek) and highways (e.g., Highway 1) and major roadway intersections if necessary (e.g., Quintana roundabout). Trenchless installation could include either suspension of pipelines on existing bridges or directional drilling or jack and bore methods. Directional drilling or jack and bore methods would require an approximately 50-foot x 100-foot temporary construction area on each side of the crossing for installation shafts (pits), materials, and equipment. Trenchless crossings would be designed to avoid physical impacts to the flood control levee.

Approximately 12,274 cubic yards of soil is anticipated to be hauled off during pipeline construction. Assuming 10 cubic yards per truck load on average, approximately 1,228 dump truck trips would be required in order to remove the excavated materials. Approximately 4.2 AF of water would be needed during construction of the pipelines. **Table 2-8** summarizes construction haul trips for various materials.

Estimated quantities for repaving roads using asphalt totaled approximately 8,200 cubic yards of paving materials. Assuming an average truck capacity of 34,000 pounds, or approximately 8.68 cubic yards of pavement material, per load, pavement deliveries for the proposed project would result in approximately 945 truck trips during installation of the pipelines.

Structural fill imported road repair is estimated to be approximately 2,627 cubic yards. Assuming an average truck capacity of 34,000 pounds, or approximately 7.6 cubic yards of structural fill, per load, structural fill deliveries for the proposed project would result in approximately 345 truck trips during installation of the pipelines.

**TABLE 2-8**  
**ESTIMATED PIPELINE CONSTRUCTION HAUL TRIPS**

<b>Purpose</b>	<b>Number of Truck Trips</b>
Soil Removal	1,228
Pavement Deliveries	945
Structural Fill Deliveries	345
Concrete Deliveries	13
Pipe	40
<b>Total</b>	<b>2,571</b>

Source: Based on Facility Master Plan (Black & Veatch, 2016)

Concrete deliveries were estimated to be approximately 98 cubic yards. Assuming a typical concrete mixer carries an average of 8 cubic yards of concrete, approximately 13 truck trips would take place during installation of the pipelines.

Pipe deliveries were estimated to be approximately 17,225 linear feet of 16-inch ductile iron pipe for the influent force main and recycled water pipeline, 14,974 linear feet of 18-inch HDPE pipe for the brine line, and 1,176 linear feet of 24-inch casing for jack and bore locations. Assuming flatbed trucks can deliver 50, 16-inch ductile iron pipes, 40, 18-inch HDPE pipes, or 24, 24-inch casings, approximately 40 truck trips would occur during installation of the pipelines.

## Wells

Construction of injection wells would include site preparation, mobilization of equipment to the well site, well drilling, water quality testing, installation of the well casing, gravel packing and finishing with a cement seal. Water discharged during well drilling would be conveyed to onsite temporary settling basins and discharged to the storm drain after drilling is complete under a permit from the Regional Water Quality Control Board. Construction equipment typically would include an auger rig, drill rig, small crane, welder, all-wheel drive forklift, pipe trailer, generator, Baker tanks, circulation pits and a backhoe. The duration of the well drilling/testing operation is estimated at approximately two to four months. It is estimated that 4 to 8 workers would be required during construction of each well. Approximately 2.6 AF of water would be required for construction of the wells.

For approximately one month, daily 24-hour drilling would be required. To drill the well, the drill rig must run 24 hours-a-day; otherwise, the walls of the borehole can collapse. Temporary overhead nighttime lighting would be installed during the well drilling period.

Existing City wells would be used to extract all groundwater. Water would be conveyed to the existing BWRO treatment facility and treated for potable use.

## Decommissioning of Existing WWTP

Following construction and verified operation of the proposed project, the existing WWTP facility would be decommissioned. The decommissioning is expected to occur over three months. The WWTP is jointly owned and operated by the City and CSD. CSD is currently pursuing a new wastewater treatment facility of its own. The existing WWTP cannot be decommissioned until both the City and CSD complete and commission their new facilities.

Decommissioning the existing facility will involve the following:

- Once flow to the existing plant has ceased, the liquid treatment train will be taken out of service. Basins and process units will be pumped down and cleaned before demolition begins. Liquid from the cleaning process can be pumped or transported to the new WRF.
- Digesters and sludge drying beds stay in service until the remaining sludge is processed and disposed of. Once emptied of sludge, they can be cleaned before demolition. Liquid from the cleaning process can be pumped or transported to the new WRF.
- Complete demolition and removal of all structures from the site, except for the outfall air release structure and potentially the headworks/influent lift station. Facilities to remain are expected to be upgraded and used as a part of the proposed project. Facilities associated with the household hazardous waste program, operated by San Luis Obispo Integrated Waste Management Association (IWMA), will be relocated by IWMA.
- Structures and equipment will be completely removed (above and below grade). Buried pipe deeper than 6 feet will be filled with a cement slurry and abandoned in place. Trenches and excavation will be backfilled and compacted with clean structural fill and brought up to grade. Equipment will be disposed of or salvaged per the recommendations in the draft FMP.
- Disposal of demolition rubble will be to a nearby Class 3 landfill, such as Cold Canyon Landfill. Hazardous waste will be transported to a Class 1 or Class 2 landfill, such as Kettleman Hills Landfill.
- Upon completion of demolition work and upgrades to facilities which are to remain, the site will be graded to fit the basic drainage pattern of the surrounding facility and be surfaced with a thin layer of gravel.
- Diverting flow to the new lift station and WRF, allowing long-term process equipment such as digesters and sludge drying beds to run their course, and disposing of treated sludge from the long-term process equipment

Based on preliminary estimates for material haul-off and backfill import, approximately 6,519 cubic yards of material would need to be hauled off and 5,726 cubic yards of import would need to be brought on site for backfilling. Assuming an average truck capacity of 10 cubic yards, approximately 652 truck trips would be required for hauling demolished materials offsite and approximately 573 truck trips would be needed to import material for backfilling the site.

## 2.6 Project Operation and Maintenance

The proposed project would be operational by Spring 2022, when full commissioning of the tertiary treatment and advanced treatment facilities is expected to be completed.

### 2.6.1 WRF

After construction is completed and the facility is commissioned and operating, there would be operational traffic associated with worker commute, chemical deliveries, screenings removal, and biosolids removal. Approximately 4 workers could be working at one time at the facility, resulting in an estimated 8 employee commutes per day, and assuming 2 workers utilize maintenance vehicles for offsite work, 4 maintenance vehicle trips per day. Employee commutes and maintenance vehicle trips are anticipated to result in approximately 320 vehicle trips per month.

While the proposed treatment processes are not chemical intensive, regular deliveries of various chemicals would be required. It is estimated there would be an average of five chemical truck deliveries per month. As shown in **Table 2-9** below, it is anticipated one truck trip per week would be required for screenings and grit removal, for a total of four truck trips per month. Dewatered biosolids would also be hauled offsite, and it is estimated there would be one truck trip per week, for a total of four truck trips per month. Those operational tasks would contribute approximately 13 truck trips per month.

**TABLE 2-9**  
**ESTIMATED OPERATIONAL VEHICLE TRIPS**

Purpose	Number of Trips per Month
WRF	
Chemical Deliveries	5
Screenings and Grit Disposal	4
Biosolids Removal	4
Employee Commutes	160
Maintenance Vehicles	160

Source: Based on Facility Master Plan (Black & Veatch, 2016)

### 2.6.2 O&M Buildings

The WRF Operations and Maintenance buildings would include WRF, water and wastewater staff offices, control room, restrooms, laboratory, department offices, vehicle and equipment storage space, and parking. There would also be vehicle and building storage facilities located within the WRF site. All of those facilities would be maintained by City staff. WRF employee commutes and maintenance vehicle trips are included above in Table 2-9. Water and wastewater staff are anticipated to contribute approximately 6 employee commute trips per day (120 per month) and 12 maintenance vehicle trips per day (240 per month).

### 2.6.3 Reclamation and Reuse

As aforementioned above in Section 2.4.1, the end use for recycled water would be IPR. The tertiary treated water would meet all the requirements for unrestricted irrigation described in the 22 CCR 60001 *et seq.* recycled water regulations. The advanced treatment will provide the additional levels of treatment required for a groundwater replenishment reuse project (GRRP), also described in 22 CCR 60001 *et seq.* recycled water regulations. It is anticipated that 100% of the flow at the WRF will receive tertiary treatment and advanced treatment for indirect potable reuse through groundwater injection wells and downstream extraction. A brine discharge line will be installed, connected to the existing ocean outfall, to discharge brine waste streams from the filtration and reverse osmosis facilities. If the full level of treatment required for GRRP is not achieved for any reason, then treated effluent would be directed to the ocean outfall through the brine discharge line, which will be sized to handle the full WRF flow rate.

The water would be extracted from the existing City wells (see Figure 2-9) to be treated at the City's BWRO treatment facility and distributed through the existing potable water system. The existing wells to be used for extraction would be determined once the injection well locations are determined, based on GRRP requirements for groundwater travel time between injection wells and extraction wells. 22 CCR 60001 *et seq.* requires recycled water applied by a GRRP to be retained underground for a minimum of two months (22 CCR 60320.224).

### 2.6.4 Energy Use

The energy requirements for the WRF would be 8,000 kilowatt hours per day (kWh/day). In order to operate the WRF, an 1,860 SF electrical feed facility and a 1,140 SF standby/emergency power facility would provide the 12 kW power supply needed. A standby power facility would include a pad-mounted natural gas or diesel-powered generator, the Pacific Gas & Electric electrical switchgear, and metering equipment all enclosed in a 1,140 SF building. If a natural gas generator is used, a new natural gas pipeline would be required. Operation of the lift station would require 600 kWh/day. A 1,000 kW standby diesel engine-generator to provide backup power.

## 2.7 Discretionary Approvals Required for the Project

**Table 2-10** presents a preliminary list of the agencies and entities that would use this Draft EIR in their consideration of specific permits and other discretionary approvals that may apply to the project. This Draft EIR is intended to provide those agencies with information to support their decision-making processes.

**TABLE 2-10**  
**DISCRETIONARY PERMITS POTENTIALLY REQUIRED**

<b>Agency</b>	<b>Permits and Authorizations Potentially Required</b>
Regional Water Quality Control Board (RWQCB)	National Pollutant Discharge Elimination System (NPDES) permit for discharge to Pacific Ocean  Waste Discharge Requirements (WDR) for groundwater recharge under CCR Title 22
State Water Resources Control Board (SWRCB)	WDR  Water Quality Order No. 2004-0012-DWQ
SWRCB Division of Drinking Water	Existing water supply permit; GRRP Title 22 Engineering Report
California Coastal Commission	Coastal Development Permit
Local Agency Formation Commission (LAFCO) San Luis Obispo	Resolution of Determination for City annexation
County of San Luis Obispo	Coastal Development Permit; Development Plan
City of Morro Bay	General Plan/LCP Amendment; Coastal Development Permit; Conditional Use Permit
Air Quality Management District	Permit to Construct; Permit to Operate

## References

Black & Veatch, *Draft Water Reclamation Facility Master Plan*. Prepared for the City of Morro Bay, November 2016.

MKN & Associates, *Master Water Reclamation Plan*. Prepared for the City of Morro Bay, March 2017.

## CHAPTER 3

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# Environmental Setting, Impacts, and Mitigation Measures

In compliance with Section 15126 of the *CEQA Guidelines*, Chapter 3 provides an analysis of the environmental effects of the proposed project with respect to existing baseline conditions. Chapter 1, Introduction and Project Background, provides an overview of the framework for the environmental impact analysis. The following environmental resources are assessed in this chapter in accordance with Appendix F and Appendix G of the CEQA Guidelines:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise and Vibration
- Environmental Justice
- Public Services
- Traffic and Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

Each environmental resource section includes the following subsections:

- Environmental Setting
- Regulatory Framework
- Impact Assessment

The proposed project would have no impact on the following environmental resources, for the reasons described below, and therefore further evaluation was determined to be unnecessary within this Draft EIR:

- **Mineral Resources:** The project area does not include mineral resources that would be valuable to the City's region or residents of the state. There are no locally-important mineral resource recovery sites in the project area. As a result, the proposed project has no impact to mineral resources.
- **Population and Housing:** The proposed project would not directly induce population growth in the City because the project does not include the construction of new homes or businesses. The proposed project would not displace any existing houses or people and as such would not require construction of replacement housing. The proposed project would not increase the overall treatment capacity of the WRF relative to the current WWTP; however, the use of recycled water for groundwater replenishment provides a new water supply for the City. The potential for the proposed project to indirectly induce population growth due to removal of an obstacle to growth such as future water supply is discussed in the Chapter 5, Growth Inducement.
- **Recreation:** The proposed project would not include the construction or expansion of recreational facilities, nor would it directly or indirectly cause an increase in the use of existing recreational facilities. Therefore, there is no impact related to the use of existing recreational facilities or the need to create more.



## 3.1 Aesthetics

This section addresses the aesthetic and visual impacts associated with implementation of the proposed project. This section includes a description of existing visual resources and aesthetic conditions in the project area, specifically the physical environment in the vicinity of proposed project facilities. This section also evaluates potential effects to scenic vistas, scenic resources, the visual character of the project area where aboveground facilities are proposed, and potential effects associated with light and glare.

### 3.1.1 Environmental Setting

#### Regional Setting

Visual resources consist of natural landscapes and scenic views, including landforms, vegetation, and water features, as well as unique elements of the built environment. The proposed project is located in San Luis Obispo County (County), which is located along the Pacific Ocean south of Monterey County, north of Santa Barbara County and west of Kern County. Diverse open space resources are a defining characteristic of the County. Some of those resources include the 1,000,000-year-old landmark volcanic peaks known as the Morros, stretching from Morro Rock to Islay Hill in San Luis Obispo, significant coastal wetlands and rare coastal dune ecosystems, the oak woodlands of the Adelaida area and the Carrizo Plains (County of San Luis Obispo, 2015).

The project area is located in the Coastal Zone of the County, as defined by the California Coastal Act (see Figure 1-1 in Chapter 1). The Coastal Zone landscape is defined by two mountain ranges, forming watersheds aligned on a predominantly northwest to southeast axis. The ranges are the Santa Lucia Range and Irish Hills. While neither of the ranges are particularly high, they are visual and climatic barriers between the Coastal Zone and the inland portion of the County. Most urban and intensive agricultural uses in the County occur in the valleys and coastal terraces of the western ranges (County of San Luis Obispo, 2011).

The County's visual resources consist of open areas (agricultural and natural, undeveloped land), scenic corridors and the built environment. The County's natural features, such as mountains, ridgelines, geological forms, bays, and coastal views are considered scenic resources. The County also includes many other visual resources such as open meadows, riparian corridors, wetland areas, forested areas, and open spaces. Agricultural areas also contribute to the County's visual quality. Scenic views of these resources are visible on rural roads and highways (County of San Luis Obispo, 2015).

#### Local Setting

The proposed project is located in both the unincorporated area of the County and the City. The proposed project is located within the County while the remainder of the project components are located within the City.

The aesthetic and visual character of the project area is defined by the Pacific Ocean located west of the project area and the nearby communities of Cayucos to the north and Los Osos to the south, along with rolling hills of unincorporated areas of the County to the east.

The proposed project site would be located in the Estero Planning Area in the County, which occupies a narrow strip along the coast north of the City and south of the unincorporated community of Los Osos. The Estero Planning Area is characterized by its natural setting including volcanic peaks, green valleys, coastal terraces, and hillsides (County of San Luis Obispo, 2009).

All other components of the proposed project would be located in the City, which lies on the narrow coastal shelf between the Pacific Ocean and the coastal hills. It is within the north coastal area of the County and is approximately 12 miles northwest of the City of San Luis Obispo (City of Morro Bay, 1988; City of Morro Bay, 2004a). The City's development pattern is largely defined by Morro Harbor, which is a waterfront that historically served and continues to serve commercial fishing operations but also now provides recreational and tourist opportunities to visitors. Residential and commercial land uses are located south of Morro Rock around Morro Bay, inland from the sandspit located in the middle of the harbor. Moving outward and eastward from the Harbor, the City is surrounded by agricultural land uses that serve to maintain a buffer around the town, isolating it from other development, and defining the community's semi-rural character (City of Morro Bay, 2004b). Primary scenic resources within the City are Morro Rock, the Morro Bay Harbor, Morro Bay State Park, Atascadero/Morro Rock Beach, Highway 1, the Embarcadero area, Black Mountain, Morro Bay Golf Course, Morro Heights, the Downtown area, the electrical power plant, and Coleman Park (City of Morro Bay, 1988; City of Morro Bay, 2004a).

The visual character of areas surrounding the components of the proposed project is described below.

### ***WRF***

The proposed project would be constructed on a 10- to 15-acre area within a 396-acre parcel that is located along Highway 1, north of the northern terminus of South Bay Boulevard. Figure 2-4 shows a general conceptual site plan of the proposed project (see Chapter 2). The WRF site is currently an undeveloped hillside adjacent to a natural drainage. The site is located just north of the Bayside Care Center, which is a nursing home. Passing northbound motorists on Highway 1 and South Bay Boulevard can briefly see views of the WRF site and surrounding area. Views are partially obstructed by existing topography and vegetation.

### ***Lift Station and Existing WWTP***

The proposed lift station would be located adjacent to the existing WWTP, generally northeast of Morro Rock, one of the defining geologic and topographic characteristics of Morro Bay. The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure. The proposed lift station would be located within the City's existing Corporation Yard on Atascadero Road or adjacent to Atascadero Road

along a public right of way (ROW). Figure 2-6 shows a general conceptual rendering of the proposed lift station and Figure 2-3 shows the potential lift station locations (see Chapter 2).

There are two potential sites:

- **Option 1A:** The site is on an existing park maintenance shed within the City's existing Corporation Yard located on Atascadero Road.
- **Option 5A:** The site is located directly adjacent to Atascadero Road within public right of way. It is located across from the City's existing WWTP.

Figure 2-7a and Figure 2-7b in Chapter 2 show the specific site layouts for Option 1A and Option 5A. Both locations are bound by the Morro Strand RV Park and Morro Bay High School to the north, Motel 6 and Lila Keiser Park to the east, the Morro Bay/Atascadero Beach strand and Pacific Ocean to the west, and a vegetated area and the closed electrical power plant to the south. The lift station sites are located on land that currently contains aboveground facilities for the existing WWTP and/or park maintenance facilities.

The proposed lift station sites would be visible to motorists or pedestrians traveling northbound on Highway 1, but would not be visually prominent in relation to other existing urban and commercial development adjacent to these sites. A view of the lift station sites would also be provided to motorists and pedestrians traveling westbound along Atascadero Road. Further, recreational users of the Morro Strand RV Park may have partial views of the proposed lift station locations, but those would be partially obstructed by existing facilities on the WWTP site. Views from Lila Keiser Park are mostly obstructed by large trees; views from Morro Bay High School would be almost fully obstructed by vegetation located just south of the school.

### ***Pipelines***

The collection system would include a lift station discussed above and multiple pipelines running along a common alignment between the lift station and the proposed WRF site. The alignment shown in Figure 2-2 (see Chapter 2) would include: (1) a force main pipeline; (2) a waste discharge pipeline; and (3) a recycled water pipeline. Specifically, the proposed pipeline alignment would travel westward from the proposed WRF along Highway 1 then through residential areas along Quintana Road to the proposed lift station. The pipelines would primarily be constructed within public ROWs. The proposed alignments would generally run parallel to Highway 1 and would not be visible to nearby land uses or motorists, once constructed.

- **Conveyance Pipelines:** The proposed route of the raw wastewater and waste discharge conveyance pipelines is shown in Figure 2-8. Raw wastewater and brine/wet weather discharge pipelines would run along the proposed alignment that starts from the proposed lift station and travels east along the north side of Atascadero Road. The pipeline alignment travels south to the backside property lots then travels along an existing parkway/bike path. It continues east within a residential area along Main Street ROW until Quintana Road.
- **Distribution System Pipelines:** The recycled water conveyance pipeline alignments are shown in Figure 2-9 in Chapter 2. The proposed recycled water pipeline would lead to new groundwater injection wells east of Highway 1 and south of Highway 41, near the Narrows (which is the area east of the City near Highway 41 where Morro Creek and Little Morro

Creek converge) for groundwater replenishment (IPR East), or west of the Highway 1 and south of Highway 41 near the bike path adjacent to Lila Keiser Park (IPR West).

### **Injection Wells**

As part of indirect potable reuse (IPR), the proposed recycled water pipeline would lead to new groundwater injection wells east of Highway 1 and south of Highway 41, near the Narrows, for groundwater replenishment (IPR East). The other potential injection wells location would be west of the Highway 1 and south of Highway 41 near the bike path adjacent to Lila Keiser Park (IPR West). Figure 2-9 shows the existing and proposed well sites (see Chapter 2).

- IPR – East: This well location area is bound by natural drainage features of Morro Creek and trees to the south, State Route 41 to the north, Main Street to the west, and commercial properties and agricultural land to the east. The site is currently a mobile home park and commercial area. Views of the wells could be visible to motorists traveling northbound on State Route 41 and residential users of the Mobile Park.
- IPR – West: This well location area is bound by Motel 6 to the north, Lila Keiser Park to the east, the existing WWTP to the west, and an open, vegetated area adjacent to Morro Creek to the south. Views of the wells could be visible to recreational users of Lila Keiser Park and motorists traveling southbound on Atascadero Road.

### **Scenic Highways and Routes**

The California Scenic Highway Mapping System shows Highway 1 is an Officially Designated State Scenic Highway and All American Road (Caltrans, 2018). There are no other Officially Designated Scenic Highways within the project area (Caltrans, 2018). However, State Route 41, an Eligible State Scenic Highway, intersects with Highway 1, and is located just adjacent to the proposed groundwater well locations. The *County of San Luis Obispo General Plan* does not designate any additional scenic routes within the project area (County of San Luis Obispo, 2015). According to the *City of Morro Bay General Plan*, the Embarcadero and Coleman Drive are City-designated Scenic Highways near the project area (City of Morro Bay, 1988). Figure 2-2 in Chapter 2 shows the proposed project facilities in relation to Scenic Highways.

### **Light and Glare**

There are two primary anthropogenic sources of light: light emanating from building interiors through windows, and light originating from exterior sources (e.g., street lighting, building illumination, security lighting, parking lot lighting, landscape lighting, and signage).

Anthropogenic sources of light can be a nuisance to adjacent residential areas, diminish the view of the clear night sky, and if uncontrolled, can cause disturbances for motorists traveling in the area. Land uses such as residences and hotels are considered light sensitive, since occupants have expectations of privacy during evening hours and may be subject to disturbances by bright light sources. Light spill is typically defined as the presence of unwanted light on properties adjacent to the property being illuminated.

Glare is caused by the reflection of sunlight or artificial light by highly polished surfaces such as window glass or reflective materials and, to a lesser degree, from broad expanses of light-colored surfaces or vehicle headlights. Perceived glare is the unwanted and potentially objectionable

sensation as observed by a person as they look directly into the light source of a luminaire. Daytime glare generation in urban areas is typically associated with buildings with exterior facades largely or entirely comprised of highly reflective glass. Glare can also be produced during evening and nighttime hours by the reflection of artificial light sources, such as automobile headlights. Glare generation is typically related to either moving vehicles or sun angles, although glare resulting from reflected sunlight can occur regularly at certain times of the year. Glare-sensitive uses include residences, and transportation corridors. Potentially affected viewers in the local viewshed include motorists, residents, and recreational visitors.

### 3.1.2 Regulatory Framework

#### **Federal**

##### ***National Scenic Byways Program***

The National Scenic Byways Program is part of the U.S. Department of Transportation, Federal Highway Administration. The program was established under the Intermodal Surface Transportation Efficiency Act of 1991, and was reauthorized in 1998 under the Transportation Equity Act for the 21st Century. Under the program, the U.S. Secretary of Transportation recognizes certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities. Within the project area, Highway 1 – San Luis Obispo North Coast, is designated as a National Scenic Byway.

#### **State**

##### ***State Scenic Highway Program***

In 1963, the California legislature created the Scenic Highway Program to protect scenic highway corridors from changes that could diminish the aesthetic value of lands adjacent to the highways. The state regulations and guidelines governing the Scenic Highway Program are found in the Streets and Highways Code, section 260 *et seq.* A highway is designated under this program when a local jurisdiction adopts a scenic corridor protection program, applies to the California Department of Transportation (Caltrans) for scenic highway approval, and receives notification from Caltrans that the highway has been designated as a Scenic Highway. When a city or county nominates an eligible scenic highway for official designation, it defines the scenic corridor, which typically includes land adjacent to and visible to a motorist on the highway. Within the project area, Highway 1 is designated as a State Scenic Highway and All-American Road. Further, State Route 41 is a Designated State Scenic Highway, but not officially designated.

##### ***California Coastal Act***

The California Coastal Act defines the coastal zone and establishes land use control for the coastal zone. The California Coastal Act (1) sets specific uses, including restoration, for wetlands located in the coastal zone, (2) requires additional review and approvals for proposed actions located within designated sensitive coastal areas and (3) requires cities or counties located within the coastal zone to prepare a Local Coastal Program. The California Coastal Act also identifies and requires the protection of important scenic and visual qualities of the coastal areas (California Coastal Act, 2017). All proposed project facilities are located within the Coastal Zone.

## Local

### **County of San Luis Obispo General Plan and Local Coastal Plan**

The *County of San Luis Obispo General Plan* is integrated with its Local Coastal Program and was first adopted by the County and certified by the California Coastal Commission in 1988. The General Plan Land Use - Coastal Element, and Chapter 9 of the Conservation and Open Space Element provides a framework for planning within the Coastal Zone in accordance with the County Local Coastal Program (LCP). In addition to a framework and coastal plan policies, the Land Use Plan includes Area Plans and the Conservation and Open Space Element (Chapter 9) specifies goals and policies specific to protect and preserve scenic and visual resources within the County. The Land Use Plan together with the Coastal Zone Land Use Ordinance [see below]) and related maps comprise the Local Coastal Program (County of San Luis Obispo, 2011).

### **County of San Luis Obispo Conservation and Open Space Element (2010)**

#### Scenic Resources

#### **Policy VR 2.1 Develop in a manner compatible with Historical and Visual Resources**

Through the review of proposed development, encourage designs that are compatible with the natural landscape and with recognized historical character, and discourage designs that are clearly out of place within rural areas.

#### **Policy VR 2.2 Site Development and Landscaping Sensitively**

Through the review of proposed development, encourage designs that emphasize native vegetation and conform grading to existing natural forms. Encourage abundant native and/or drought-tolerant landscaping that screens buildings and parking lots and blends development with the natural landscape. Consider fire safety in the selection and placement of plant material, consistent with Biological Resources Policy BR 2.7 regarding fire suppression and sensitive plants and habitats.

#### **Policy VR 4.2 Balanced Protection**

Balance the protection of scenic resources with the protection of biological and agricultural resources that may co-exist within the scenic corridor.

#### **Policy VR 7.1 Nighttime Light Pollution**

Protect the clarity and visibility of the night sky within communities and rural areas, by ensuring that exterior lighting, including streetlight projects, is designed to minimize nighttime light pollution.

### **County of San Luis Obispo Agriculture Element (1998)**

#### Agriculture Policies (AGP)

#### **AGP30 Scenic Resources**

- A. In designated scenic corridors, new development requiring a discretionary permit and land divisions shall address the protection of scenic vistas as follows:
  - 1. Balance the protection of the scenic resources with the protection of agricultural resources and facilities. When selecting locations for structures, access roads, or grading, the preferred locations will minimize visibility from the scenic corridor and be compatible with agricultural operations.
  - 2. Use natural landforms and vegetation to screen development whenever possible.

3. In prominent locations, encourage structures that blend with the natural landscape or are traditional for agriculture.

### **Local Coastal Plan: Coastal Plan Policy Document**

#### **Chapter 10. Visual and Scenic Resources**

##### **Policy 1: Protection of Visual and Scenic Resources**

Unique and attractive features of the landscape, including but not limited to unusual landforms, scenic vistas and sensitive habitats are to be preserved protected, and in visually degraded areas restored where feasible.

##### **Policy 2: Site Selection for New Development**

Permitted development shall be sited so as to protect views to and along the ocean and scenic coastal areas. Wherever possible, site selection for new development is to emphasize locations not visible from major public view corridors. In particular, new development should utilize slope created “pockets” to shield development and minimize visual intrusion.

##### **Policy 6: Visual Compatibility**

Within the urbanized areas defined as small-scale neighborhoods or special communities, new development shall be designed and sited to complement and be visually compatible with existing characteristics of the community.

##### **Policy 8: Utility Lines within View Corridors**

Where feasible, utility lines within public view corridors should be placed underground whenever their aboveground placement would inhibit or detract from ocean views. In all other cases, where feasible, they shall be placed in such a manner as to minimize their visibility from the road.

#### **Coastal Zone Framework for Planning**

Several portions of the Coastal Zone Framework for Planning apply to visual resources.

#### **Chapter 5: Circulation Element**

##### **C. Goals and Objectives for Circulation**

Developing and enhancing a system of scenic roads and highways through areas of scenic beauty without imposing undue restrictions on private property, or unnecessarily restricting the placement of agricultural support facilities.

##### **G. Scenic Highways**

1. Identify scenic areas and features within view of state highways, city streets, and county roads in the open space plan and incorporate them into the applicable Land Use Element Area plan, designating them within sensitive resource areas.
2. Adopt programs and standards in the Land Use Element Area Plans to protect scenic quality of identified areas and to maintain views from designated scenic roads and highways. Provide special attention to the location, siting, and design of visible structures, access roads, and outdoor advertising, while ensuring that there will not be undue restriction on private property or agricultural operations. Encourage area native plants in landscaping. Promote placing utilities underground where feasible.

3. Ensure that the location, design, and construction of each scenic road or highway blends into and complements the scenic corridor, by coordinating among involved agencies for the integrated design of the project.
4. Promote special scenic treatment and design within scenic road and highway rights-of-way, to include highway directional signs, guardrails and fences, lighting, provisions of scenic outlooks, frontage roads, grading vegetation and highway structures.

### ***County of San Luis Obispo Coastal Zone Land Use Ordinance (CZLUO)***

The CZLUO was adopted in 1988 and most recently revised in December 2014. Development within the Coastal Zone as defined by the Coastal Act of 1976 is subject to the CZLUO.

Pursuant to Section 23.08.288 of the CZLUO, any new Public Use Facility or modification of an existing public use facility in the Agriculture, Rural Lands, Residential, Office and Professional, and Commercial land use categories requires approval of a Development Plan consistent with the requirements of Section 23.02.034 (Development Plan) and additional application requirements of Section 23.08.288 (b). In addition, pursuant to Section 23.08.288(c), the following development standards apply in addition to any that may be established as conditions of approval:

- Clearing and revegetation. The land area exposed and the vegetation removed during construction shall be the minimum necessary to install and operate the facility. Topsoil will be stripped and stored separately. Disturbed areas no longer required for operation will be regarded, covered with topsoil and replanted during the next appropriate season.
- Fencing and screening. Public Utility Facilities shall be screened on all sides. An effective visual barrier will be established through the use of a solid wall, fencing and/or landscaping. The adequacy of the proposed screening will be determined during the land use permitting process.

Applicable sections include the following: 23.03.186-Landscape plans, 23.04.021-Parcel size standards, 23.05.034-Grading standards, and 23.05.064-Tree Removal standards.

### ***County of San Luis Obispo Municipal Code***

Chapter 22 of the County of San Luis Obispo Municipal Code includes various general lighting standards for the County (County of San Luis Obispo, 2018). Applicable lighting standards include:

#### **22.10.060 - Exterior Lighting.**

The standards of this Section are applicable to all outdoor night-lighting sources installed after the effective date of this Title, except for street lights located within public rights-of-way and all uses established in the Agriculture land use category. No land use permit is required for lighting facilities, though an electrical permit may be required by Title 19 of this code (the Building and Construction Ordinance).

**Illumination only.** Outdoor lighting shall be used for the purpose of illumination only, and shall not be designed for or used as an advertising display, except as provided by Chapter 22.20 (Signs).



**Light directed onto lot.** Light sources shall be designed and adjusted to direct light away from any road or street, and away from any dwelling outside the ownership of the applicant.

**Minimization of light intensity.** No light or glare shall be transmitted or reflected in a concentration or intensity that is detrimental or harmful to persons, or that interferes with the use of surrounding properties or streets.

**Light sources to be shielded.**

Ground illuminating lights. Any light source used for ground area illumination except incandescent lamps of 150 watts or less and light produced directly by the combustion of natural gas or other fuels, shall be shielded from above in such a manner that the edge of the shield is level with or below the lowest edge of the light source. Where any light source intended for ground illumination is located at a height greater than eight feet, the required shielding shall extend below the lowest edge of the light source a distance sufficient to block the light source from the view of any residential use within 1,000 feet of the light fixture.

**Elevated feature illumination.** Where lights are used for the purpose of illuminating or accenting building walls, signs, flags, architectural features, or landscaping, the light source shall be shielded so as not to be directly visible from off-site.

**Height of light fixtures.** Free-standing outdoor lighting fixtures shall not exceed the height of the tallest building on the site.

**Street lighting.** Street lighting shall be designed to minimize light pollution by preventing the light from going beyond the horizontal plane at which the fixture is directed.

### ***City of Morro Bay Coastal Land Use Plan***

#### **Chapter XIII: Visual Resources**

Chapter XIII of the City of Morro Bay Coastal Land Use Plan describes the City's physical setting and identifies the scenic and visual resources within the area. The Coastal Land Use Plan contains various policies related to the visual resources that are applicable to the proposed project such as:

**Policy 12.01:** The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sites and designed to protect views to and along the ocean and scenic and coastal areas to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and where feasible, to restore and enhance the visual quality in visually degraded area.

### ***City of Morro Bay General Plan***

#### **Visual Resources and Scenic Highway Element**

The Visual Resources and Scenic Highway Element of the General Plan and Local Coastal Plan (described above) establish criteria for the protection, preservation and enhancement of the scenic resources within the City. It also identifies the scenic qualities along major roadways in Morro Bay (City of Morro Bay, 1988).

### **City of Morro Bay Municipal Code**

Chapter 17 of the City of Morro Bay Municipal Code includes various general lighting standards for the City (City of Morro Bay, 2018). Applicable lighting standards include:

#### **17.52.080 - Lighting, illuminated signs and glare.**

- A. Other sections of this title notwithstanding, no illumination may be directed toward the adjacent residential uses and onto streets. Lighting glare shall be screened from the residences, hotels, streets, and other glare sensitive uses.
- B. No direct or reflected glare, whether produced by floodlight, high temperature processes such as combustion or welding, or other processes, so as to be visible from any boundary line of property on which the same is produced shall be permitted. Sky-reflected glare from buildings or portions thereof shall be so controlled by such reasonable means as are practical to the end that the said sky reflected glare will not inconvenience or annoy persons or interfere with the use and enjoyment of property in and about the area where it occurs.

#### **17.68.050 - Miscellaneous specifications.**

- G. **Glare Prohibited.** No sign shall be permitted to emit undue reflection or glare on I. surrounding property. No sign shall emit or reflect light exceeding ten foot-candle power at ten feet from the face of the sign.
- I. **Lighting.** Light sources shall be steady and stationary. Lighting shall not be distracting to pedestrians, motorists and neighboring property. No sign shall emit or reflect light exceeding ten foot-candle power at ten feet from the face of the sign.

## **3.1.3 Impacts and Mitigation Measure**

### **Significance Criteria**

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to aesthetics in the project area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to aesthetics if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings;  
or
- Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

### **Methodology**

The significance determination is based on several evaluation criteria, including (i) the extent of project visibility from sensitive viewing areas such as designated scenic routes, public open space, or residential areas, (ii) the degree to which the various project elements would contrast

with or be integrated into the existing landscape, (iii) the extent of change in the landscape's composition and character and (iv) the number and sensitivity of viewers.

That impact analysis considers view obstruction, negative aesthetic effects, and light and glare effects. That visual assessment is based on field observations of the project site and surrounding areas, in addition to a review of technical data and aerial and ground-level photographs.

## Impact Analysis

### *Scenic Vistas*

**Impact 3.1-1: The proposed project would not have an adverse effect on scenic vistas. The proposed project would not have sufficient scale or height to significantly affect scenic vistas. The WRF would be briefly visible from Highway 1, but would resemble rural agricultural buildings similar to others along the Highway 1 corridor. That impact would be Class III, Less than Significant.**

Under Public Resources Code § 30251, scenic and visual qualities of coastal areas, including natural landforms along bluffs and cliffs, are to be considered and protected as an important public resource (California Coastal Act, 2017). As stated in the County and City Local Coastal Plans, the City's Coastal Zone includes visual resources, facilities and assets that contribute to both the positive and negative aesthetic character of the Coastal Zone. Primary assets that define the coastal visual resources within the project area include the Pacific Ocean, Morro Rock, Morro Creek, and undeveloped hillsides. Scenic vistas of those coastal resources in the vicinity of the existing WWTP and proposed facilities can be viewed from Highway 1, State Route 41, Atascadero Road, Quintana Road, and residential areas in the City and surrounding cities (County of San Luis Obispo, 2015; City of Morro Bay, 2004a). Following are evaluations of potential visual impacts from construction activities and operation of proposed project facilities.

### **Construction**

#### **All Facilities**

The construction of all proposed facilities would require temporary ground disturbance within the project area. The presence of construction equipment and materials would be visible from public vantage points such as open space areas, sidewalks, and streets, but would not permanently affect designated scenic views or vistas. Given the short-term and temporary presence of construction equipment and materials, impacts to scenic vistas due to construction of proposed project components would be less than significant.

### **Operation**

#### **WRF**

After the completion of construction activities associated with the proposed WRF facilities, the structures and buildings would be permanent at the WRF site. The proposed WRF would be implemented within an unincorporated and undeveloped hillside area of the County (see Figure 2-2). Undeveloped hillsides are considered scenic resources by both the City and County LCP. The WRF site would appear substantially different than the existing open space/grazing land use in the immediate vicinity (refer to Figure 2-4 in Chapter 2 for a conceptual layout of the WRF site). The WRF and associated facilities would include up to approximately 65,000 square feet of

structures along with outdoor areas for materials, equipment and operation and maintenance buildings.

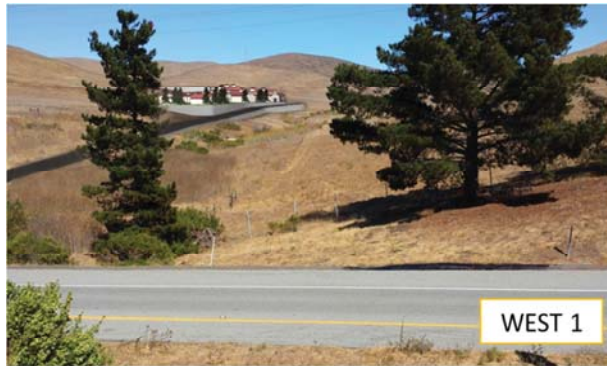
The developed portion of the project site would be located approximately 500 feet from public vantage points along the front of Bayside Care Center on Teresa Road and over 700 feet from motorists on Highway 1. The proposed WRF would be constructed within the Coastal Zone and north of scenic Highway 1; therefore, the site would be subject to special design standards. Aboveground buildings/structures adjacent to or within the viewshed of a County-designated or City-designated Scenic Highway or Route would need to abide by specific design standards to preserve view corridors as required by Chapter 22.10.095 of the San Luis Obispo County Municipal Code and Chapter IV of the City of Morro Bay General Plan, respectively. Design standards would include height limits, limits for exterior lighting, maintenance of roadside landscaping, limits on grading activities, and probation of overhead utility ROWs. Aboveground buildings/structures located in unincorporated County area also would need to be designed in compliance with the San Luis Obispo County Local Coastal Plan, as required by *Title 23, Coastal Zone Land Use* of the San Luis Obispo County Municipal Code.

As described in Chapter 2, Project Description, the proposed WRF building forms and architecture would be informed by development along the Highway 1 corridor, with an overall impression of the WRF complex as a dairy farm or ranch. Generally, the proposed building forms would be recognizably agricultural, using simple rectangular floor plates and gable roofs at varying slopes that reflect the use of the enclosed volumes. Those building shapes would be articulated where appropriate with clerestories and roof vents. The orientation of and relationship between roofs would be chosen to maximize solar exposure for the potential application of photovoltaics for power generation.

While the individual buildings would borrow their configuration from the agricultural model, exterior materials would be applied in response to functional requirements for durability and maintainability, and would produce a slightly more contemporary, less literal version of that building type. Roofs would be standing-seam metal, and walls would be a combination of exposed concrete masonry, metal siding, cement board siding, and plaster.

Colors would be selected for compatibility with the prevalent pattern along the neighboring stretch of Highway 1, such as red roofs and white or light brown walls to blend well with the surrounding environment, as seen at Cuesta College, Camp San Luis, and a number of the barns on farm properties. Tree plantings will further reinforce the historical settlement pattern of the area and provide some visual screening of structures, using drought tolerant species such as deodor cedar.

Visual simulations from views along Highway 1 of the proposed WRF site are included in **Figure 3.1-1**. The architectural treatments were taken into consideration in the visual simulations. As shown on Figure 3.1-1, most views of the WRF project area from motorists traveling northbound and southbound would be blocked by existing topography, where hillsides extend higher than the project area and proposed WRF facilities would not be visible. Further, the Bayside Care Center would block views of the WRF area from motorists traveling southbound on Highway 1.



Four viewpoints displayed in Figure 3.1-1 show that motorists traveling along Highway 1 near South Bay Boulevard would have temporary views of the proposed WRF site:

- **East 1:** Viewpoint East 1 is located 650 feet south of the WRF site along Highway 1. The proposed WRF would be visible by motorists briefly. The WRF site would be partially blocked by the Bayside Care Center and existing topography.
- **East 2:** Viewpoint East 2 is located 580 feet south of the WRF site along Highway 1. The proposed WRF would be visible by motorists briefly. The WRF site would almost be fully obstructed by existing trees.
- **West 1:** Viewpoint West 1 is located 460 feet south of the WRF site along Highway 1. The proposed WRF would be visible by motorists briefly. Scattered trees partially screen the WRF site.
- **West 2:** Viewpoint West 2 is located 515 feet south of the WRF site along Highway 1/ South Bay Boulevard. The proposed WRF would be visible by motorists briefly.

As shown at those viewpoints, the proposed WRF facilities would not obstruct scenic views of the distant mountains because the proposed facilities would not have the scale or massing as to block or adversely affect these views. Although the WRF facilities would be briefly visible by motorists traveling along public roadways (Highway 1, South Bay Boulevard, and Teresa Road), their architecture would resemble a dairy farm or ranch buildings and would blend in with the scenic character of the hillside areas along the Highway 1 corridor. The impact to scenic vistas due to visibility of the WRF facility would be less than significant.

#### Lift Station

After the completion of construction activities associated with the proposed lift station, the structure and ancillary facilities would be permanent (see Figure 2-6 for a general conceptual rendering of the proposed lift station). The proposed lift station would be located adjacent to the existing WWTP and within the City's existing Corporation Yard on Atascadero Road (Option 1A) or adjacent to Atascadero Road along a public ROW (Option 5A). The proposed lift station would be constructed within the Coastal Zone; therefore, the site would be subject to special design standards. The proposed lift station sites would not be prominently visible to motorists or pedestrians traveling northbound on scenic Highway 1 because it would be similar in height and massing as neighboring structures in the Corporation Yard and WWTP. The beach and ocean is not visible from motorists traveling along Atascadero Road in the vicinity of the proposed lift station. Morro Rock is visible from Atascadero Road; however, the lift station would not be taller than other neighboring existing building, and as such, would not have the scale or massing to obstruct views of Morro Rock when looking west, or the distant hillsides and mountains when looking east. Therefore, operation of the proposed lift station would result in less than significant impacts to scenic vistas.

#### Conveyance Pipelines

The proposed pipelines would be located underground within or along public right-of-ways. Construction of conveyance and distribution pipelines would require temporary ground-disturbance, but would be located underground and not visible once construction is complete. Pipelines would, therefore, not affect views from publically-accessible vantage points. Impacts to

scenic vistas as a result of the operation of pipelines would be less than significant and no mitigation measures would be required.

### **Injection and Monitoring Wells**

The proposed groundwater wells would be enclosed with fencing no taller than 8 feet and have relatively small footprints of approximately 200 square feet. The proposed wells would either be located within the IPR East wellfield area, which is the area east of the City near Highway 41 where Morro Creek and Little Morro Creek converge, or the IPR West wellfield area, located west of the Highway 1 and south of Highway 41 near the bike path south of Lila Keiser Park and Morro Creek (Figure 2-2).

The IPR East site includes a mobile home park and commercial area. Views of the wells could be visible to motorists traveling northbound on State Route 41. However, the wells would be low-lying (less than 8 feet tall), surrounded by fencing, and would blend in with the commercial and residential development of the area. Views of the IPR West wells could be visible to recreational users of the bike path adjacent to the wells' location. However, views of the IPR West wells would likely be obstructed by surrounding trees and topography. While these wells could be visible briefly from public vantage points, the wells would be located in areas that generally are flat, or proximate to land already developed. The well facilities would not have the scale or massing to obstruct scenic vistas or views of Morro Rock, distant hillsides and mountains, or coastal areas within the project area. Therefore, the proposed injection and monitoring wells would result in less than significant impacts to scenic vistas.

### **Decommissioning of Current WWTP**

The existing WWTP would continue in operation until the new WRF is in full operation (and the CSD's new treatment facility as well) and the collection system is no longer delivering flow to the existing WWTP. The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure including the piping located four to five feet below grade. After demolition and removal of facilities, backfilling, compaction, and grading would occur to create a site that is cleared, cleaned and available for other uses in the future. Therefore, no structures or existing facilities would obstruct scenic views or vistas within the project area. Impacts would be less than significant.

### **Mitigation Measures**

None required.

### **Significance Determination**

Less than Significant



### **State Scenic Highways**

**Impact 3.1-2: The proposed project would be visible from Highway 1 and State Route 41 corridors, a State Scenic Highway and Eligible Scenic Highway, respectively. However, implementation of specific design criteria for development would ensure that scenic resources would not be adversely effected by implementation of proposed facilities. This impact would be Class III, Less than Significant.**

The California Scenic Highway Mapping System shows that Highway 1 is an Officially Designated State Scenic Highway and All American Road (Caltrans, 2018). There are no other Officially Designated Scenic Highways within the project area (Caltrans, 2018). However, State Route 41, an Eligible State Scenic Highway, intersects with Highway 1, and is located adjacent to the proposed IPR East wellfield area. The *County of San Luis Obispo General Plan* and *City of Morro Bay General Plan* do not designate any additional scenic routes within the project area (County of San Luis Obispo, 2015).

### **Construction**

#### **All Facilities**

Pipeline installation would occur within existing ROWs with Highway 1 crossings, but not within scenic Highway 1 or State Route 41. Further, the proposed lift station locations and IPR West well locations would not be visible from either of these routes. However, various proposed aboveground facilities associated with the proposed WRF and IPR East wells would be constructed near Highway 1 and State Route 41, respectively. Existing views surrounding these scenic highways could be interrupted during construction due to equipment staging and fencing. However, construction activities would be temporary and would not damage or alter scenic resources within a scenic highway or corridor for a permanent amount of time. Therefore, construction impacts would be less than significant.

### **Operation**

#### **WRF**

After construction, the proposed WRF would include permanent above-ground facilities along a scenic hillside. The proposed WRF facilities would not have the scale or massing as to substantially adversely affect the scenic quality of the hillsides. However, the proposed WRF facilities would appear substantially different than the existing undeveloped, rolling hillsides, which are considered scenic resources by both the City and County LCP. As described above under Impact 3.1-1, the proposed WRF facilities would be visible briefly by motorists traveling along Highway 1 (see Figure 3.1-1). However, the design of the WRF to resemble a dairy farm or ranch would be consistent with the rural aesthetic of scenic views along the Highway 1 corridor. As such, impacts to scenic resources from Highway 1 due to the introduction of new facilities at the WRF site would be less than significant.

#### **Lift Station**

The proposed lift station locations are located far enough away from Highway 1 and State Route 41, that the facility would not be visible or substantially alter scenic views within those scenic corridors. Further, existing facilities and vegetation would screen new facilities from both those



routes. Therefore, the proposed lift station would not impact scenic resources within a State Scenic Highway corridor.

#### Conveyance Pipelines

Pipeline installation would occur within existing ROWs with Highway 1 and State Route 41 crossings; however, once constructed and repaved or revegetated, the proposed conveyance and distribution systems would not detract from the visual quality along Highway 1 or State Route 41 because pipelines would be buried underground. Therefore, there would be no long-term impacts to these scenic corridors. The impact to locally-defined scenic corridors or routes would be less than significant.

#### Injection and Monitoring Wells

The wells that would be located within the IPR West area would not be visible from Highway 1 or State Route 41. Existing vegetation blocks potential views and the well fencing would be located far enough away from these routes that scenic views would not be obstructed or degraded. However, proposed wells located in the IPR East area could potentially be visible from motorists traveling along scenic State Route 41. As described above under Impact 3.1-1, the wells would be low-lying (less than 8 feet tall), surrounded by fencing, and would blend in with the commercial and residential development of the area. Impacts to scenic resources from scenic highways would be less than significant.

#### Decommissioning of Current WWTP

The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure. After demolition and removal of facilities, backfilling, compaction, and grading would occur to leave the site cleared, cleaned and available for other uses in the future. Therefore, no new structures or existing facilities would alter or degrade scenic resources within a scenic corridor. No impacts would occur.

#### Mitigation Measures

None required

#### Significance Determination

Less than Significant

### **Visual Character**

**Impact 3.1-3: The proposed WRF would not degrade the visual character of the site due to implementation of specific design criteria for architectural treatments that blend with the surrounding rural and agricultural area. The remaining project components would also be similar in size and scale as surrounding development and would not degrade visual character. This impact would be Class III, Less than Significant.**

### **Construction**

#### **All Facilities**

Construction activities associated with all proposed facilities would result in short-term impacts to the visual character of the proposed project areas. Construction activities would require the use of construction equipment and storage of materials within the project sites for project components. Excavated areas, stockpiled soils and other materials generated during construction could present negative aesthetic elements to the existing visual landscape. However, those effects would be temporary and would not permanently affect the existing visual character of the surrounding area. All impacts from construction-related activities would result in less than significant impacts, and no mitigation measures would be required.

### **Operation**

#### **WRF**

The proposed WRF site would be implemented within an undeveloped hillside area in the County (see Figure 2-2). As described above, the proposed WRF would be constructed within the Coastal Zone and north of scenic Highway 1; and therefore, would be subject to special design standards. The WRF would introduce aboveground, wastewater facilities and paved areas into a landscape that is currently undeveloped. However, those proposed facilities would not contrast with the existing visual character in the immediate area because as stated in Chapter 2, Project Description, the proposed WRF building forms and architecture would be informed by development along the Highway 1 corridor, with an overall impression of the WRF complex as a dairy farm or ranch. Generally, the proposed building forms would be recognizably agricultural, using simple rectangular floor plates and gable roofs at varying slopes that reflect the use of the enclosed volumes. Those building shapes would be articulated where appropriate with clerestories and roof vents. The orientation of and relationship between roofs would be chosen to maximize solar exposure for the potential application of photovoltaics for power generation.

While the individual buildings would borrow their configuration from the agricultural model, exterior materials would be applied in response to functional requirements for durability and maintainability, and would produce a slightly more contemporary, less literal version of this building type. Roofs would be standing-seam metal, and walls would be a combination of exposed concrete masonry, metal siding, cement board siding, and plaster.

Colors would be selected for compatibility with the prevalent pattern along the neighboring stretch of Highway 1, such as red roofs and white or light brown walls to blend well with the surrounding environment, as seen at Cuesta College, Camp San Luis, and a number of the barns on farm properties. Tree plantings will further reinforce the historical settlement pattern of the

area and provide some visual screening of structures, using drought tolerant species such as deodar cedar.

With application of these architectural treatments as part of the proposed project design criteria, the WRF would blend in with the scenic character of the hillside areas along the Highway 1 corridor. The impact to visual characters would be less than significant.

#### **Lift Station**

The proposed lift station would be a single-story building with a height of approximately 10 feet. The new lift station would be slightly elevated for flood proofing as it would be located near the coast; however, the structure would be designed similar to other industrial and commercial development within the immediate area along Atascadero Road. Further, the potential two locations for the lift station would be within an area already developed with WWTP facilities. Therefore, introduction of the new lift station would not contrast with the existing visual character of the area. Impacts to visual character would be less than significant.

#### **Conveyance Pipelines**

Following construction, the proposed conveyance and distribution pipelines would be located underground. After the pipelines are buried, the project area would be restored to pre-construction conditions; thus, no permanent impacts to the existing visual character or quality of the project or surrounding area would occur.

#### **Injection and Monitoring Wells**

The proposed groundwater wells would generally be low-lying and surrounded by fencing (less than 8 feet tall). In the IPR East wellfield area, the proposed wells would blend in with the commercial and residential development of the area. In the IPR West wellfield area, proposed wells would be built on vacant land adjacent to the bike bath. Views of the wells by recreational users of the bike path would likely be obscured by vegetation and topography or the fencing would be briefly visible. In both wellfield areas, small fenced areas would not have the scale or massing to be considered contrasting features that would substantially alter the visual character of the area. Impacts to visual character would be less than significant.

#### **Decommissioning of Current WWTP**

The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure. After demolition and removal of facilities, backfilling, compaction, and grading would occur to leave the site cleared, cleaned and available for other uses in the future. Therefore, no structures or existing facilities would contribute to, alter or substantially degrade the visual character of the project area. No impact would occur.

#### **Mitigation Measures**

None required.

#### **Significance Determination**

Less than Significant

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### ***Light or Glare***

**Impact 3.1-4: Construction of the proposed injection wells would require nighttime lighting during 24-hour drilling activities. Measures that require lighting to be shielded and directed away from neighboring light sensitive land uses would reduce impacts associated with light and glare. This impact would be Class II, Less than Significant with Mitigation.**

#### **Construction**

WRF, Lift Station, Conveyance Pipelines, and Decommissioning of Current WWTP

Construction of the proposed WRF, lift station and pipelines would not require overnight lighting. As such, the presence of construction equipment would not introduce new lighting or glare to the project area. Therefore, construction impacts would be less than significant.

#### **Injection and Monitoring Wells**

Construction of the proposed injection wells would require daily 24-hour drilling for up to approximately one month. As such, temporary overhead nighttime lighting would be installed during the well drilling period. The IPR West wellfield area is largely surrounded by existing trees and vegetation surrounding the creek; therefore, the use of nighttime lighting would not substantially impact nearby uses. However, the IPR East wellfield area is located adjacent to light sensitive uses including the mobile home park. Therefore, implementation of overnight lighting within the IPR East wellfield area could result in potentially significant impacts.

During nighttime construction, lighting would be shielded and pointed away from surrounding light-sensitive land uses, as required by **Mitigation Measure AES-1**. By doing so, light would not spill over to light-sensitive land uses. As a result, impacts associated with light and glare during construction activities would be reduced to a less than significant level with implementation of mitigation measures.

#### **Operation**

WRF, Lift Station, Injection and Monitoring Wells

The proposed WRF would be located on an undeveloped hillside of the County; the lift station and groundwater wells would be located on land between residential and commercial areas in the City. Some of those facilities would be located adjacent to existing uses that contain lighting. The proposed WRF would be located approximately 360 feet away from the closest sensitive receptors (residential), and intervening topography would block direct line-of-sight between those land uses, which would also block lighting that may be included at the WRF. Proposed wells in the IPR East wellfield area may be located adjacent to mobile home park residential users. Development of the proposed facilities may require new exterior nighttime lighting for operational and security purposes. The increase in lighting could result in spill over lighting onto neighboring parcels. Due to flat topography of the project area surrounding the lift station and wells and close proximity to light sensitive uses, these facilities may introduce lighting that could be visible by the nearest residences. Further, the proposed WRF site would be implemented within a largely undeveloped area; the closest lighting source would be the neighboring Bayside

Care Center. The WRF facilities would introduce new lighting that could be visible by the nearest residences.

The proposed project would be required to comply with the County of San Luis Obispo Local Coastal Plan and City of Morro Bay Municipal Code, which both contain exterior nighttime lighting ordinances to manage and preserve the natural darkness of night skies for residents within the project area. Adherence to those lighting and glare requirements would ensure any future development associated with the proposed project complies with existing and future lighting ordinances. Impacts would be less than significant.

#### Conveyance Pipelines

The proposed pipelines would not require nighttime lighting for operation as pipelines would be placed underground and therefore would not be visible. As a result, there would be no new sources of lighting to the project area. No impacts related to light and glare would occur.

#### Decommissioning of Current WWTP

The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure such as the piping located four to five feet below grade. After demolition and removal of facilities, backfilling, compaction, and grading would occur to leave the site cleared, cleaned and available for other uses in the future. Therefore, no structures or existing facilities would have surfaces or lighting that would contribute to light or glare in the project area. No impact would occur.

#### Mitigation Measures

**AES-1: Nighttime Construction Lighting.** Lighting used during nighttime construction, including any associated 24-hour well drilling, shall be shielded and pointed away from surrounding light-sensitive land uses.

#### Significance Determination

Less than Significant with Mitigation

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## References

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## 3.2 Agriculture and Forestry Resources

This section includes a description of existing land use conditions in relation to farmland designations, Williamson Act contracts, forest and timberland zoning, and related uses. It also provides a discussion of applicable state, regional, and local plans and programs, and an evaluation of potential impacts associated with construction, operation, and maintenance of the proposed project. See Chapter 3.10, Land Use and Planning, for a full discussion of issues pertaining to land use.

### 3.2.1 Environmental Setting

#### Regional Setting

The fertile soils, moderate climate, and groundwater resources of the County allow it to have unique, diverse, and valuable agricultural resources. From dry land farming in the north county, cattle grazing lands in the coastal hills and interior valleys, wines made from the vineyards in Edna Valley and Paso Robles, to rich irrigated croplands of the Arroyo Grande and Cienega Valleys, agriculture is a significant part of the County's economy (County of San Luis Obispo, 2010). The gross value of agricultural production in the County for 2016 totaled \$914,724,000, an increase of ten percent from the previous year (San Luis Obispo County DAWM, 2016). That ten percent increase from 2015 is primarily due to the significant value increase in the fruit and nut category driven by wine grapes, strawberries, and avocados.

#### Project Area Setting

The Morro and Chorro Valleys located within and adjacent to the City have been or are presently supporting some agricultural activity. The Morro Valley consists of gentle rolling hillsides north of Highway 41 where most of that area consists of rangeland with some farmland supporting avocado orchards. South of Highway 41, much the of the flatland near Morro Creek is farmland where irrigated row crop production occurs (JFR Consulting, 2013). A small portion of the IPR East wellfield area overlaps with active farmland near Morro Creek. The Chorro Valley contains substantial areas of agricultural use, however most of the area is grazing land. In fact, the Chorro Valley features gentle rolling hillsides north of Highway 1 where most of the area is rangeland.

The proposed WRF site is underlain by Cropley clay soils, which consist of clay overlying silty clay loam that is typically found at a depth of 36 to 60 inches (JFR Consulting, 2016). Those soils are designated by the Natural Resources Conservation Science (NRCS) as prime farmland if irrigated. Historically, that portion of the project area and its adjacent land has been used for rangeland and has not been irrigated (JFR Consulting, 2013). Currently, the WRF site is not irrigated. As a result, the property in which the proposed WRF is located on does not support Prime Farmland (JFR Consulting, 2016). Thus, from a practical perspective, implementation of the proposed project would not remove important areas of prime agricultural potential.

According to the County's Estero Area Plan and County General Plan, the proposed WRF site is located within land designated as Agriculture. The rest of the proposed project is located within the City of Morro Bay. According to the City's General Plan, for the proposed lift station, Option

1A and Option 5A, are both located on land designated as General (Light) Industrial; the proposed raw wastewater conveyance pipeline would traverse Low Density Residential and Moderate Density Residential, Open Space/Recreation, General (Light) Industrial, District Commercial, Service Commercial, Coastal Dependent Industrial, and Environmentally Sensitive Habitat (near Morro Creek). The proposed injection well area for IPR West would be located in General (Light) Industrial, Visitor Serving, Coastal Development Industrial, and Environmentally Sensitive Habitat land uses (near Morro Creek) while the proposed recycled water pipeline for IPR West would traverse the same route as the proposed raw wastewater pipeline and overlay the aforementioned land uses. The proposed injection wells site for IPR East would be located in General (Light) Industrial, Visitor Serving, Environmentally Sensitive Habitat, Agriculture, Moderate Residential Density, and Low Residential Density land while the IPR East pipeline would traverse lands designated as Agriculture, Low Density Residential, Moderate Density Residential, District Commercial, Open Space/Recreation, and General (Light) Industrial. Therefore, out of all project components, only the proposed WRF, a portion of the proposed IPR East recycled water conveyance pipeline, and a small portion of the proposed IPR East wellfield area would be located on land designated as Agriculture in the City and County general plans.

Based on Important Farmland maps compiled by the California Department of Conservation (DOC), Farmland Mapping and Monitoring Program (FMMP), **Figure 3.2-1** shows the lands designated under the FMMP for agricultural uses in the project area, including Prime, Unique, or Farmland of Statewide Importance. A small portion of the IPR East wellfield area includes Prime Farmland. The proposed WRF site is located on land classified as Farmland of Local Potential and Grazing Land. Portions of the southern end of the proposed raw wastewater and brine/wet weather discharge pipeline and proposed recycled water pipeline for IPR East alignment also traverse through Farmland of Local Potential and Grazing Land. The rest of the proposed conveyance pipelines, the proposed lift station Option 1A and 5A sites, and the proposed injection wells sites (IPR East and IPR West) are located in Urban and Built-Up land. Further description of these FMMP categories are described below in Section 3.2.2.

**Figure 3.2-2** shows the Williamson Act contracted land present in the project area. There are Williamson Act contracted lands located east and north of the proposed WRF site, however none coincide with the location of proposed project components. Additionally, none of the project facilities would be located on land designated as Timber Production Zones or Forest land.

## 3.2.2 Regulatory Framework

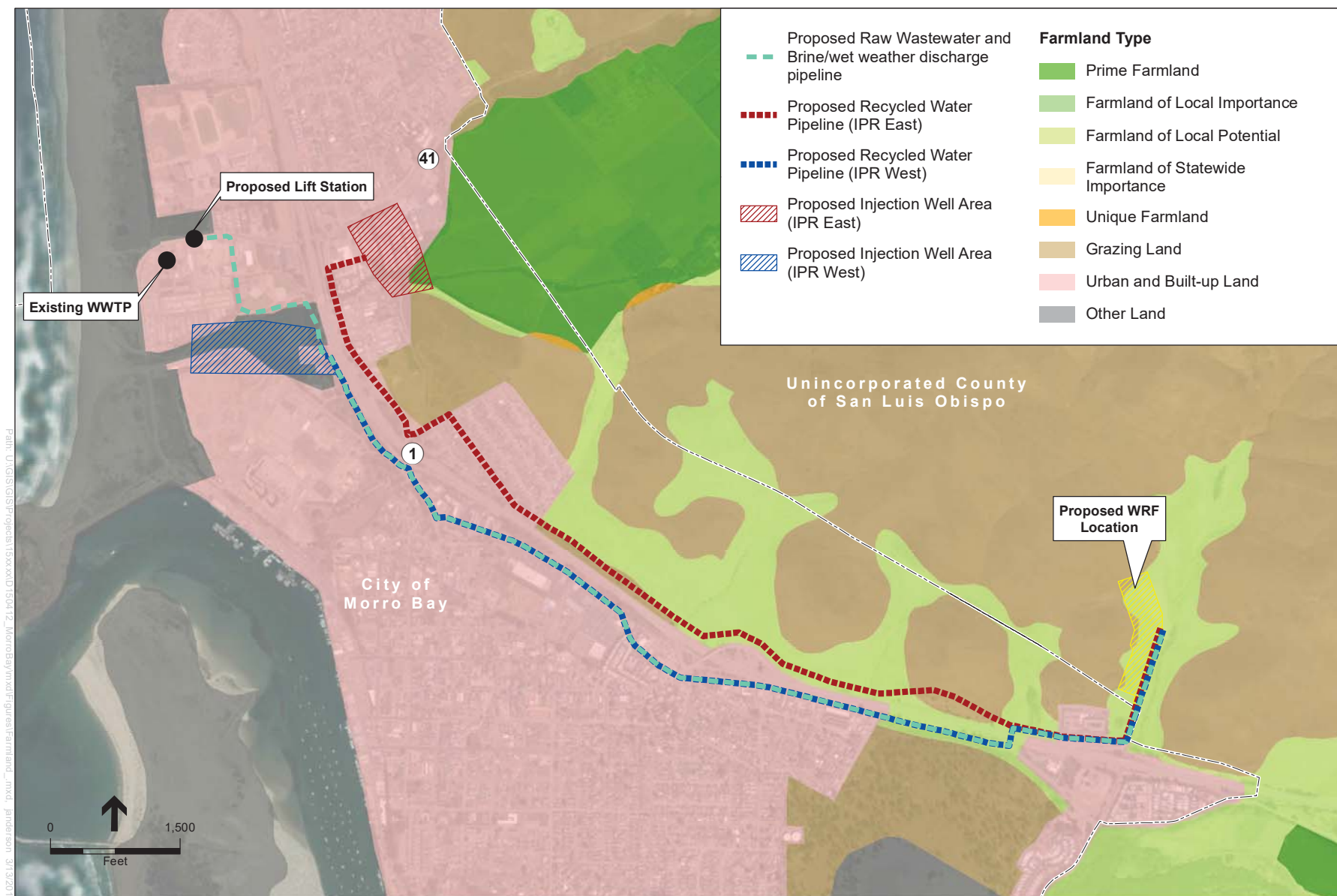
### Federal

#### ***Farmland Protection Policy Act***

The Farmland Protection Policy Act (FPPA) of 1981 is intended to minimize the unnecessary conversion of farmland to nonagricultural uses. The FPPA established the Farmland Protection Program (FPP) and a Land Evaluation and Site Assessment (LESA) system. The NRCS administers the FPP, which is a voluntary program that provides funds to help purchase development rights to keep productive farmland in agricultural use.



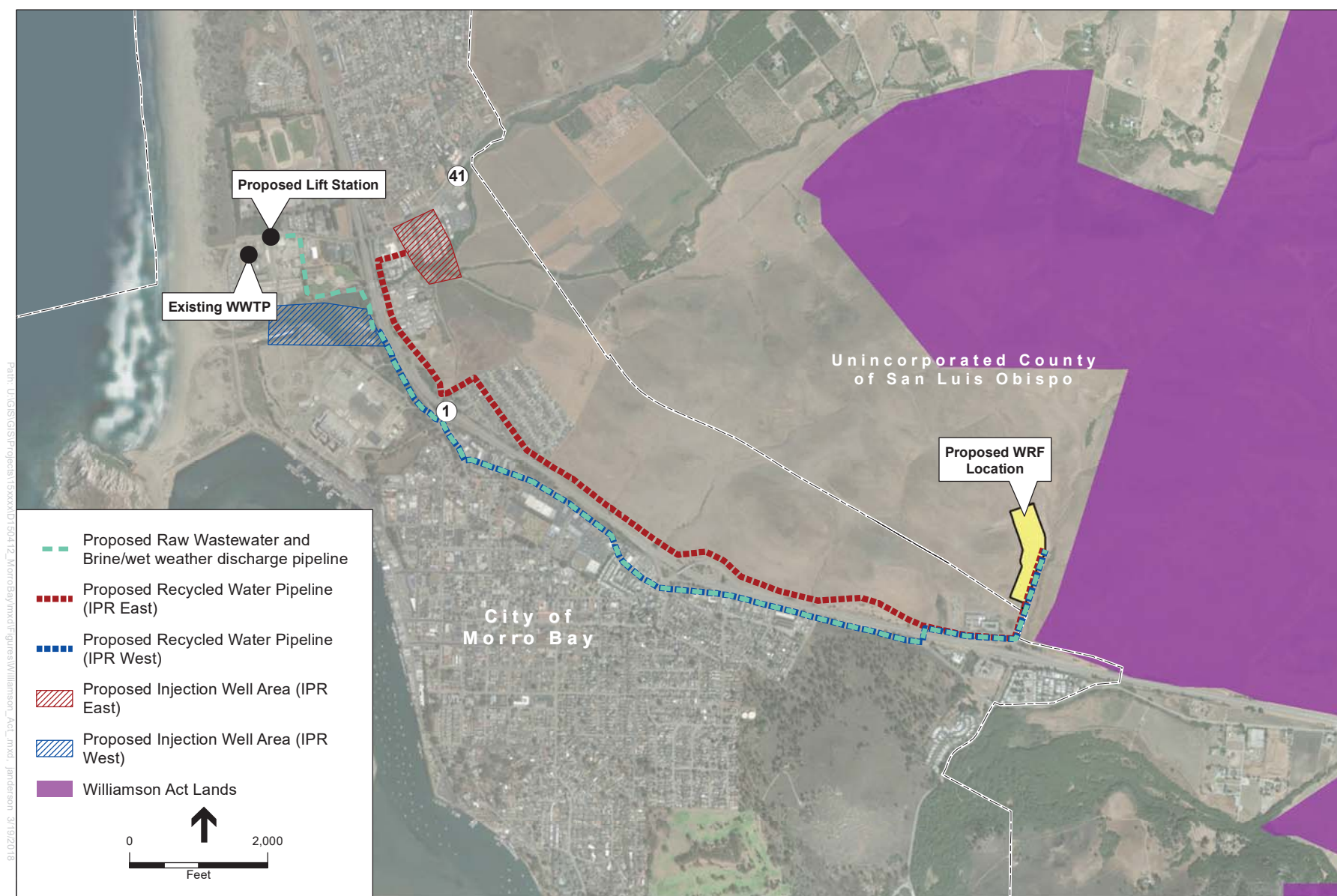




SOURCE: ESRI; FMMP 2014

Morro Bay Water Reclamation Facility Project. 150412  
**Figure 3.2-1**  
 FMMP designated Farmland in the Project Area





SOURCE: ESRI; California Department of Conservation, 2009

Morro Bay Water Reclamation Facility Project. 150412

**Figure 3.2-2**

Williamson Act Land in Project Area



The program provides matching funds to state, local, and tribal government entities and nongovernmental organizations with existing farmland protection programs to purchase conservation easements. Participating landowners agree not to convert the land to nonagricultural uses and to retain all property rights for future agriculture. A minimum 30-year term is required for conservation easements, and priority is given to applications with perpetual easements. The Natural Resources Conservation Service provides up to 50 percent of the fair market value of the easements. The requirements of this Act would apply if the proposed project would result in the conversion of farmland. A LESA model was prepared for the proposed project. The results are explained below and found in **Appendix B** of this Draft EIR.

## State

### ***Farmland Mapping and Monitoring Program***

The DOC FMMP identifies lands that have agricultural value and maintains a statewide map of agricultural lands in its Important Farmlands Inventory (IFI). IFI classifies land based upon its productive capabilities, which is based on many characteristics, including fertility, slope, texture, drainage, depth, salt content and availability of water for irrigation. The state employs a variety of classification systems to determine the suitability of soils for agricultural use. The two most widely used systems are the Capability Classification System and the Storie Index.

The Capability Classification System classifies soils from Class I to Class VIII based on their ability to support agriculture with Class I being the highest quality soil. The Storie Index considers other factors such as slope and texture to arrive at a rating.

The DOC maintains the FMMP and monitors the conversion of farmland to and from agricultural use through its Important Farmland Inventory System. Farmlands are divided into the following categories based on their suitability for agriculture:

- **Prime Farmland.** This land has the best combination of physical and chemical characteristics for crop production. When treated and managed, its soil quality, growing season, and irrigation supply produce sustained high crop yields.
- **Unique Farmland.** This land does not meet the criteria for Prime Farmland or Farmland of Statewide Importance, but has produced specific crops with high economic value.
- **Farmland of Statewide Importance.** This is land that does not qualify as Prime Farmland but has a good combination of irrigation and physical and chemical characteristics for crop production.
- **Farmland of Local Importance.** This land is either currently producing crops or has the capability to produce crops, but does not meet the criteria of the categories above.
- **Grazing Land.** This is land with vegetation that is suitable for grazing livestock.
- **Other Lands.** This land does not meet the criteria of any of the other categories.

According to the DOC, Prime Farmland is land that has the best combination of physical and chemical features able to sustain long-term agricultural production. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Prime Farmland must have been used for irrigated agricultural production at some time during the four years prior to the

mapping date (DOC, 2017c). Farmland of Statewide Importance is similar to Prime Farmland, but with minor shortcomings such as greater slopes or less ability to store soil moisture (DOC, 2017a). Unique Farmland consists of lesser quality soils used for the production of the state's leading agricultural crops. Farmland of Local Importance is land of importance to the local economy, as defined by each county's local advisory committee and adopted by its Board of Supervisors. For the County, there are two categories: Farmland of Local Importance and Farmland of Local Potential. Farmland of Local Importance includes areas of soils that meet all the characteristics of Prime or Statewide, with the exception of irrigation while Farmland of Local Potential is lands having the potential for farmland which have Prime or Statewide characteristics and are not cultivated (DOC, 2017b).

### **California Public Resources Code**

The California Public Resources Code governs forestry, forests, and forest resources, as well as range and forage lands, within the state. "Forest land" is defined by Public Resources Code subdivision 12220(g) as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." "Timberland" is defined by Public Resources Code section 4526 as "land, other than land owned by the federal government..., which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees."

### **California Government Code - Timberland**

Chapter 6.7 of the Government Code (§§51100-51155) regulates timberlands within the state. "Timberland production zone" is defined in Subdivision 51104(g) as an area that has been zoned pursuant to Government Code section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses. In this context, "compatible uses" include any use that "does not significantly detract from the use of the property for, or inhibit, growing and harvesting timber" (Government Code §51104(h)). Watershed management, grazing, and the erection, construction, alteration, or maintenance of electric transmission facilities are examples of compatible uses. The general plans of cities and counties may use the term "timberland preserve zone," which Government Code subdivision 51104(g) defines as equivalent to "timberland production zone."

### ***Williamson Act***

The Williamson Act (California Land Conservation Act of 1965, section 51200) (Act) was adopted in order to encourage the preservation of the state's agricultural lands and to discourage its conversion to urban uses. The Act established an agricultural preserve contract procedure through which any county or city within the state taxes landowners of Agricultural Preserve contract land at a lower rate using a scale based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. In return, the owners guarantee that these properties will remain under agricultural production for a 10-year period. That contract is renewed automatically, unless a Notice of Non-Renewal is filed by the owner. In that manner, each agricultural preserve contract (at any given date) is always operable at least 9 years into the future.

Williamson Act contracts can be cancelled earlier than the 10-year period upon approval of the appropriate local jurisdiction, which must make findings cancellation is in the public interest or is consistent with the purposes of the California Land Conservation Act. Generally, the landowner must also pay a fee equal to 12½ percent of the property value.

## **Regional**

### ***County of San Luis Obispo General Plan: Agriculture Element***

**Goal AG 2:** Conserve agricultural resources

**Goal AG 3:** Protect agricultural lands

**Policy AGP24:** Conversion of Agricultural Land

Discourage the conversion of agricultural lands to non-agricultural uses through the following action:

4. Avoid locating new public facilities outside urban and village reserve lines unless they serve a rural function or there is no feasible alternative location within the urban and village reserve lines.

### ***County of San Luis Obispo Local Coastal Program, Coastal Plan Policies***

Generally, decisions and policies regarding agricultural lands outside the City limits but within coastal zone would be addressed by the County of San Luis Obispo's Local Coastal Program. In addition, a Coastal Development Permit would be obtained for the implementation of the proposed WRF.

**Policy 1:** Maintaining Agricultural Lands

**Permitted Uses on Non-Prime Agricultural Lands.** Principal permitted and allowable uses on non-prime agricultural lands are designated on Coastal Table O. These uses may be permitted where it can be demonstrated that no alternative building site exists except on non-agricultural soils, that the least amount on non-prime land possible is converted and that the use will not conflict with surrounding agricultural lands and uses.

### ***County of San Luis Obispo Land Use Element of the General Plan***

The Land Use Element of the San Luis Obispo County General Plan *Framework for Planning Coastal Zone* defines public utility facilities as:

Fixed-base structures and facilities serving as junction points for transferring utility services from one transmission voltage to another or to local distribution and service voltages. These uses include any of the following facilities: electrical substations and switching stations; telephone switching facilities; natural gas regulating and distribution facilities; public water system wells, treatment plants and storage; and community wastewater treatment plants, settling ponds and disposal fields. Nothing in this definition is intended to require a land use permit where Government Code Section 53091 would exempt local agencies from permit requirements, except in the coastal zone where permitting requirements are as set forth in the Local Coastal Plan. These uses do not include those uses that are not directly and immediately used for the production, generation, storage, or transmission of water, wastewater or electrical power such as office or customer service centers (classified in



"Offices"), or equipment and material storage yards (classified in Storage Yards and Sales Lots"). [Amended 1995, Ord. 2740]

Coastal Table O lists uses of land that may be established in the land use categories. For land designated as Agriculture – Non-prime soils, the table lists Public Utility Facilities as *S-13* which means it is allowed only when special standards or permit procedures are followed.

### ***County of San Luis Obispo Coastal Zone Land Use Ordinance***

**23.08.288 Public Utility Facilities:** The requirements of this section apply to Public Utility Facilities where designated as S-13 uses by Coastal Table 'O', Part I of the Land Use Element. Public Utility Facilities for other than electric and communications transmission and natural gas regulation and distribution, require Development Plan approval pursuant to Section 23.02.034 (Development Plan).

**a. Permit requirements.** In addition to the emergency repair and the general permit requirements of section 23.08.286a and b., Development Plan approval is required for any new facility or modification of any existing facility in the Agriculture, Rural Lands, Residential, Office and Professional, and Commercial land use categories. Development Plan approval is required for any new facility or modification to any existing facility which would increase the structure heights above those specified in section 23.04.124 or modify any operational standards causing an increase in any of the categories specified in chapter 23.06 of this title.

**c. Development Standards.** The following standards apply in addition to any that may be established as conditions of approval:

- (1) **Environmental quality assurance.** An environmental quality assurance program covering all aspects of construction and operation shall be submitted prior to construction of any project component. This program will include a schedule and plan for monitoring and demonstrating compliance with all conditions required by the Development Plan. Specific requirements of this environmental quality assurance program will be determined during the environmental review process and Development Plan review and approval process.
- (2) **Clearing and revegetation.** The land area exposed and the vegetation removed during construction shall be the minimum necessary to install and operate the facility. Topsoil will be stripped and stored separately. Disturbed areas no longer required for operation will be regraded, covered with topsoil and replanted during the next appropriate season.
- (3) **Fencing and screening.** Public Utility Facilities shall be screened on all sides. An effective visual barrier will be established through the use of a solid wall, fencing and/or landscaping. The adequacy of the proposed screening will be determined during the land use permitting process.

**23.08.286 Pipelines and Transmission Lines:** This section provides standards for pipeline and communications transmission lines and related facilities, where designated as S-13 uses by Coastal Table O, Part I of the Land Use Element. This section applies to emergency repairs, replacement, renewal and upgrading of existing facilities, as well as to new facilities.

**a. Emergency repairs.** Notwithstanding the other provisions of this section, emergency repairs necessary for public or environmental health and safety reasons do not require prior approval; however, nothing in this title exempts reporting as required by various state and federal regulations. Following the emergency, land use and building permit applications which would otherwise have been required for the type of work performed

shall be submitted within 30 days, documenting what occurred and demonstrating that the required clearing, construction, cleanup, and restoration was accomplished in accordance with this Title, Title 19, and Title 13 of the County Code, as appropriate.

**b. General permit requirements.**

- (1) Determination of permit level.** Except as otherwise provided by this section for specific facilities, and except where country land use permit authority is preempted by state law, the land use permit required to authorize a proposed land use of this type is determined by the magnitude of site disturbance. A minor use permit is required for a site disturbance area of 40,000 or more square feet.
- (3) Application contents.** In addition to the application materials required by chapter 23.02, the application for a proposed new or replacement pipeline, electrical or communications transmission line is to be accompanied by documentation that the applicant:
  - (i) Is the owner of record of the land involved; or
  - (ii) Has easements or lease arrangements from the owners of record sufficient to carry-out the actions proposed; or
  - (iii) Has notified all landowners of record (e.g. a copy of a letter informing landowners of the proposed activities and proposed right-of-way for this project and the mailing list used) potentially involved within the corridor being proposed.

**23.04.050 Non-Agricultural Uses in the Agriculture Land Use Category.** This section establishes permit requirements and standards for non-agricultural uses in the Agriculture category consistent with Local Coastal Plan Agricultural policies 3, 4, and 5.

**b. Supplemental non-agricultural uses.**

- (1) Supplemental non-agricultural uses defined.** Uses allowed by Coastal Table "O" in the Agriculture category that are not directly related to the principal agricultural use on the site. (Example: where crop production or grazing are the principal agricultural use of a parcel, petroleum extraction, mining or rural sports and group facilities may be allowed as supplemental non-agricultural uses consistent with this section.)
- (2) Priority supplemental non-agricultural uses.** When continued agricultural use is not feasible without some supplemental use, priority shall be given to commercial recreation and low intensity visitor-serving uses allowed by Coastal Table "O", Part I of the Land Use Element.
- (3) Permit requirement.** Minor use permit approval, unless Development Plan approval is otherwise required by another provision of this title or planning area standard of the Land Use Element.
- (4) Required findings.** Supplemental non-agricultural uses may be established only if the following findings are made by the applicable approval body:
  - (ii) The least amount of prime soils possible will be converted; and
  - (iii) The proposed use will not conflict with surrounding agricultural lands and uses.

- (7) **Guarantee of continuing agricultural or open space use.** As a condition of approval of a supplemental non-agricultural use, the applicant shall insure that the remainder of the parcel(s) be retained in agriculture, and if appropriate, open space use by the following methods:
- (i) **Agricultural Easement.** The applicant shall grant an easement to the county over all agricultural land shown on the site plan. Such easement shall remain in effect for the life of the non-agricultural use and shall limit the use of the land covered by the easement to agriculture, non-residential use customarily accessory to agriculture, farm labor housing, and a single-family dwelling accessory to the agricultural use.
  - (ii) **Open space easement.** The applicant shall grant an open space easement to the county over all lands shown on the site plan as land unsuitable for agriculture, not a part of the approved development or determined to be undevelopable. The open space easement shall remain in effect for the life of the non-agricultural use and shall limit the use of the land to non-structural, open space uses.
  - (iii) **Procedures for agricultural or open space easements.** Any easement required by this section shall be reviewed as set forth in Section 23.04.420g (4) of this title.

## Local

### *City of Morro Bay General Plan*

#### **Land Use, Open Space, and Conservation Element: Agriculture**

##### **8. Agriculture and Urban Reserve and Urban Service Boundaries**

**Objective:** To preserve vital agricultural uses in and adjacent to the City. Until every method for preserving agricultural lands has been attempted and the environmental values of agriculture have been determined these areas shall not be converted to urban areas. Of specific concern is the agricultural use of Morro and Chorro Valleys.

**Policy LU-41:** The soils in the Morro, Chorro, and Toro Valleys represent the most valuable soils in the Morro Bay area, and thus their use for agriculture should be encouraged.

**Policy LU-42:** The City and the City/County through cooperative review and permitting arrangements, shall maintain the maximum amount of “prime” agricultural land (as defined in Section 30113 of the Coastal Act and as identified through consultation with the U.S.D.A. Soils Conservation Service) in agricultural production to assure the protection of the areas’ agricultural economy. The City shall join with the County in a cooperative planning arrangement to assure that conflicts shall be minimized between the City and County agricultural and urban land uses.

**Program LU-42.3:** The City and County should permit the conversion of agricultural lands surrounded by urban uses only where the conversion of the land would be consistent with PRC Section 30250.

**Program LU-42.5:** The City and County shall assure that public service and facility expansions and nonagricultural development do not impair agricultural viability, either through increased assessment costs or degrade air and water quality.

**Policy LU-43:** The City shall implement the standards, or implement the standards in cooperation with the County in a City-County review process for proper land management.

**Program LU-43.6:** All non-prime land within the City of Morro Bay suitable for agricultural use shall not be converted to non-agricultural uses unless (1) continued or renewed agricultural uses is not feasible, or (2) such conversion would preserve prime agricultural land or concentrate development consistent with Public Resources Code Section 30250. Any such permitted conversion shall be compatible with continued agricultural use on surrounding lands.

**Policy LU-44:** All non-agricultural development permitted on non-prime agricultural lands shall preserve the maximum amount of lands in agricultural use. In approving any land division or non-agricultural use, all of the following findings shall be made by the City:

1. Continued or renewed agricultural use is not feasible without the proposed division and/or supplemental non-agricultural use.
2. The proposed division and/or use will allow for and support the continued use of the site as a productive agricultural unit, would contribute to long-term agricultural viability and would preserve all agricultural lands;
3. The proposed division and/or use will result in no adverse effect upon the continuance or establishment of agricultural uses on the undeveloped portion of the property or on surrounding or nearby properties.
4. Buffer areas are provided between agricultural and non-agricultural uses;
5. Adequate water supply, sewage disposal and other public services are available to service the proposed development after provision has been made for the continuance of existing agricultural operations and future operations which may require water needs exceeding the present needs.
6. The proposed division and/or use will not adversely impact environmentally sensitive areas, scenic resources or the rural character of the site, where applicable. Where new non-agricultural developments are permitted on lands in or previously in agricultural production, sensitive habitats shall be protected, restored, and enhanced as a condition of development approval.

### ***City of Morro Bay Local Coastal Program***

#### **Chapter 8. Coastal Agriculture**

**Policy 6.03** All other lands suitable for agriculture use shall not be converted to non-agricultural uses unless (1) continued or renewed agricultural uses is not feasible, or (2) such conversion would preserve prime agricultural land or concentrate development consistent with Public Resource Code 30250. Any such permitted conversion shall be compatible with continued agricultural use on surrounding lands.

**Policy 6.04.** All non-agricultural development permitted on non-prime agricultural lands shall preserve the maximum amount of lands in agricultural use. In approving any land divisions or non-agricultural uses, all of the following findings shall be made by the City:

- 1) Continued or renewed agricultural use is not feasible without the proposed division and/or supplemental non-agricultural use;

- 2) The proposed division and/or use will allow for and support the continued use of the site as productive agricultural unit, would contribute to long term agricultural viability and would preserve all agricultural lands;
- 3) The proposed division and/or use will result in no adverse effect upon the continuance or establishment of agricultural uses on the undeveloped portion of the property or on surrounding or nearby properties.
- 4) The proposed division and/or use will not adversely impact environmentally sensitive areas, scenic resources, or the rural character of the site, where applicable. Where new non-agricultural developments are permitted on lands in or previously in agricultural production, sensitive habitats shall be protected, restored, and enhanced as a condition of development approval.

### 3.2.3 Impacts and Mitigation Measures

#### Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to agriculture and forestry resources in the project area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to agriculture and forestry resources if it would:

1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract;
3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g));
4. Result in the loss of forest land or conversion of forest land to non-forest use;
5. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

#### Methodology

This analysis uses land use and agricultural designation maps produced by planning and resource agencies, including the DOC and local governments, to determine whether the proposed project would directly or indirectly affect land used for agricultural or forestry uses, and analyzes the significance of such impacts based on the potential for the proposed project to convert such lands to non-agricultural or non-forestry uses, or to cause nuisances that would indirectly affect the ability to continue to use them for agricultural or forestry use.

## Impact Analysis

### ***Prime Farmland Conversion***

**Impact 3.2-1: The proposed IPR East groundwater wells could potentially convert Prime Farmland to non-agricultural use. However, based on the results of the LESA model, the conversion of farmland to non-agricultural use would be considered less than significant. This impact would be Class III, Less than Significant.**

### **WRF**

Based on the FMMP designations, the proposed WRF is located on land designated as Farmland of Local Potential and Grazing land (refer to Figure 3.2-1). Furthermore, the WRF site is not irrigated and, as such, is not considered Prime Farmland based on NRCS soils classification. Implementation of the proposed WRF would not convert land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. There would be no impact.

### **Lift Station, Injection and Monitoring Wells, Decommissioning of Current WWTP**

The proposed lift station sites, the proposed injection well sites for IPR West, the existing WWTP, and the majority of the proposed conveyance pipelines would be located in Urban and Built-up Land, according to the FMMP designations. None of those project facilities would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. As shown in Figure 3.2-1, approximately 1.26 acres of the proposed injection well area for IPR East would overlap Prime Farmland and approximately 0.44 acres would overlap with Farmland of Local Potential (1.7 acres total). Because the exact location of the proposed injection wells is still undetermined, there is potential for the proposed project to convert Prime Farmland to non-agricultural use. Depending on where the wells are placed, location of the proposed groundwater injection or monitoring wells for IPR East could construct and operate water infrastructure in Prime Farmland. Three to five wells would be constructed, each with a footprint of approximately 200 square feet, so the conservative total area of conversion of Prime and Farmland of Local Potential would be up to 1,000 square feet, or about 0.02 acres.

A LESA model was completed for the potential conversion of Prime Farmland associated with the installation of the proposed groundwater injection or monitoring wells within the proposed groundwater injection area for IPR East, shown in Figure 3.2-1. The analysis assumed the proposed injection and monitoring wells would impact all 1.26 acres of Prime Farmland, which would be the greatest potential impact. The LESA assumed the agricultural viability of the land and soils to determine the potential impact of constructing the wells. Using the LESA Model, a final score of 43.63 (out of 100) was calculated (see **Appendix B**). According to the Model Scoring Threshold of CEQA, the construction of the proposed injection or monitoring wells that encompass the 1.26 acres of Prime Farmland would be considered to have a not significant impact on the conversion of agricultural lands (See “Instruction Manual” in Appendix B for instructions on making significance determinations). Therefore, the proposed project’s impact related to converting Prime Farmland to non-agricultural use would be considered less than significant.

### **Conveyance Pipelines**

Although the majority of the proposed pipelines would be located in land designated as Urban and Built-up land, the southeastern portion of the proposed recycled water IPR East pipeline would traverse over Farmland of Local Potential and Grazing Land while the southern portions of the proposed raw wastewater and brine/wet weather discharge pipeline and the proposed recycled water IPR West pipeline traverse Farmland of Local Potential. Construction of those pipelines would temporarily impact the farmland. Once constructed, the pipelines would be located underground and would not permanently convert land to non-agricultural use. However, it should be noted pipelines would require occasional maintenance and monitoring; the City would still need periodic access to the pipeline corridor. Nevertheless, implementation of these pipelines would not convert land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use.

### **Mitigation Measures**

None required.

### **Significance Determination**

Less than Significant

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### ***Williamson Act Contract***

**Impact 3.2-2: The proposed project would not conflict with a Williamson Act contract. Project components located on lands zoned for agricultural use would be consistent with applicable Land Use and zoning requirements through implementation of City and County policies and permit procedures. This impact would be Class III, Less than Significant.**

The proposed project would not be located within any land under a Williamson Act contract. As a result, there would be no impacts related to conflicts with the use of Williamson Act contracted lands.

### **WRF**

The proposed WRF would be located on lands designated as Agriculture under the County's General Plan. According to the County's General Plan and Land Use Ordinance, public utility facilities (such as a treatment plant) are allowed within lands zoned for Agricultural – Non-Prime soils, subject to special standards or permit procedures such as approval of a Development Plan (County Coastal Zone Land Use Ordinance 23.08.288). A Development Plan is similar to a Minor Use Permit in that its application includes a preliminary floor plan, architectural elevations, adjacent land uses, landscape plan, grading plan, construction schedule, cross-sections, and public access locations and includes a public hearing. A Development Plan requires the development or project is consistent with the Coastal Zone Land Use Ordinance, which could result in minimizing the proposed project's disturbance at the site and including fencing or visual screening.

As a result, acquisition of appropriate permits would allow the WRF to be constructed and operated on agricultural land. Therefore, impacts related to conflicts with existing zoning for agricultural use would be considered less than significant.

### **Lift Station, Injection and Monitoring Wells**

The proposed lift station Option 1A and Option 5A would be located in land designated as General (Light) Industrial under the Morro Bay General Plan. There are no lands zoned for Agriculture in the proposed IPR West wellfield area. A portion of the proposed IPR East wellfield area is zoned for Agriculture. According to the Morro Bay Municipal Code, public utility facilities include but are not limited to water wells, substations, switching stations, pipelines, transmission lines, and similar utility uses. Public Utility Facilities are considered a special use and are allowed in any of the affected zoning designations, including Agriculture, subject to approval of a conditional use permit processed in accordance with the provisions of Chapter 17.60 and Section 17.30.030 (P)(1)(a). Therefore, the proposed wells in the IPR East wellfield area would not conflict with zoning designations. Therefore, once a condition use permit is obtained, there would be no conflict with existing zoning and impacts would be considered less than significant.

### **Conveyance Pipelines**

Each of the proposed raw wastewater and brine/wet weather discharge pipeline, proposed recycled water pipeline (IPR West), and proposed recycled water pipeline (IPR East) would traverse land zoned as Agriculture under the County jurisdiction as they leave the proposed WRF. Portions of the proposed recycled water pipeline for IPR East also would traverse land zoned for Agriculture under the City jurisdiction as it travels northeast towards the proposed injection well site. All of this piping would be constructed within public ROW.

The portion of the pipeline that would be constructed within County jurisdiction would be allowed within Agricultural land subject to Development Plan approval (County Coastal Zone Land Use Ordinance 23.08.288). A Development Plan is similar to a Minor Use Permit in that its application includes a preliminary floor plan, architectural elevations, adjacent land uses, landscape plan, grading plan, construction schedule, cross-sections, and public access locations and includes a public hearing. A Development Plan requires the development or project is consistent with the Coastal Zone Land Use Ordinance

The portion of the pipeline that would be constructed across lands zoned as Agriculture in the City would be considered a new public utility facility. For the City, Public Utility Facilities include, but are not limited to, water wells, substations, switching stations, pipelines, transmission lines and similar utility uses. Public Utility Facilities are considered a special use and are allowed in any of the affected zoning designations, including Agriculture, subject to approval of a conditional use permit processed in accordance with the provisions of Chapter 17.60 and Section 17.30.030 (P)(1)(a) which provides the following additional finding applicable to new pipelines:

- Routes of All New Lines. The routes of all new lines shall, to the maximum extent feasible, avoid important coastal resources such as recreation and environmentally sensitive areas. Where such resources cannot be avoided, and will be adversely affected, the planning commission/city council shall require appropriate mitigation measures. These measures may



include, but are not limited to precluding construction during peak visitor seasons in recreational areas, precluding construction during nesting or breeding seasons in sensitive habitat areas, the vegetation of graded areas, the undergrounding of utility facilities, the preparation of an oil spill contingency plan for new pipelines, restrictions of the use of herbicides, and various erosion control measures (as appropriate)

Therefore, the proposed pipelines would not conflict with City zoning designations. Impacts related to conflicts with existing zoning for agricultural use would be considered less than significant.

#### **Decommissioning of Current WWTP**

The existing WWTP is located within General Industrial land designated under the City's General Plan. Thus, decommissioning of the existing WWTP would not conflict with any land zoned for agricultural use. No impacts would occur.

#### **Mitigation Measures**

None required.

#### **Significance Determination**

Less than Significant

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#### ***Forest Land and Timberland***

**Impact 3.2-3: The project is not located within forest land or timberland. Thus, the project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland or timberland zoned Timberland Production. There would be no impact.**

There are no lands zoned as forest land, timberland, or timberland production within the project site boundaries or in the project area. Therefore, no impacts would occur.

#### **Mitigation Measures**

None required.

#### **Significance Determination**

No Impact

### ***Conversion of Forest Land***

**Impact 3.2-4: The project is not located within forest land so it would not result in the loss of forest land or conversion of forest land to non-forest use. There would be no impact.**

There is no forest land within the project site boundaries or in the project area and there would be no conversion of forest land to non-forest use. Thus, no impacts would occur.

### **Mitigation Measures**

None required.

### **Significance Determination**

No Impact

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### ***Conversion to Non-Agricultural Use***

**Impact 3.2-5: The proposed WRF would be located on a parcel that is currently rangeland and used for grazing. The majority of the parcel would continue to be used for grazing after implementation of the proposed project. The proposed WRF would implement City and County policies related to public services with agricultural lands, and would not substantially reduce the area available for grazing and rangeland, so impacts to this area are less than significant. In addition, agricultural impacts related to the location of IPR wells are considered Class III, Less than Significant.**

Current agricultural production in the proposed project area is shown in the aerial photograph of Figure 2-2. The proposed WRF site is rangeland that is currently used for cattle grazing (Yeh & Associates, 2017). For almost a century, land use at this site has not changed (Yeh & Associates, 2017). The proposed WRF would occupy 10 to 15 acres of a 396-acre parcel of rangeland, a land use that is considered agricultural. That is the primary project component that has the potential to permanently convert land that is currently being used for grazing to a non-agricultural use. Per the City's General Plan policies, the proposed project would be in compliance with Policy LU-44, which states that "All non-agricultural development permitted on non-prime agricultural lands shall preserve the maximum amount of lands in agricultural use. The proposed use will result in no adverse effect upon the continuance or establishment of agricultural uses on the undeveloped portion of the property." Implementation of the proposed WRF would convert up to approximately 4% of the 396-acre parcel to non-agricultural use. The remainder of the parcel would still be available for grazing or to be placed into an agricultural or open space easement in compliance with County Land Use Ordinance policy 23.04.050. Also, the proposed WRF is being designed to minimize its footprint as much as possible to minimize such effects to agriculture, and would maintain the remainder of the rangeland area in one contiguous and useable parcel. The impact of building the proposed WRF relative to the continued use of agricultural lands is less than significant.

The other project component that has a similar potential to convert agricultural land to non-agricultural use is the proposed IPR East groundwater wells. A small portion of the IPR East wellfield area overlaps with active agricultural lands at the Narrows (see Figure 2-2). Those lands are also FMMP-designated Prime Farmland. However, the results from the LESA model indicate that the conversion of 1.26 acres of Prime Farmland within the proposed IPR East groundwater well injection area to non-agricultural use would not be considered a significant impact to agricultural resources. Therefore, the potential to convert agricultural land to non-agricultural use would be considered less than significant.

### **Mitigation Measures**

None required.

### **Significance Determination**

Less than Significant

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## 3.3 Air Quality

This section describes and evaluates issues related to air quality in the context of the proposed project. The section provides (i) an introduction to criteria air pollutants and toxic air contaminants (TACs), (ii) the physical and regulatory setting, including pertinent regulations at the federal, state, and local levels, (iii) the baseline for determining environmental impacts, (iv) the criteria used for determining the significance of the project's environmental impacts and (v) potential impacts and appropriate mitigation measures associated with the construction and operation of the proposed project.

### 3.3.1 Environmental Setting

#### Background

##### ***Criteria Air Pollutants***

The U.S. Environmental Protection Agency (USEPA) has identified criteria air pollutants that are a threat to public health and welfare. These pollutants are called “criteria” air pollutants because standards have been established for each of them to meet specific public health and welfare criteria (see Section 3.3.2, Regulatory Setting, below). The following criteria pollutants are a concern in the project area.

##### **Ozone**

Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can also cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>). ROG and NO<sub>x</sub> are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately 3 hours.

Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROG and NO<sub>x</sub> under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds like ozone.

##### **Nitrogen Dioxide**

Nitrogen dioxide (NO<sub>2</sub>) is an air quality pollutant of concern because it acts as a respiratory irritant. NO<sub>2</sub> is a major component of the group of gaseous nitrogen compounds commonly referred to as NO<sub>x</sub>. A precursor to ozone formation, NO<sub>x</sub> is produced by fuel combustion in motor vehicles, industrial stationary sources (such as refineries, power plants, and chemical manufacturing facilities), ships, aircraft, and rail transit. Typically, NO<sub>x</sub> emitted from fuel combustion is in the form of nitric oxide (NO) and NO<sub>2</sub>, with the vast majority (95 percent) of the NO<sub>x</sub> emissions being comprised of NO. NO is converted to NO<sub>2</sub> in the atmosphere when it reacts with ozone or undergoes photochemical reactions.

### **Carbon Monoxide**

Carbon monoxide (CO) is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

### **Particulate Matter**

Particulate matter less than 10 microns in diameter (PM<sub>10</sub>) and particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>) represent fractions of particulate matter that can be inhaled into air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. According to a study prepared by the California Air Resources Board (CARB), exposure to ambient PM<sub>2.5</sub>, particularly diesel particulate matter (DPM), can be associated with approximately 14,000 to 24,000 premature annual deaths statewide (CARB, 2009). Particulate matter also can damage materials and reduce visibility.

### **Toxic Air Contaminants**

TACs are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer-causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes approximately 200 compounds, including DPM emissions from diesel-fueled engines which was identified as a TAC by CARB in 1998 (CARB, 2011).

## **Regional Setting**

### ***Regional Topography, Meteorology, and Climate***

The potential for high pollutant concentrations developing at a given location depends upon the quantity of pollutants emitted into the atmosphere in the surrounding area or upwind, and the ability of the atmosphere to disperse the contaminated air. The atmospheric pollution potential, as the term is used here, is independent of the location of emission sources and is instead a function of factors such as topography and meteorology.

The proposed WRF site is a 15-acre area located within an unincorporated portion of the County, which is part of the South Central Coast Air Basin. The remaining components of the proposed project are located within the City. The climate of the County can be generally characterized as Mediterranean, with warm, dry summers and cooler, relatively damp winters. Along the coast, such as in the vicinity of Morro Bay, mild temperatures prevail throughout the year due to the moderating influence of the Pacific Ocean. That effect is diminished inland in proportion to distance from the ocean by intervening terrain features, such as the coastal mountain ranges. As a result, inland areas are characterized by a considerably wider range of temperature conditions. Maximum summertime temperatures average about 70 degrees Fahrenheit near the coast, while inland valleys are often in the high 90s. Average minimum, winter temperatures range from the low 30s along the coast to the low 20s inland.

Regional meteorology is largely dominated by a persistent high-pressure area which commonly resides over the eastern Pacific Ocean. Seasonal variations in the strength and position of this pressure cell cause seasonal changes in the weather patterns of the area. The Pacific high remains generally fixed several hundred miles offshore from May through September. As the onshore breezes pass over the cool water of the ocean, fog and low clouds often form in the marine air layer along the coast. Surface heating in the interior valleys dissipates the marine layer as it moves inland.

From November through April the Pacific High tends to migrate southward, allowing northern storms to move across the county. About 90 percent of the total annual rainfall is received during this period. Winter conditions are usually mild, with intermittent periods of precipitation followed by mostly clear days. Rainfall amounts can vary considerably among different regions in the county.

Airflow around the county plays an important role in the movement and dispersion of pollutants. The speed and direction of local winds are controlled by the location and strength of the Pacific High pressure system and other global patterns, by topographical factors, and by circulation patterns resulting from temperature differences between the land and sea. In spring and summer months, when the Pacific High attains its greatest strength, onshore winds from the northwest generally prevail during the day. At night, as the sea breeze dies, weak drainage winds flow down the coastal mountains and valleys to form a light, easterly land breeze.

In the Fall, onshore surface winds decline and the marine layer grows shallow, allowing an occasional reversal to a weak offshore flow. This, along with the diurnal alternation of land-sea breeze circulation, can sometimes produce a "sloshing" effect. Under these conditions, pollutants may accumulate over the ocean for a period of one or more days and are subsequently carried back onshore with the return of the sea breeze. Strong inversions can form at this time, "trapping" pollutants near the surface (SLOAPCD, 2001).

### ***Existing Air Quality***

Existing air quality in project area can be inferred from ambient air quality measurements conducted at stations close to the area. Nine air monitoring stations are located at different sites around the County to measure the ambient concentrations of criteria pollutants. The monitoring station that could be considered representative of the air quality in the project area is located at 899 Morro Bay Boulevard in the City. **Table 3.3-1** shows a five-year (2012 through 2016) summary of data monitored at this station. The table also compares the data to the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS).

As shown in **Table 3.3-1**, there were no exceedances of state and national ozone standards between 2012 and 2016. The Morro Bay station does not monitor particulate matter concentrations, but data from the 3220 South Higuera Street station located approximately 11 miles southeast of the WRF site shows none of the state and national PM<sub>10</sub> or PM<sub>2.5</sub> standards were exceeded over the past five years. There were no measured exceedances of the NO<sub>2</sub> standards also. CO was not monitored at either station over the five-year study period; however, CO concentrations have continued to decline all over the County and are expected to be well below standards in the project area.

### ***Sensitive Receptors***

For the purposes of air quality analysis, sensitive receptors are defined as facilities and land uses where people spend extended amounts of time or that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of sensitive uses include residences, schools, hospitals, and daycare centers. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, and/or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, which results in greater exposure to ambient air quality.

Sensitive receptors located in the vicinity of the various project components are discussed in detail under *Section 3.11, Noise and Vibration*. The nearest sensitive receptors to the WRF site are the occupants of the Bayside Care Center located approximately 360 feet from the WRF site's southernmost boundary and approximately 1,000 feet from the nearest onsite facility within the WRF that could produce odorous emissions. Sensitive receptors near the proposed lift station locations include the Morro Strand RV Park (located approximately 260 feet south-east of Option 1A and 330 feet southeast of Option 5A) and the Morro Bay High School (located approximately 380 feet north of the Option 1A and 270 feet north of Option 5A). Construction of the conveyance pipelines and the recycled water distribution system (both alternatives) would take place as close as 50 feet from sensitive receptors at the Morro Dune RV Park, the single-family residences along Main Street and residences at the Bayside Care Center.





**TABLE 3.3-1  
AIR QUALITY DATA SUMMARY (2012–2016) FOR THE PROJECT AREA**

Pollutant	Standard	Monitoring Data by Year				
		2012	2013	2014	2015	2016
Ozone						
Highest 1-Hour Average (ppm) Highest 1-hour average, ppm <sup>c</sup>	0.09 ppm	0.059	0.067	0.070	0.064	0.060
Days over State Standard Exceedances <sup>d</sup>		0	0	0	0	0
Highest 8-Hour Average (ppm) Highest 8-hour average, ppm <sup>c</sup>	0.070 ppm	0.052	0.056	0.066	0.057	0.057
Days over State Standard		0	0	0	0	0
Days over National Standard Exceedances	0.070 ppm <sup>1</sup>	0	0	0	0	0
Respirable Particulate Matter (PM <sub>10</sub> )						
Highest 24-Hour Average - State (µg/m³)Highest 24-hour average, µg/m³ <sup>c</sup>	50 µg/m³	<b>51.3</b>	<b>75.6</b>	43.2	43.1	43.2
Measured Days over State 24-Hour Standard Exceedances/Samples <sup>e</sup>		--	3	0	0	0
Highest 24-Hour – Average - National (µg/m³) Highest 24-hour average, µg/m³ <sup>c</sup>	150 µg/m³	--	<b>70.5</b>	42.2	42.5	42.6
Measured Days over National 24-Hour Standard Exceedances/Samples <sup>e</sup>		--	--	0	0	0
State Annual Average (µg/m³) Annual average, µg/m³ <sup>c</sup>	20 µg/m³	--	18.5	16.7	--	--
Fine Particulate Matter (PM <sub>2.5</sub> )						
Highest 24-Hour Average (µg/m³) Highest 24-hour average, µg/m³ <sup>c</sup>	35 µg/m³	15.4	19.5	15.6	16.4	21.0
Measured Days over National Standard Exceedances/Samples <sup>e</sup>		0	0	0	0	0
State Annual Average (µg/m³) Annual average, µg/m³ <sup>c</sup>	12 µg/m³	--	6.9	6.1	--	--
National Annual Average (µg/m³) Annual average, µg/m³ <sup>c</sup>	12.0 µg/m³	6.2	6.8	6.1	--	--
Nitrogen Dioxide (NO <sub>2</sub> )						
Highest Hourly Average (ppm) Highest 24-hour average, µg/m³ <sup>c</sup>		0.048	0.037	0.042	0.043	0.036
Measured Days over State Standard Exceedances/Samples <sup>e</sup>	0.18 ppm	0	0	0	0	0
Measured Days over National Standard Exceedances/Samples <sup>e</sup>	0.1 ppm	0	0	0	0	0

1 Final rule signed October 1, 2015, and effective December 28, 2015 changed the national 8-hour ozone standard from 0.075 to 0.070 ppm.

--- indicates that data are not available. Measurements are from the monitoring station at 899, Morro Bay Blvd. in Morro Bay, except for PM10 and PM2.5 which is from 3220 South Higuera Street Station.

ppm = Parts per million

µg/m<sup>3</sup> = Micrograms per cubic meter

SOURCE: CARB, 2018.



### 3.3.2 Regulatory Framework

Established federal, state, and regional regulations provide the framework for analyzing and controlling air pollutant emissions and thus general air quality. The USEPA is responsible for implementing the programs established under the federal Clean Air Act (CAA), such as establishing and reviewing the federal ambient air quality standards and reviewing State Implementation Plans (SIPs), described further below. However, the USEPA has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented. In California, the California Air Resources Board (CARB) is responsible for establishing and reviewing the state ambient air quality standards, developing and managing the California SIP, securing approval of this plan from the USEPA, and identifying TACs. CARB also regulates mobile emissions sources in California, such as construction equipment, trucks, and automobiles, and oversees the activities of air quality management districts, which are organized at the county or regional level. An air quality management district is primarily responsible for regulating stationary emission sources at facilities within its geographic area and for preparing the air quality plans that are required under the federal CAA and 1988 California CAA. The San Luis Obispo County Air Pollution Control District (SLOAPCD) is the regional agency with regulatory authority over emission sources in the project area.

This section below discusses the regulations that are relevant to the air quality of the project area.

#### **Federal and State Regulations**

Regulation of criteria air pollutants is achieved through both national and state ambient air quality standards and emissions limits for individual sources. Regulations implementing the federal CAA and its subsequent amendments established national ambient air quality standards for six criteria pollutants: ozone, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and lead. California has adopted more stringent state ambient air quality standards for most of the criteria air pollutants to combat the large amounts of air pollutants generated by the activities of 39 million people, the topography of the state that tends to trap these pollutants and a warm, sunny climate that helps ozone and smog formation. In addition, California has established state ambient air quality standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The state and federal standards are shown in **Table 3.3-2**.

The ambient air quality standards are intended to protect public health and welfare, and they incorporate a margin of safety. They are designed to protect those segments of the public most susceptible to respiratory distress, known as sensitive receptors, including people with asthma, the very young, elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels somewhat above the ambient air quality standards before adverse health effects are observed.

**TABLE 3.3-2  
AMBIENT AIR QUALITY STANDARDS AND SAN LUIS OBISPO COUNTY ATTAINMENT STATUS**

Pollutant	Averaging Time	State Standard	Attainment Status for California Standard	Federal Primary Standard	Attainment Status for Federal Standard
Ozone	8 Hour	0.070 ppm	Non-Attainment	0.070 ppm	West County Unclassified/East County Non-Attainment
	1 Hour	0.09 ppm		---	
Carbon Monoxide	8 Hour	9.0 ppm	Attainment	9 ppm	Unclassified/Attainment
	1 Hour	20 ppm		35 ppm	
Nitrogen Dioxide	Annual Average	0.030 ppm	Attainment	0.053 ppm	Unclassified/Attainment
	1 Hour	0.18 ppm		0.100 ppm	
Sulfur Dioxide	Annual Average	---	Attainment	0.030 ppm	Unclassified
	24 Hour	0.04 ppm		0.14 ppm	
	1 Hour	0.25 ppm		0.075 ppm	
Respirable Particulate Matter (PM <sub>10</sub> )	Annual Arithmetic Mean	20 µg/m <sup>3</sup>	Non-Attainment	---	Unclassified
	24 Hour	50 µg/m <sup>3</sup>		150 µg/m <sup>3</sup>	
Fine Particulate Matter (PM <sub>2.5</sub> )	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	Attainment	12.0 µg/m <sup>3</sup>	Unclassified/Attainment
	24 Hour	---		35 µg/m <sup>3</sup>	
Sulfates	24 Hour	25 µg/m <sup>3</sup>	Attainment	---	---
Lead	Calendar Quarter	---	Attainment	1.5 µg/m <sup>3</sup>	Unclassified/Attainment
	30-Day Average	1.5 µg/m <sup>3</sup>		---	
	3-Month Rolling Average	---		0.15 µg/m <sup>3</sup>	
Hydrogen Sulfide	1 Hour	0.03 ppm	Attainment	No Federal Standard	---
Vinyl Chloride	24 Hour	0.010 ppm	No information available	---	---
Visibility Reducing Particles	8 Hour	Extinction of 0.23/km; visibility of 10 miles or more	Unclassified	No Federal Standard	---

ppm = parts per million  
µg/m<sup>3</sup> = micrograms per cubic meter

SOURCE: CARB, 2017.

## Attainment Status

Under amendments to the federal CAA, USEPA has classified air basins or portions thereof as either “attainment” or “non-attainment” for each criteria air pollutant, based on whether or not the national standards have been achieved. The California Clean Air Act (CCAA), which is patterned after the federal CAA, also requires areas to be designated as “attainment” or “non-attainment” for the state standards. Thus, areas in California have two sets of attainment/non-attainment designations: one set with respect to the national standards and one set with respect to the state standards. **Table 3.3-2** shows the attainment status of the County with respect to the national and state ambient air quality standards for different criteria pollutants.

### Federal

The USEPA is responsible for implementing programs established by the federal CAA, such as establishing and reviewing the NAAQS for the following air pollutants: CO, ozone, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and lead. The federal CAA also requires the USEPA to designate areas (counties or air basins) as attainment or non-attainment with respect to each criteria pollutant, depending on whether the area meets the NAAQS. If an area is designated as non-attainment, it does not meet the NAAQS and is required to create and maintain a SIP for achieving compliance with the NAAQS. Conformity to the SIP is defined under the 1990 CAA amendments as conformity with the plan’s purpose in eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of these standards. Air quality in the project area, which is western San Luis Obispo County, does not violate the federal standards for ozone.

### State

#### ***California Air Resources Board***

##### **Criteria Air Pollutants**

CARB, a department of the California Environmental Protection Agency, oversees air quality planning and control throughout California. CARB is responsible for coordination and oversight of state and local air pollution control programs in California and for implementation of the CCAA. The CCAA, which was adopted in 1988, requires CARB to establish the California Ambient Air Quality Standards (CAAQS). CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. Applicable CAAQS are shown in Table 3.2-2.

The CCAA requires all local air districts in the state to endeavor to achieve and maintain the CAAQS by the earliest practical date. The CCAA specifies local air districts shall focus particular attention on reducing the emissions from transportation and area-wide emission sources, and provides districts with the authority to regulate indirect sources.

Among CARB’s other responsibilities are overseeing compliance by local air districts with California and federal laws; approving local air quality plans; submitting SIPs to USEPA; monitoring air quality; determining and updating area designations and maps; and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

### Toxic Air Contaminants.

The public's exposure to toxic air contaminants (TACs) is a significant public health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807). Diesel-exhaust particulate matter emissions have been established as TACs. Diesel exhaust is a complex mixture of gases, vapors, and fine particles.

In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no safe level of exposure. This contrasts with the criteria air pollutants, for which acceptable levels of exposure can be determined and for which the ambient standards have been established. Therefore, USEPA and CARB regulate Hazardous Air Pollutants and TACs, respectively, through statutes and regulations that generally require the use of the Maximum Available Control Technology (MACT) or best available control technology (BACT) for toxics and to limit emissions. These statutes and regulations, in conjunction with additional rules set forth by the districts, establish the regulatory framework for TACs.

The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Additionally, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) was enacted in 1987 and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks and to reduce those significant risks to acceptable levels. The Children's Environmental Health Protection Act (California Senate Bill 25) focuses on children's exposure to air pollutants. The act requires the CARB to review its air quality standards from a children's health perspective, evaluate the statewide air monitoring network and develop any additional air toxic control measures needed to protect children's health.

Following the identification of diesel particulate matter (DPM) as a TAC in 1998, the CARB has worked on developing strategies and regulations aimed at reducing the risk from DPM. The overall strategy for achieving these reductions is found in the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (CARB, 2000). A stated goal of the plan is to reduce the statewide cancer risk arising from exposure to DPM by 85 percent by 2020. In April 2005, the CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005). The handbook makes recommendations directed at protecting sensitive land uses from air pollutant emissions while balancing a myriad of other land use issues (e.g., housing, transportation needs, economics, etc.). It notes that the handbook is not regulatory or binding on local agencies and recognizes that application takes a qualitative approach. As reflected in the CARB Handbook, there is currently no adopted standard for the significance of health effects from mobile sources. Therefore, the CARB has provided guidelines for the siting of land uses near heavily traveled roadways. Of pertinence to this study, the CARB guidelines indicate that siting new sensitive land uses within 500 feet of a freeway or urban roads with 100,000 or more vehicles per day should be avoided when possible.

As an ongoing process, the CARB will continue to establish new programs and regulations for the control of diesel particulate and other air-toxics emissions as appropriate. The continued development and implementation of these programs and policies will ensure that the public's exposure to DPM will continue to decline.

## **Regional**

### ***San Luis Obispo Air Pollution Control District (SLOAPCD)***

The SLOAPCD shares responsibility with the CARB for ensuring that all state and federal ambient air quality standards are achieved and maintained within the County. State law assigns to local districts the primary responsibility for control of air pollution from stationary sources, while reserving an oversight role for CARB. This is typically accomplished through the adoption and implementation of rules and regulations. Generally, the districts must meet minimum state and EPA program requirements; in most instances, districts can implement more stringent regulations than EPA or the State require. The District is also responsible for the inspection of stationary sources, monitoring of ambient air quality, development and updating of attainment plans, maintenance of the emission inventory, and develop and implement reasonably available transportation control measures.

The California Clean Air Act requires the development of plans to achieve and maintain the state ozone standard by the earliest practicable date. Updates to these plans must be performed every three years until attainment is reached. SLOAPCD is the agency charged with developing and updating the attainment plan for the county. The 2001 Clean Air Plan (CAP or Plan) is the third update to the 1991 CAP adopted by SLOAPCD Board in January 1992 and contains a comprehensive set of control measures designed to reduce ozone precursor emissions from a wide variety of stationary and mobile sources.

In 2009, SLOAPCD adopted guidelines for assessment and mitigation of air quality impacts under CEQA. The CEQA Air Quality Handbook, which was updated in 2012 with further revisions in 2017, is an advisory document that provides lead agencies, consultants, and project applicants with uniform procedures for addressing air quality issues in environmental documents (SLOAPCD, 2012). The CEQA Air Quality Handbook also includes standard construction and operational mitigation measures that may be applied to projects that exceed SLOAPCD thresholds.

### ***San Luis Obispo Council of Governments***

The San Luis Obispo Council of Governments (SLOCOG) is a regional agency representing the County and the incorporated cities. SLOCOG participates in the development of numerous regional plans, including housing and hazardous waste management. It also prepares employment and population forecasts, which are used in regional planning programs. As the designated Metropolitan Planning Organization and Regional Transportation Planning Agency for the County, SLOCOG is also responsible for developing and implementing the regional transportation plan, including coordination with SLOAPCD on transportation control measures.



## Local

### *San Luis Obispo County*

The San Luis Obispo County General Plan contains the following air quality goals and policies relevant to the project:

**Goal AQ-1:** Per capita vehicle- miles-traveled countywide will be reduced consistent with statewide targets.

**Policy AQ 1.1:** Compact development - Encourage compact land development by concentrating new growth within existing communities and ensuring complete services to meet local needs.

**Policy AQ 1.2:** Reduce vehicle miles traveled - Require projects subject to discretionary review to minimize additional vehicle travel.

**Goal AQ-2:** The County will be a leader in implementing air quality programs and innovations.

**Policy AQ 2.1:** County employee trip reduction - Reduce employee commute-related vehicle trips. County departments will take the lead in implementing innovative employer-based trip reduction programs for their employees.

**Policy AQ 2.3:** Convert County fleet - Replace or convert conventional fuel vehicles in the County fleet with clean, alternative fuel vehicles.

**Policy AQ 2.4:** Waste collection vehicles - Encourage waste haulers on contract to the County to use clean, alternative fuels for waste collection vehicles.

**Policy AQ 2.5:** Use of clean fuels - Encourage the use of clean fuels and the development of countywide fueling stations that distribute clean fuels through the County's participation in the Central Coast Clean Cities Coalition (C5).

**Policy AQ 2.6:** Alternative fuel incentives - Support and seek funding for incentives to residents, fleet operators, school districts, and employers to purchase and use alternative fuel vehicles as local, state, or federal funding sources become available.

**Goal AQ-3:** State and federal ambient air quality standards will, at a minimum, be attained and maintained.

**Policy AQ 3.1:** Coordinate with other jurisdictions - Coordinate with neighboring jurisdictions and affected agencies to address cross-jurisdictional and regional transportation and air quality issues.

**Policy AQ 3.2:** Attain air quality standards - Attain or exceed federal or state ambient air quality standards (the more stringent if not the same) for measured criteria pollutants.

**Policy AQ 3.3:** Avoid air pollution increases - Avoid a net increase in criteria air pollutant emissions in planning areas certified as Level of Severity II or III for Air Quality by the County's Resource Management System (RMS).

**Policy AQ 3.4:** Toxic exposure - Minimize public exposure to toxic air contaminants, ozone, particulate matter, sulfur dioxide, carbon monoxide, nitrogen oxides, and lead.

**Policy AQ 3.7:** Reduce vehicle idling - Encourage the reduction of heavy-vehicle idling throughout the county, particularly near schools, hospitals, senior care facilities, and areas prone to concentrations of people, including residential areas.

**Policy AQ 3.8:** Reduce dust emissions - Reduce PM10 and PM2.5 emissions from unpaved and paved County roads to the maximum extent feasible.

### ***City of Morro Bay***

There are no policies relevant to air quality in the City of Morro Bay's current General Plan. The City is currently in the process of updating its General Plan.

## 3.3.3 Impacts and Mitigation Measures

### **Significance Criteria**

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to air quality in the project area. Those same criteria are listed below. This EIR assumes implementation of the proposed project to have a significant impact related to air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) [discussed in Chapter 4, Cumulative Impacts].
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

### ***Construction Emissions Thresholds***

The SLOAPCD CEQA Handbook contains specific daily and quarterly numerical thresholds that apply to projects within the SCCAB. Daily thresholds are to be applied to projects that would be completed in less than one quarter (90 days). SLOAPCD's quarterly construction thresholds are applicable to the proposed project because construction would last for more than one quarter. Those include:

### **ROG and NO<sub>x</sub> Emissions**

- Quarterly – Tier 1: For construction projects lasting more than one quarter, exceedance of the 2.5 tons per quarter threshold requires Standard Mitigation Measures and BACT for construction equipment. Off-site mitigation may be required if feasible mitigation measures are not implemented, or if no mitigation measures are feasible for the project.
- Quarterly – Tier 2: For construction projects lasting more than one quarter, exceedance of the 6.3 tons per quarter threshold requires Standard Mitigation Measures, BACT, implementation of a Construction Activity Management Plan (CAMP), and off-site mitigation.

### Diesel Particulate Matter (DPM) Emissions

- Quarterly - Tier 1: For construction projects lasting more than one quarter, exceedance of the 0.13 tons per quarter threshold requires Standard Mitigation Measures, BACT for construction equipment; and,
- Quarterly - Tier 2: For construction projects lasting more than one quarter, exceedance of the 0.32 ton per quarter threshold requires Standard Mitigation Measures, BACT, implementation of a CAMP, and off-site mitigation.

### Fugitive Particulate Matter (PM<sub>10</sub>), Dust Emissions

- Quarterly: Exceedance of the 2.5 tons per quarter threshold requires Fugitive PM<sub>10</sub> Mitigation Measures and may require the implementation of a CAMP.

### Operational Emissions Thresholds

SLOAPCD has established five separate categories of evaluation for determining the significance of project impacts. Full disclosure of the potential air pollutant and/or toxic air emissions from a project is needed for these evaluations, as required by CEQA:

- Consistency with the most recent Clean Air Plan for San Luis Obispo County;
- Consistency with a plan for the reduction of greenhouse gas emissions that has been adopted by the jurisdiction in which the project is located and that, at a minimum, complies with State CEQA Guidelines Section 15183.5 (addressed in Section 3.7: *Greenhouse Gases and Energy*).
- Comparison of predicted ambient criteria pollutant concentrations resulting from the project to state and federal health standards, when applicable;
- Comparison of calculated project emissions to SLO County APCD emission thresholds; and,
- The evaluation of special conditions which apply to certain projects.

The threshold criteria established by SLOAPCD to determine the significance and appropriate mitigation level for long-term operational emissions from projects are presented in **Table 3.3-3**. SLOAPCD specifies that CalEEMod winter emission outputs be compared to these operational thresholds.

**TABLE 3.3-3**  
**SLOAPCD OPERATIONAL SIGNIFICANCE THRESHOLDS**

Pollutant	Threshold	
	Daily (lbs/day)	Annual (tons/year)
Ozone Precursors (ROG + NOx)	25	25
Diesel Particulate Matter (DPM)	1.25	---
Fugitive Particulate Matter (PM <sub>10</sub> ), Dust	25	25
Carbon Monoxide (CO)	550	---

Daily and annual emission thresholds are based on the California Health & Safety Code Division 26, Part 3, Chapter 10, Section 40918 and the CARB Carl Moyer Guidelines for DPM.  
SOURCE: SLOAPCD, 2012.

## Methodology

The analysis presented below follows procedures and guidance regarding the evaluation of air quality impacts provided by SLOAPCD's CEQA Air Quality Handbook. The California Emissions Estimator Model (CalEEMod) version 2016.3.2 was used to estimate regional air pollutant emissions associated with project construction. Proposed construction would take place between 2019 and 2021 and would include construction of the various components of the project listed below:

- WRF, Operation & Maintenance buildings
- Lift Station
- Pipeline alignments
- Injection wells
- Decommissioning existing WWTP

The construction schedule for the project along with equipment lists and usage data was provided by the City. Estimates of number of vehicle trips associated with workers, material delivery and hauling as well as the various trip lengths were also provided by the City. CalEEMod defaults were used where project specific data was not available. Construction assumptions are detailed in the CalEEMod output files (refer to **Appendix C**). Operational emissions are discussed qualitatively.

## Impact Analysis

**Impact 3.3-1: The project would not conflict with the population and vehicle travel projections for the project area nor would it conflict with the transportation control measures contained in the applicable air quality plan. This impact would be Class III, Less than Significant.**

To assess a project's consistency with the Clean Air Plan, SLOAPCD recommends an evaluation be conducted to see if a proposed project is consistent with the land use and transportation control measures and strategies outlined in the Clean Air Plan. If the project is consistent with those measures, then the project is considered to be consistent with the Clean Air Plan. The 2001 CAP guidance for project consistency analysis states that the following questions should be evaluated:

- Are the population projections used in the plan or project equal to or less than those used in the most recent CAP for the same area?
- Is rate of increase in vehicle trips and miles traveled less than or equal to the rate of population growth for the same area?
- Have all applicable land use and transportation control measures from the CAP been included in the plan or project to the maximum extent feasible?

According to the 2001 CAP, if the answer to all of the above questions is yes, then the project is consistent with the CAP. If the answer to any of the above questions is no, then the project would be inconsistent with the CAP.

Implementation of the proposed project would construct a new wastewater treatment facility that would produce recycled water for reuse by the City. It would be sized to be consistent with projected future population growth under the City's General Plan. As it would replace the existing WWTP, the proposed project itself would not lead to an increase in population or vehicle miles travelled in that the new trips generated by the proposed project would replace trips taking place to the existing WWTP. Therefore, the proposed project would not be considered to conflict with the planning assumptions in the 2001 CAP. In providing a fundamental public service for planned demands, the proposed project would be considered essential and to be consistent with the AQMP growth projections. (For additional information about project consistency with future population projections, please refer to Chapter 3.10, Land Use and Chapter 5, Growth Inducement.) This would be a less than significant impact.

**Mitigation Measure:** None required.

**Significance Determination:** Less than Significant

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### ***Air Quality Standards***

**Impact 3.3-2: Proposed project construction would cause temporary increases in localized air pollutant emissions of ROG, NO<sub>x</sub> and DPM in excess of SLOAPCD construction thresholds which could lead to a violation of an air quality standard. Implementation of fugitive dust control measures and other standard control measures for construction equipment would reduce emissions. This impact would be Class II, less than significant with mitigation.**

Construction activities are short term and typically result in emissions of ozone precursors and PM in the form of dust (fugitive dust) and exhaust (e.g., vehicle tailpipe emissions). Emissions of ozone precursors and PM are primarily a result of the combustion of fuel from on-road and off-road vehicles. However, ROG<sub>s</sub> are also emitted from activities that involve painting, other types of architectural coatings, or asphalt paving. The proposed project consists of construction of the WRF, lift station, conveyance pipelines, injection wells and demolition of the existing WWTP. Pollutant emissions associated with project construction would be generated from the following general construction activities: (1) grading, excavation, and construction, (2) vehicle trips from workers traveling to and from the construction areas, (3) trips associated with delivery and hauling of construction supplies to, and debris from, the construction areas, (4) fuel combustion by on-site construction equipment and (5) paving and architectural coatings. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air pollutants. The amount of emissions generated on a daily basis would vary, depending on the intensity and types of construction activities occurring simultaneously at the time. Construction of various project components and construction activities would overlap several times during the overall construction period. Overall, the proposed WRF's construction activities would occur

over a 30-month period, while the construction activities associated with the pipelines, lift station and injection wells are projected to take 9, 8 and 3 months respectively. Additionally, decommissioning and demolition of the existing WWTP would be expected to occur over approximately 4 months. Proposed project construction is anticipated to commence in May 2019 and end in December 2021.

Though construction emissions are considered short-term and temporary, they have the potential to represent a significant impact with respect to air quality particularly when construction extends over a long period of time and/or when sensitive receptors are located close by. Particulate matter (i.e., PM<sub>10</sub> and PM<sub>2.5</sub>) are among the pollutants of greatest localized concern with respect to construction activities. Particulate emissions from construction activities can lead to adverse health effects and nuisance concerns, such as reduced visibility and soiling of exposed surfaces. Particulate emissions can result from a variety of construction activities, including excavation, grading, vehicle travel on paved and unpaved surfaces, and vehicle and equipment exhaust. Construction emissions of PM can vary greatly depending on the level of activity, the specific operations taking place, the number and types of equipment operated, local soil conditions, weather conditions, and the amount of earth disturbance.

Emissions of ozone precursors ROG and NO<sub>x</sub> are primarily generated from construction equipment exhaust and mobile sources, and vary as a function of the number of daily vehicle trips, and the types and number of heavy-duty, off-road equipment used and the intensity and frequency of their operation. Additionally, construction-related ROG emissions would also result from the application of asphalt and architectural coating and the amount of these emissions would vary depending on the amount of paving or coating that would occur each day.

Construction emissions were estimated using CalEEMod (version 2016.3.2) and the results are presented in **Table 3.3-4** below. The table shows maximum quarterly emissions in each construction year for comparison with SLOAPCD quarterly significance thresholds that apply to projects lasting more than one quarter. Given that some of the construction activities of the proposed project would overlap over the course of the project's construction period, the worst-case, maximum quarterly construction emissions for each construction year was determined by combining the peak daily emissions associated with each of the overlapping components multiplied by the number of workdays in the quarter. The proposed project's maximum daily construction emissions are shown in Table 3.3-4 (refer to **Appendix C** for a detailed summary of the construction emissions calculations).

As shown in Table 3.3-4, the maximum daily construction emissions of ROG and NO<sub>x</sub> generated by the proposed project would exceed SLOAPCD's Tier 1 significance thresholds in all three construction years of the proposed project. Quarterly DPM emissions would also exceed the Tier 1 thresholds in 2019 while fugitive PM<sub>10</sub> emissions would be below the respective significance threshold for all three years. Estimated emissions of all pollutants would be below SLOAPCD's Tier 2 thresholds. It should be noted that the pollutant emissions shown in Table 3.3-4 represent the worst-case, maximum (peak) quarterly emissions that could result from the proposed project over its construction period, and do not represent the average emissions that would occur throughout the year. Emissions during the other quarters within the project's construction period

would be lower and would not exceed the significance thresholds. Nonetheless, as the SLOAPCD CEQA Guidelines require comparison of the maximum quarterly emissions with the thresholds, because the emissions of ROG, NO<sub>x</sub> DPM could exceed SLOAPCD's significance, this impact would be potentially significant and would require mitigation.

**TABLE 3.3-4  
UNMITIGATED MAXIMUM QUARTERLY CONSTRUCTION EMISSIONS**

Project Construction Activities	Estimated Maximum Quarterly Construction Emissions (tons/quarter)				
	ROG	NO <sub>x</sub>	ROG+NO <sub>x</sub>	Fugitive PM <sub>10</sub>	DPM (Exhaust PM <sub>2.5</sub> )
2018 <sup>a</sup>	0.44	4.73	5.17	0.09	0.17
2019 <sup>b</sup>	0.31	3.15	3.46	0.06	0.12
2020 <sup>c</sup>	0.32	3.24	3.55	0.07	0.12
SLOAPCD Quarterly Tier 1 Threshold	--	--	2.5	2.5	0.13
Exceed Threshold?	--	--	<b>Yes</b>	No	<b>Yes</b>
SLOAPCD Quarterly Tier 2 Threshold	--	--	6.3	2.5	0.32
Exceed Threshold?	--	--	No	No	No

NOTE: See Appendix C for CalEEMod model outputs.

<sup>a</sup> Maximum emissions from October to December 2019 and include emissions from grading/excavation and construction of the WRF as well as construction of injection wells.

<sup>b</sup> Maximum emissions from July to September 2020 and include emissions from construction of the WRF, pipelines and lift station.

<sup>c</sup> Maximum emissions from August to October 2021 and include emissions from construction of the WRF, paving and decommissioning of the existing WWTP.

SOURCE: ESA CalEEMod Modeling, January 2018.

SLOAPCD requires construction projects that last more than one quarter and exceed the Tier 1 thresholds to implement Standard Mitigation Measures and BACT for construction equipment. Those measures are detailed in **Mitigation Measure AQ-1b** and **Mitigation Measure AQ-1c**. BACT requires all off-road construction equipment that exceeds 50 horsepower to be either certified as EPA Tier 4 where available to reduce the pollutant emissions from the proposed project's construction equipment. The mitigated construction emissions for the proposed project are shown in **Table 3.3-5**.

As shown in Table 3.3-5, implementation of **Mitigation Measures AQ-1b, AQ-1c and AQ-1d** would reduce all pollutant emissions associated with the proposed project's construction activities to below the Tier 1 significance thresholds. Therefore, with mitigation, air quality impacts associated with the project construction would be less than significant.

**TABLE 3.3-5  
MITIGATED MAXIMUM QUARTERLY CONSTRUCTION EMISSIONS**

Project Construction Activities	Estimated Maximum Quarterly Construction Emissions (tons/quarter)				
	ROG	NO <sub>x</sub>	ROG+NO <sub>x</sub>	Fugitive PM10	DPM (PM <sub>2.5</sub> )
2018 <sup>a</sup>	0.11	0.84	0.95	0.09	0.01
2019 <sup>b</sup>	0.08	0.54	0.62	0.06	0.01
2020 <sup>c</sup>	0.09	0.74	0.83	0.07	0.01
SLOAPCD Quarterly Tier 1 Threshold	--	--	2.5	2.5	0.13
Exceed Threshold?	--	--	No	No	No
SLOAPCD Quarterly Tier 2 Threshold	--	--	6.3	2.5	0.32
Exceed Threshold?	--	--	No	No	No

NOTE: See Appendix C for CalEEMod model outputs.

<sup>a</sup> Maximum emissions from October to December 2019 and include emissions from grading/excavation and construction of the WRF as well as construction of injection wells.

<sup>b</sup> Maximum emissions from July to September 2020 and include emissions from construction of the WRF, pipelines and lift station.

<sup>c</sup> Maximum emissions from August to October 2021 and include emissions from construction of the WRF, paving and decommissioning of the existing WWTP.

SOURCE: ESA CalEEMod Modeling, January 2018.

## Mitigation Measures

The following mitigation measures are required to reduce construction emissions of ROG, NO<sub>x</sub>, and DPM. Although the proposed project's fugitive dust emissions would not exceed Tier 1 or 2 thresholds, SLOAPCD requires any project with grading areas greater than 4.0 acres or that are within 1,000 feet of any sensitive receptor to implement standard fugitive dust mitigation measures. Therefore, Mitigation Measure AQ-1a is also required.

**AQ-1a: Fugitive Dust Control Measures.** Construction projects shall implement the following dust control measures so as to reduce PM10 emissions in accordance with SLOAPCD requirements.

- Reduce the amount of the disturbed area where possible;
- Water trucks or sprinkler systems shall be used during construction in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency shall be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water shall be used whenever possible;
- All dirt stock pile areas shall be sprayed daily as needed;
- Permanent dust control measures identified in the approved project revegetation and landscape plans shall be implemented as soon as possible following completion of any soil disturbing activities;
- Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading shall be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established;



- All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by SLOAPCD;
- All roadways, driveways, sidewalks, etc. to be paved shall be completed as soon as possible after grading unless seeding or soil binders are used;
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or shall maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code section 23114;
- Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site;
- Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water shall be used where feasible;
- All of these fugitive dust mitigation measures shall be shown on grading and building plans; and
- The construction contractor shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20 percent opacity, and to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to SLOAPCD Compliance Division prior to the start of any grading, earthwork or demolition.

**AQ-1b: Standard Control Measures for Construction Equipment.** Standard mitigation measures for reducing NO<sub>x</sub>, ROG, and DPM emissions from construction equipment are listed below:

- Maintain all construction equipment in proper tune according to manufacturer's specifications;
- Fuel all off-road and portable diesel powered equipment with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);
- Use diesel construction equipment meeting ARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation;
- Use on-road heavy-duty trucks that meet the ARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;
- Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NO<sub>x</sub> exempt area fleets) may be eligible by proving alternative compliance;
- All on- and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit;
- Diesel idling within 1,000 feet of sensitive receptors is not permitted;

- Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
- Electrify equipment when feasible;
- Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and,
- Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel.

**AQ-1c: BACT for Construction Equipment.** The following BACT for diesel-fueled construction equipment shall be implemented during construction activities at the project site, where feasible:

- Further reducing emissions by expanding use of Tier 3 and Tier 4 off-road and 2010 on-road compliant engines where feasible;
- Repowering equipment with the cleanest engines available; and
- Installing California Verified Diesel Emission Control Strategies, such as level 2 diesel particulate filters. These strategies are listed at:  
<http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>

**AQ-1d: Architectural Coatings.** To reduce ROG and NO<sub>x</sub> emissions during the architectural coating phase, low or no VOC emission paints and finishes shall be used with levels of 50 g/L or less.

### Significance Determination

Less than Significant with Mitigation

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**Impact 3.3-3: Proposed project operation would generate air pollutant emissions of ROG, NO<sub>x</sub> and PM, but the increase would be less than the applicable SLOAPCD significance thresholds for operation and would therefore not lead to a violation of an air quality standard or contribute substantially to an existing or projected air quality violation. This impact would be Class III, Less than Significant.**

After construction is completed and the WRF is commissioned and operating, there would be operational traffic associated with worker commute, chemical deliveries, screenings removal, and biosolids removal. Approximately 4 workers could be working at one time at the facility, resulting in an estimated 8 employee commutes per day in addition to about 4 maintenance vehicle trips per day using maintenance vehicles for off-site work. In addition, it is estimated that there would be an average of 13 truck trips per month associated with chemical deliveries, removal of screenings, grit and dewatered biosolids that would be hauled offsite. Emissions from this small number of vehicle trips are expected to be less than significant and are not expected to exceed SLOAPCD's operational thresholds. Additionally, emissions would be generated from testing and maintenance of the two proposed diesel fueled backup generators – one at the WRF and one at the Lift Station. Project operational daily and annual emissions are shown in **Table 3.3-6** below. As shown in the table operational emissions would less than SLOAPCD thresholds.

**TABLE 3.3-6  
PROJECT OPERATIONAL EMISSIONS**

Source	ROG+NOx	DPM (PM <sub>2.5</sub> )	Fugitive PM10	CO
Daily Emissions (pounds per day)				
Testing & Maintenance of backup generators	9.5	0.23	0.23	1.07
On road vehicle trips	1.5	0.06	0.09	0.48
Total	11.0	0.29	0.32	1.54
SLOAPCD Daily Threshold	25	1.25	25	550
Exceed Threshold?	No	No	No	No
Emissions (tons per year)				
Testing & Maintenance of backup generators	1.21	0.03	0.03	0.56
On road vehicle trips	0.27	0.01	0.01	0.09
Total	1.48	0.04	0.04	0.65
SLOAPCD Annual Threshold	25	--	25	--
Exceed Threshold?	No	--	No	--

NOTE: See Appendix C for CalEEMod model outputs.

SOURCE: ESA CalEEMod Modeling, January 2018.

Further, compliance with SLOAPCD Rule 204 would apply to the project's backup generators which would require these sources to be equipped with the current BACT) for all subject air contaminants for which the emission unit's potential to emit is 25 pounds per day or more and with the current Reasonably Available Control Technology (RACT) for all subject air contaminants for which the emission unit's potential to emit is less than 25 pounds per day, except for carbon monoxide for which the potential to emit values above shall be 10 times the amount shown. The proposed project's operational impact would therefore be less than significant.

### Mitigation Measures

None required.

### Significance Determination

Less than Significant

### Sensitive Receptors

**Impact 3.3-4: The proposed project would not expose sensitive receptors to substantial pollutant concentrations that would lead to adverse health risks. This impact would be Class III, less than significant.**

### Construction

Construction of the proposed project would result in the short-term generation of DPM emissions from the use of off-road diesel equipment required to construct the proposed facilities, and from construction material deliveries and debris removal using on-road heavy-duty trucks. DPM is a

complex mixture of chemicals and particulate matter that has been identified by the State of California as a TAC with potential cancer and chronic non-cancer effects. The dose to which receptors are exposed is the primary factor affecting health risk from TACs. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period when assessing TACs (such as DPM) that have only cancer or chronic non-cancer health effects (OEHHA, 2015). However, assumed exposure in such health risk assessments should be limited to the duration of the emission-producing activities associated with the Proposed Project.

Construction activities associated with the proposed project would take place over a period of 3 years, although the level of activity would vary both temporally and spatially. Based on maximum quarterly estimates shown in Table 3.3-4, the estimated maximum daily unmitigated emissions of exhaust PM<sub>10</sub> and PM<sub>2.5</sub> associated with the construction of all project facilities during the quarter with maximum activity is estimated to be less than 6 pounds per day. During other periods of construction, emissions generated would be lower. Temporary exposure to these emission levels is not likely to lead to a significant impact from exposure to TACs. Proposed development at the WRF site would take place at least 360 feet from and downwind of the nearest sensitive receptors at Bayside Care Center with an intervening hill in between. Given the distance, intervening topography and wind direction, temporary exposure to emission levels of less than 6 pounds per day is not likely to lead to a significant impact from exposure to TACs. Construction activities associated with other project components would take place closer to receptors but would also be shorter in duration lasting only a few months. Demolition activities associated with decommissioning of the existing WWTP would take place approximately 200 feet from the nearest sensitive receptors at the Morro Strand RV Park. Construction of the pipeline alignment for raw wastewater and brine/wet weather discharge would take place as close as 50 feet from the residents at the Morro Dune RV Park, the single-family residences along Main Street and residences at the Bayside Care Center. As pipeline construction would advance at the rate of 150 linear feet per day, the same set of receptors would not be continually exposed to diesel exhaust from pipeline construction equipment for an extended period. Given that the construction of the other facilities would be limited to a few months at most, exposure of receptors to DPM emissions would not lead to a significant health risk impact. Because the total emissions and duration of exposure at any one sensitive receptor location would be relatively minor compared to the 70-year exposure used in health risk assessments, the health risk from exposure to short-term DPM emissions associated with construction of the project facilities would be negligible, and this impact would be less than significant. Mitigation Measures AQ-1b and AQ-1c required to mitigate other air quality impacts would also help reduce diesel particulate matter from construction equipment and further reduce health risks from exposure. Implementation of these measures would serve to further reduce this less than significant impact.

Naturally occurring asbestos (NOA) has been identified by CARB as a toxic air contaminant. Serpentine and ultramafic rocks are common in San Luis Obispo County and may contain naturally occurring asbestos. According to SLOAPCD NOA Map for San Luis Obispo County, the project site is located in an area that is known to contain naturally occurring asbestos

(SLOAPCD 2016). Therefore, excavation and grading activities during project construction may encounter naturally occurring asbestos. Under CARB's Air Toxics Control Measure (NOA ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prior to any grading activities at a site within the green "buffer" areas on SLOAPCD's NOA map, the City would be required to comply with the NOA ATCM. The NOA ATCM requires submittal of a geologic evaluation determining whether serpentine rock is present on a project site, and if so, to what extent (less or more than one acre). Depending on the results of the geologic evaluation, the project would be required to file an exemption request form (if no serpentine is present), a Mini Dust Control Measure Plan (if less than one acre of serpentine is present), or an Asbestos Dust Control Measure Plan (if more than one acre of serpentine is present). With required compliance with ARB's NOA ATCM, impacts associated with naturally occurring asbestos would be less than significant.

### ***Operation***

As discussed earlier, once operational, there would be no major sources of TACs. At the WRF, truck trips associated with chemical deliveries, screening, grit and dry sludge removal would be less than 15 truck trips a month. The two emergency backup generators anticipated for the proposed project would be subject to permit requirements of SLOAPCD, which requires new or modified emission units be equipped with the current BACT for all subject air contaminants for which the emission unit's potential to emit is 25 pounds per day or more and with the current RACT for all subject air contaminants for which the emission unit's potential to emit is less than 25 pounds per day. Further, emergency generators would be operated only for testing and maintenance purposes for a maximum of 100 hours per year. Therefore, diesel particulate emissions from project operational emissions is not expected to increase health risk at the nearest receptors; and, therefore, would be less than significant.

### **Mitigation Measures**

None required.

### **Significance Determination**

Less than Significant.

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### ***Objectionable Odors***

**Impact 3.3-5: Operation of the proposed WRF would generate odor, but the proposed project design includes odor control facilities to capture and treat air produced during the wastewater treatment process. A substantial number of people would not be affected by objectionable odor. This impact would be Class III, Less than Significant.**

### ***Construction***

No significant odors are associated with construction activities. When construction takes place in close proximity to sensitive receptors, the odor from construction equipment diesel exhaust could be noticeable. However, sensitive receptors would be located close to construction activities only

during pipeline construction, which would progress along the pipeline alignment at a rate of 150 linear feet per day and, therefore, would not affect the same receptors for extended periods of time. This impact would be considered less than significant.

Decommissioning the existing WWTP is also not expected to cause any odor issues. Once flow to the existing plant has ceased, the liquid treatment train will be taken out of service. Basins and process units will be pumped down and cleaned before demolition begins. Liquid from the cleaning process would be pumped or transported to the new WRF. Digesters and sludge drying beds will stay in service until the remaining sludge is processed and disposed of. Once emptied of sludge, they would be cleaned before demolition. Therefore, decommissioning of the existing facility would take place only after the plant completely stops generating any odor and, therefore, not result in any odor impacts or any significant impacts.

### **Operation**

The proposed WRF would include an odor control facility to capture and treat foul air produced by raw wastewater before it is exhausted from channels and tanks. Influent untreated wastewater and waste activated solids release a variety of gases including hydrogen sulfide and ammonia. The headworks and preliminary treatment operations release higher concentrations of hydrogen sulfide while negligible hydrogen sulfide concentrations and slightly higher concentrations of ammonia are typically produced in the dewatering of anaerobically digested sludge.

The odor treatment facilities for the WRF include the Influent Scrubber Complex, which would be located near the head of the WRF and would serve to process exhaust air from the headworks. The Influent Scrubber Complex would use biological scrubbers and/or carbon scrubbers for odor removal. Exhaust air with higher concentrations of hydrogen sulfide gas collected from influent channels, bar screens, the grit removal system, and the regularly utilized portion of the equalization basin would be channeled to the Influent Scrubber Complex to be treated through these biological and/or carbon scrubbers before being released to the atmosphere. The use of activated carbon scrubbers easily reduces the levels of hydrogen sulfide to a point where it is not detectable by human senses and well below Air Pollution Control District requirements. Over time the activated carbon gradually becomes spent and will need to be replaced. That degradation is gradual which is easily detected through regular testing of the exhaust air leaving the scrubbers. The system would be designed with multiple treatment vessels to allow full treatment while simultaneously treating the exhaust stream. With the treatment system in operation wind speed and topography will not cause nuisance odors from migrating off the WRF property.

In addition, actual odors produced from a facility the size of the WRF tend to dissipate within a few hundred yards of the equipment. As such, at a distance of approximately 1,200 feet from the edge of the Bayside Case Center to the proposed WRF headworks, it would be reasonable to expect odorous emissions to dissipate and not cause nuisance, particularly when intervening topography would also act as a barrier to odor.

Odor treatment for the solids dewatering facility would not be provided as part of the proposed project. Neither of the two solids dewatering technologies proposed tend to produce large quantities of obnoxious odors. The current facility plan is to have the dewatering system fully

enclosed and mechanically exhausted. This exhausting would provide additional dilution of any odors produced. The area immediately surrounding the site is not currently developed. The proposed project would include provisions to connect the facility to an odor treatment system for the dewatering building if determined to be needed. These provisions will allow for an easier installation of odor treatment if the City determines it is warranted.

The sewer lift station proposed to be installed at the inlet to the WRF will be fully enclosed. The plant influent will not be exposed to atmosphere. In addition, at the proposed lift station, odor control measures such as the addition of calcium ammonium nitrate, use of an onsite odor scrubbing system and installation of sealed hatches to reduce the release of odors may also be applied.

Therefore, with the robust odor control technology proposed for the project, project operations are not expected to generate significant odors. This would be a less than significant impact.

### **Mitigation Measures**

None required.

### **Significance Determination**

Less than Significant

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### 3.4 Biological Resources

This section describes and evaluates potential impacts to biological resources that could result from implementation of the proposed project. The “study area” covered the areas for the preferred site for the proposed WRF, the new distribution system (eastern pipeline alignment or western pipeline alignment) to convey recycled water from the WRF to new injection wells in the Morro Valley (exact sites to be determined); the new collection system, including a lift station (Lift Station Option 1A or 5A) and pipelines (within the western pipeline alignment) to convey raw wastewater and brine/wet weather flows to/from the proposed WRF and, the decommissioning of the existing WWTP. This section is based on the following sources: *Biological Resources Assessment South Bay Boulevard – City of Morro Bay Water Reclamation Facility Project Site* (Kevin Merk Associates (KMA), 2017; see **Appendix D**) and *Preliminary Wetland Delineation Map* (KMA, 2018)).

#### Literature Review and Field Reconnaissance

A review of available background information was conducted that included a review of the Draft Facility Master Plan, U.S. Department of Agriculture’s (USDA) Web Soil Survey (Natural Resources Conservation Service, 2017), historic aerial photographs obtained using Google Earth (2017), and previous biological and environmental studies conducted in the region. The U. S. Fish and Wildlife Service’s (USFWS) online National Wetland Inventory and Critical Habitat Mapper web site was also reviewed to evaluate the extent of potential wetlands and designated critical habitat identified in the region.

A query of the California Natural Diversity Database (CNDDDB) (CDFW, 2017) was conducted to identify special-status resources that have been documented within a five-mile radius around the limits of the proposed WRF and associated pipeline alignments. The results of the query identified special-status species and natural communities or habitat types that have been recorded in the area and which could occur onsite based on the presence of suitable habitat conditions. Given the proximity to the Pacific Ocean and geographic setting adjacent to the Santa Lucia Mountains and Estero Bay, the focus of the database query was the coastal and adjacent inland areas of the U.S. Geological Survey (USGS) *Cayucos*, *Morro Bay North*, *Morro Bay South*, *Atascadero*, and *San Luis Obispo* 7.5-minute topographic quadrangles. The search area was deemed sufficient to identify special-status species and plant communities that could occur in the immediate area, and to exclude numerous species found at higher elevation ranges, different geographies, or in habitat types not present in the study area.

The CNDDDB was used to identify nearby documented occurrences of special-status plant and wildlife to develop a “target list” of species and habitats that could occur within the study area. Focused surveys of the study area helped refine these determinations. Since the entire study area is located within the Coastal Zone (see **Figure 1-1** in Chapter 1), the investigation also assessed the presence of environmentally sensitive habitat area (ESHA) as defined by the California Coastal Act, the City of Morro Bay (City) Local Coastal Program (LCP), and the County (County) of San Luis Obispo LCP. Those include special marine and land habitat areas, wetlands, lagoons, and estuaries.

Biological surveys were conducted by Kevin Merk Associates in April, May, June and March of 2016, March of 2017, and February of 2018. The study area was surveyed on foot, with exception of the Quintana Road section of the western pipeline alignment, which was surveyed by vehicle. Special attention was given to drainage features, topographic depressions, changes or transitions in vegetative cover, rock outcrops, native plant communities, and other natural habitat features. Existing plant communities were mapped on an aerial photograph obtained from Google Earth. A Trimble GeoXH 6000 GPS unit capable of decimeter accuracy was also used during the surveys to assist with mapping vegetation types, habitat features, special-status plant occurrences, and drainage features. All drainage features within the study area were evaluated to determine potential regulatory status, and assess the presence of special-status resources (*i.e.*, habitats, plants and wildlife). The studies did not include definitive surveys to determine presence or absence of special-status wildlife, such as the California red-legged frog (*Rana draytonii*), because the lower reach of Morro Creek and the ephemeral drainages in the study area do not appear to provide suitable aquatic habitat for the species.

Vegetation classification generally followed the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland, 1986) and was cross-referenced with *A Manual of California Vegetation, Second Edition* (Sawyer et al., 2009) for consistency. Plant species observed during the site visits were recorded, and are included as an appendix to this report. Plant taxonomy followed the *Jepson Manual, Second Edition* (Baldwin et al., 2012).

Based on the review of background documents and studies from the region, as well as the CNDDDB records, conclusions were made as to whether a particular species could be expected to occur within the study area and ultimately be affected by the proposed project. Appendix D provides a list of all special-status species and plant communities documented within the search area, and a determination as to their potential to occur onsite.

### 3.4.1 Environmental Setting

#### Regional Setting

The Central Coast is traversed by a series of low northwest-southeast trending mountain ranges, with the Santa Lucia Range located nearest to the coast. The City generally lies on the narrow coastal shelf between the Pacific Ocean and the coastal hills. The climate in both the City and Cayucos is characterized as coastal with mild to moderate temperatures year-round and little diurnal variation. Alva Paul Creek, San Bernardo Creek, Little Morro Creek, and Morro Creek all flow to the Pacific Ocean, either directly or via the Morro Bay estuary.

#### Project Area Setting

The study area for the proposed project includes varied topography with rolling hills and coastal plains. In general, drainage flows westerly towards the Pacific Ocean. As proposed project components, the existing WWTP and proposed Lift Station Option 1A or 5A, are within areas that have already been developed and do not support any substantial biological resources. The majority of the proposed western pipeline alignment is within existing public rights-of-way, paved and unpaved, south of Highway 1 and the majority of the proposed eastern pipeline alignment is within grasslands north of the highway.

Both proposed alignments would cross Morro Creek and several seasonal drainage features before terminating at the new WRF facility (see **Figure 3.4-1**). The preferred WRF site is dominated by actively grazed annual grassland on relatively gentle to moderately sloping hillsides with generally a north to east slope aspect (see **Figure 3.4-5**). It also contains large occurrences of non-native weeds as a result of historic grazing activities. The western limit of the study area is separated from nearby beach, dune, and dune scrub habitats by Embarcadero Road and the Morro Dunes RV Park.

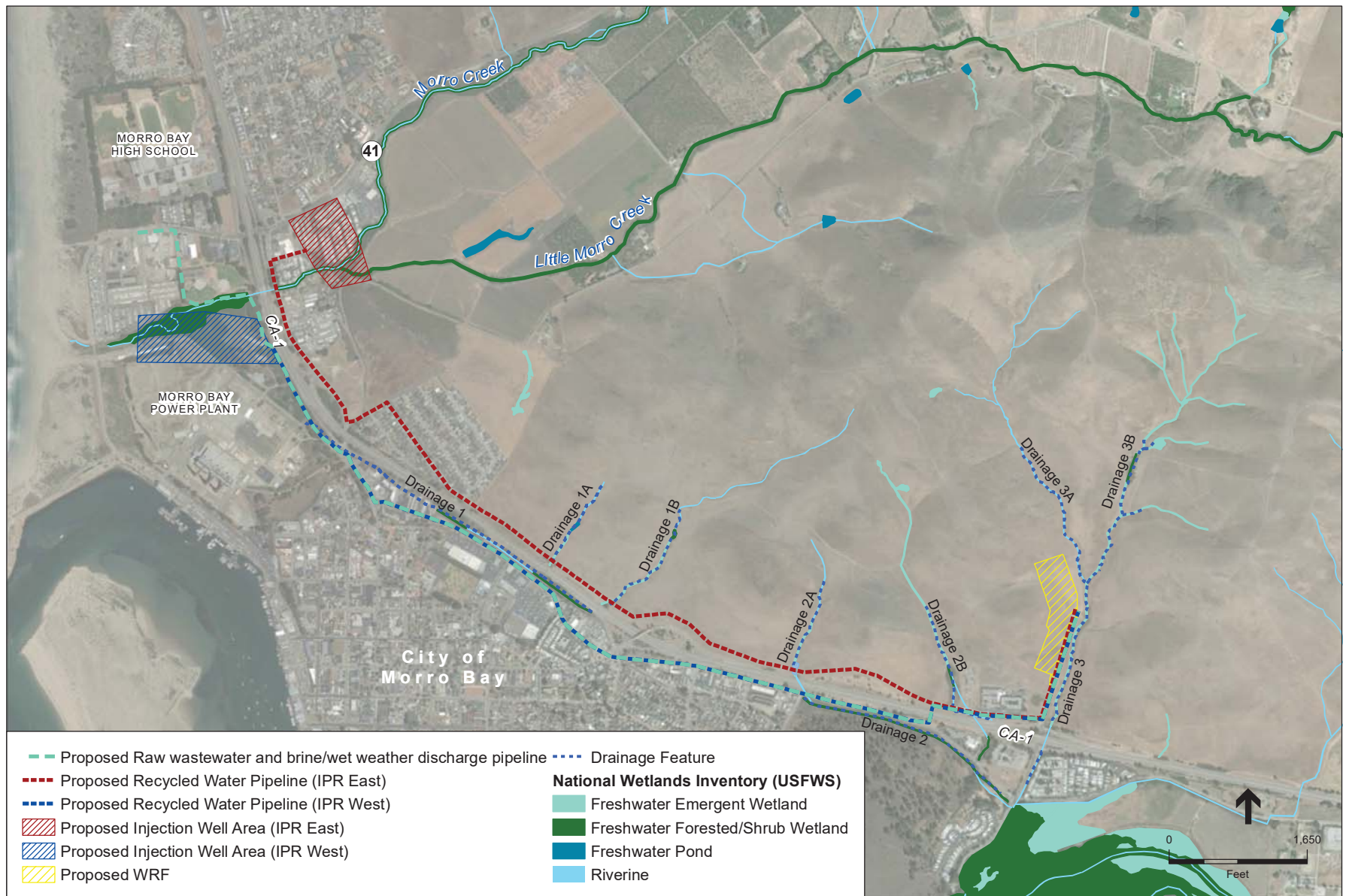
The proposed wells would be located within wellfield areas either at the Narrows, which is the area east of the City near Highway 41 where Morro Creek and Little Morro Creek converge (IPR-East), or an area west of Highway 1 near the bike path (IPR-West). The proposed wells would be located on vacant lands owned by the City or within public rights-of-way, and sited to avoid environmentally sensitive habitat and riparian/wetlands areas and cultural resources, to the extent reasonably feasible. The majority of the proposed IPR East wellfield would be located north of Morro Creek in an area that is developed with some maintained vacant lots. The buildable portion of the proposed IPR East wellfield south of Morro Creek consists of an agricultural field and pullouts along Little Morro Creek Road. The majority of the proposed IPR West wellfield is south of Morro Creek within an undeveloped area and on vacant portions of the inoperative Morro Bay Power Plant.

### ***Habitats – Land Cover and Vegetation Communities***

Five primary habitats (land cover and vegetation communities) were observed within the study area during surveys conducted in 2016 and 2017: 1) ruderal/disturbed, 2) annual grassland, 3) coastal scrub, 4) riparian scrub, and 5) wetland. Existing concrete and dirt roads were included as ruderal/disturbed habitat, as were landscaped areas in the urban areas; however, two landscape types (ornamental tree and iceplant) were defined as separate habitats and mapped separately when the vegetation formed large continuous areas due to the increased potential to support sensitive wildlife species. Three additional habitats (riverine, native bunchgrass grassland, and rock outcrops) were mapped, because of the potential for certain plant and wildlife species to occur in those areas. Habitats observed onsite during field surveys are presented on **Figures 3.4-2 through 3.4-5**, and are discussed below.

#### **Ruderal/Disturbed**

Ruderal/disturbed land cover areas are common along roadsides, in unmaintained urban areas, and other areas that have been significantly altered by construction, agriculture, ornamental landscaping, or other types of regular activities that affect plant composition and growth. If vegetated, then those areas are typically dominated by non-native annual grasses and herbaceous plants adapted to the regular cycle of disturbance from traffic, grading and weed reduction practices such as mowing and herbicide application. That is not a native plant community, and is not described in Sawyer et al. (2009) or in Holland's (1986) vegetation classification.



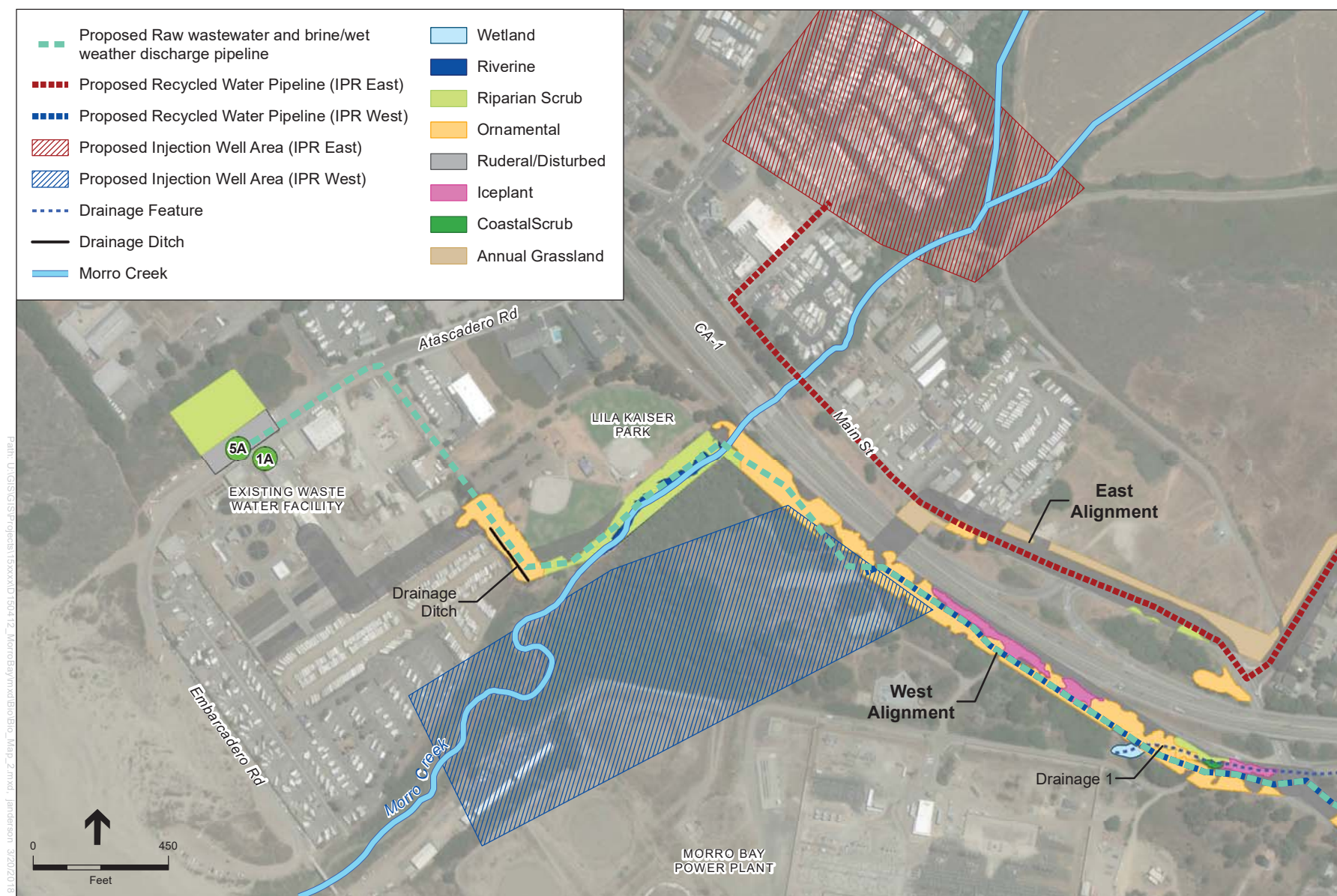
SOURCE: ESRI; National Wetland Inventory(USFWS)

Morro Bay Water Reclamation Facility Project . 150412

**Figure 3.4-1**  
Aerial Overview





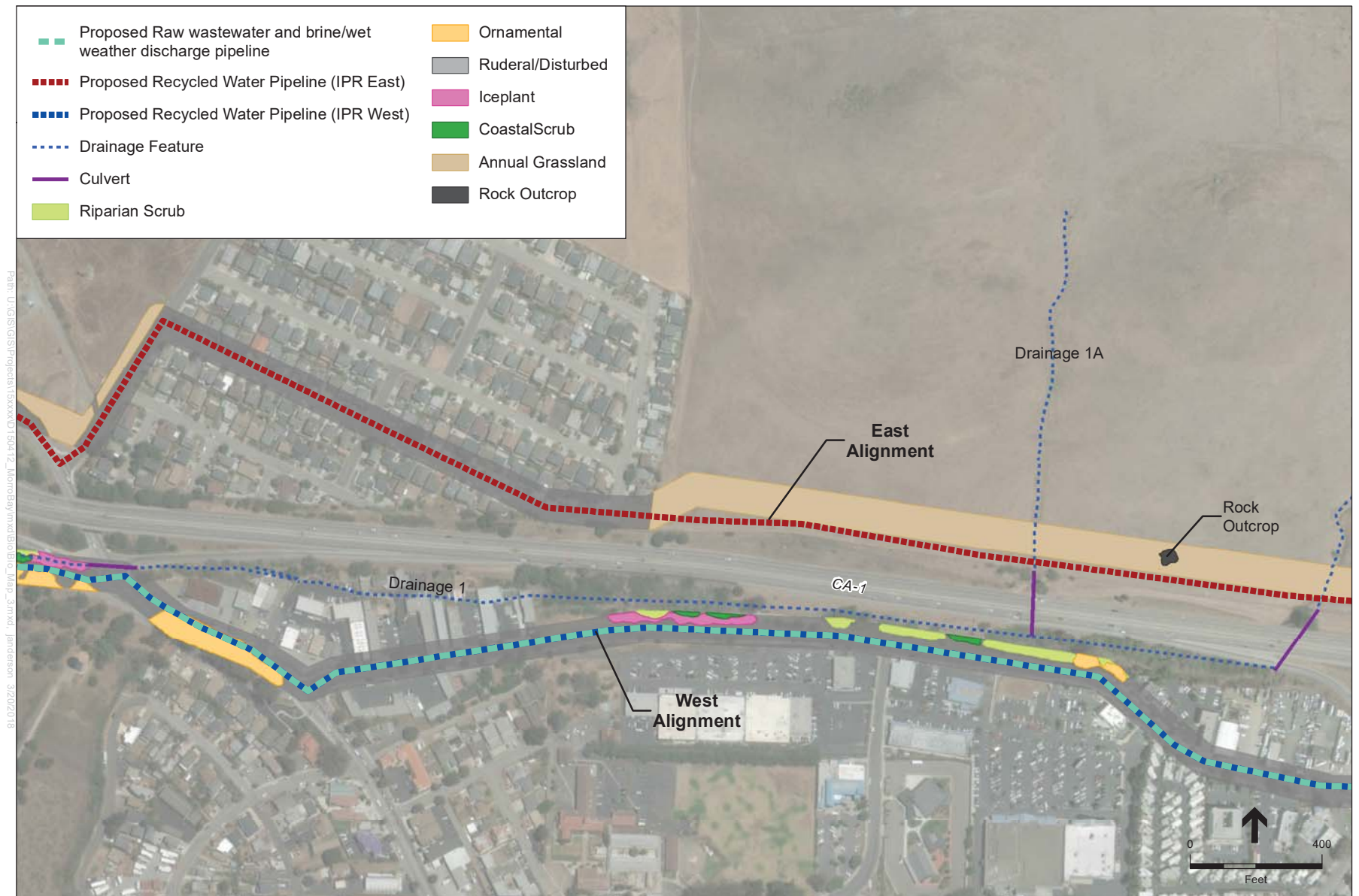


SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

**Figure 3.4-2**  
Habitat Map





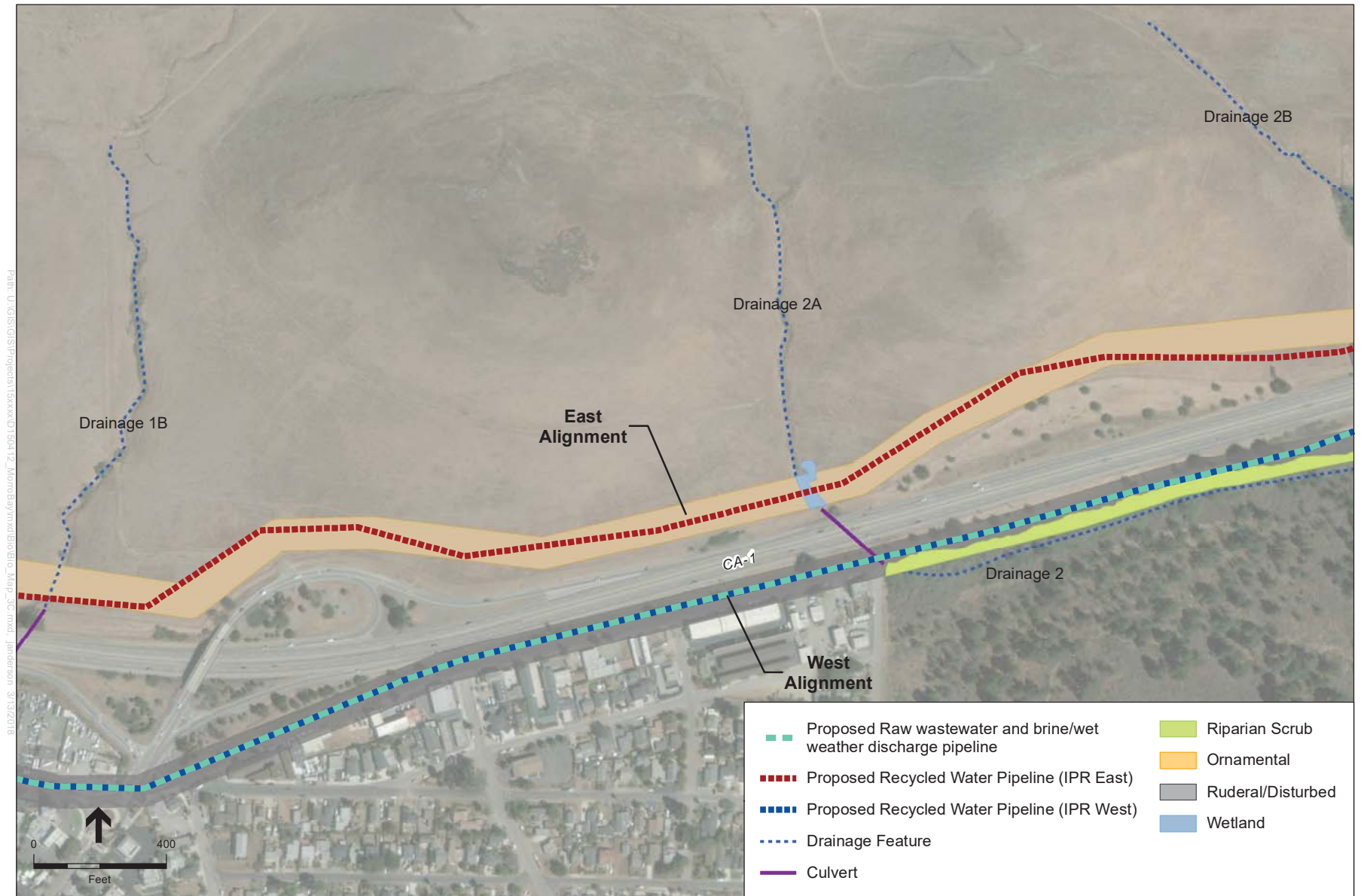
SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

**Figure 3.4-3**  
Habitat Map





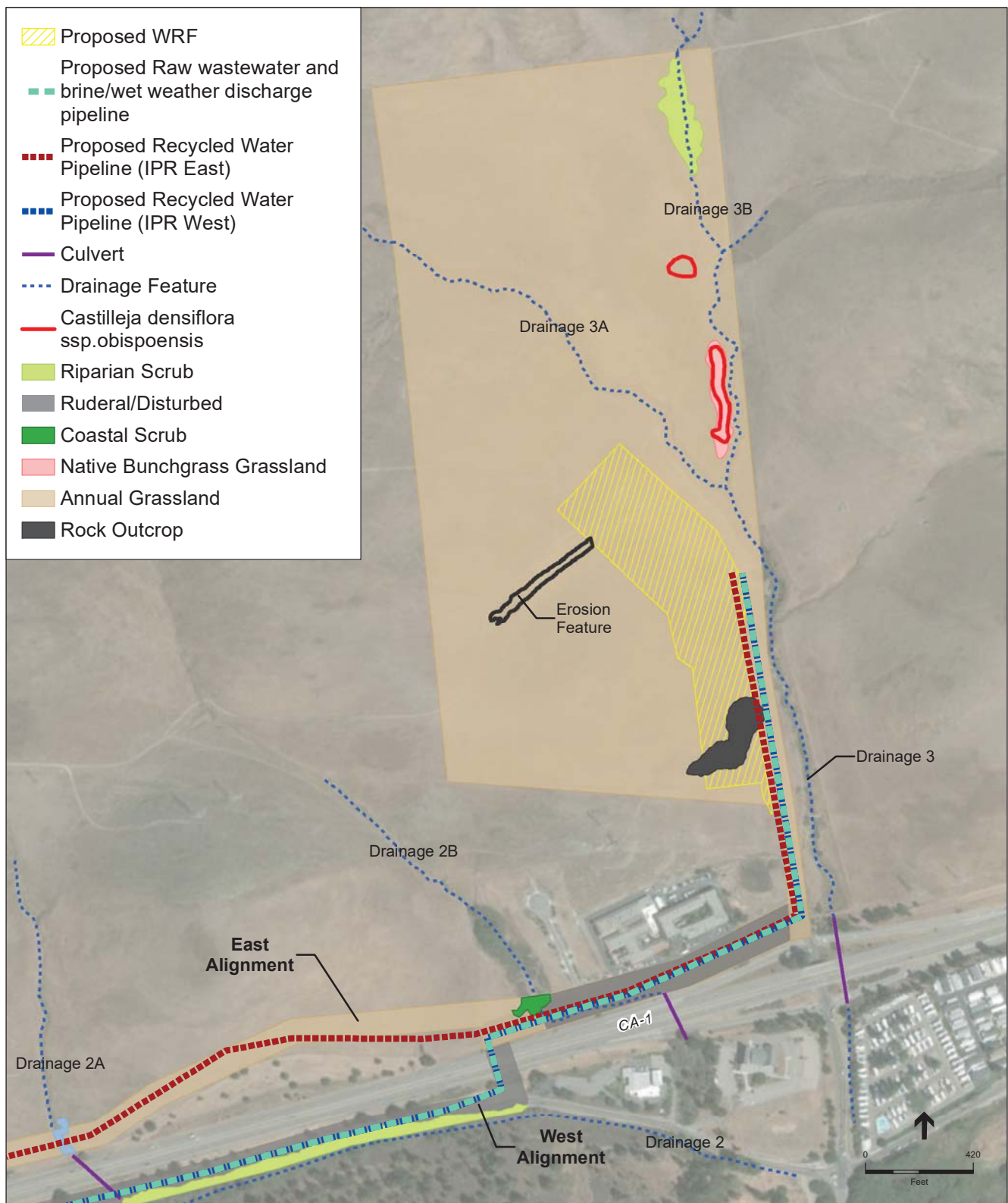


SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

**Figure 3.4-4**  
Habitat Map





SOURCE: ESRI

Morro Bay Water Reclamation Facility Project. 150412

**Figure 3.4-5**  
Habitat Map

Ruderal or disturbed land cover areas within the preferred WRF site were present along the dirt access road, well-used cattle trails, and around the water trough. The proposed pipeline alignment routes contained ruderal/disturbed conditions along the paved bike trail, roads, parking lots, dirt roads, storage yards, and sports fields. The developed areas, agricultural lands, and vacant lots within the IPR East wellfield, and a portion of the IPR West wellfield, just west of Highway 1, and the developed portions of the Morro Bay Power Plant property, consist of areas that have ruderal/disturbed conditions due to the removal of the naturally occurring vegetation communities. Areas with ruderal/disturbed conditions typically exhibited compacted soils, and were either unvegetated, bare soils, or contained patchy occurrences of non-native weedy plants. Plant species observed within ruderal/disturbed areas included ripgut brome (*Bromus diandrus*), slender oats (*Avena barbata*), bur clover (*Medicago polymorpha*), sweet fennel (*Foeniculum vulgare*), Italian thistle (*Carduus pycnocephalus*), purple star thistle (*Centaurea calcitrapa*), sour clover (*Melilotus indica*), bristly ox-tongue (*Helminthotheca echioides*), summer mustard (*Hirschfeldia incana*), and a variety of escaped ornamental species. The ruderal/disturbed areas would typically attract common wildlife species adapted to human disturbance, and are not expected to provide high quality habitat values for native species.

### Annual Grassland

The preferred WRF site and the proposed pipeline alignments are dominated by annual grassland corresponding to the Wild Oats Grassland and Annual Brome Grasslands described in Sawyer et al. (2009), and the Non-native Grassland described by Holland (1986). The annual grassland habitat was composed of wild oats, ripgut brome, soft chess (*Bromus hordeaceus*), Italian rye grass (*Festuca perennis*), red-stemmed filaree (*Erodium cicutarium*), cat's ear (*Hypochaeris glabra*), mallow (*Malva nicaeensis*), common plantain (*Plantago lanceolata*), bindweed (*Convolvulus arvensis*), summer mustard, and prickly sow thistle (*Sonchus asper*) also present. Large areas of black mustard (*Brassica nigra*) were present in grassland areas in the eastern pipeline alignment and the WRF site. Occurrences of the invasive weed hoary cress (*Lepidium draba*) were also observed in eastern pipeline alignment grassland areas.

Even with intensive grazing regimes, California coastal grasslands can provide foraging, breeding habitat and movement opportunities for many wildlife species. Several small mammals, such as the California ground squirrel (*Otospermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), and deer mice (*Peromyscus* spp.) are known to occur within this habitat type, and serve as a prey base for larger predator animals, including snakes, raptors, and coyote (*Canis latrans*). Numerous invertebrate species (such as insects), many of which provide a food source for larger animals such as lizards, birds and some small mammals can also be found within grassland communities. A variety of birds rely on open expanses of grasslands for foraging habitat. Grasslands that are bordered by habitats containing trees are particularly important for raptors because the birds can use the large trees as nesting, roosting, and as observation points to locate potential prey within nearby grassland habitats.

### Coastal Scrub

The coastal scrub habitat present within the study area was observed in very patchy occurrences. It was generally disturbed and did not represent a pure native stand of this habitat with a diverse shrub palette. Still, it is generally consistent with Central (Lucian) Coastal Scrub described by

Holland (1986) and Coyote Brush Scrub described in Sawyer et al. (2009). The majority of this habitat in the study area consisted of nearly pure stands of coyote brush (*Baccharis pilularis*), but did have occasional occurrences of other shrubs such as black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), and poison oak (*Toxicodendron diversilobum*).

Mammals expected to occur in or frequent the areas of coastal scrub habitat present, based on either direct observations or the presence of “sign”, included brush rabbit (*Sylvilagus bachmani*), California mouse (*Peromyscus californicus*), and California ground squirrel. Bird species expected to occur include American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaida macroura*), California thrasher (*Toxostoma redivivum*), and scrub jay (*Aphelocoma coerulescens*). Common lizards such as western fence lizard (*Sceloporus occidentalis*) were also observed within coastal scrub habitats in the study area.

### **Riparian Scrub**

The upper portion of Drainage 3B near the preferred WRF site, Morro Creek, Little Morro Creek, and several areas along the proposed western pipeline alignment contained a predominance of arroyo willows (*Salix lasiolepis*) creating a low canopy, riparian scrub habitat type (Figures 3.4-2 through 3.4-5). Those small patches of arroyo willow are more consistent with the Central Coast Riparian Scrub plant community described by Holland (1986) and the Arroyo Willow Thickets described by Sawyer et al. (2009). This habitat is a scrubby streamside thicket, varying from open to impenetrable, dominated by willows. It is an early seral community that may succeed to any of several riparian woodland or forest types absent severe flooding or human disturbance. Gaps in the willow canopy were composed of California blackberry (*Rubus ursinus*), poison oak, Italian thistle, and the invasive weedy species poison hemlock (*Conium maculatum*). The riparian scrub areas may contain areas of moist soils and pockets of seasonally ponded water, and on the WRF site were disturbed by cattle grazing.

Common inhabitants of riparian scrub habitats include amphibians and reptiles such as the Pacific chorus frog (*Pseudacris regilla*), western fence lizard, and mammals such as raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), and shrews (*Sorex* spp.). Riparian scrub, especially the habitat along Morro Creek and Little Morro Creek, can also support a number of resident and migratory bird species including, house wren (*Troglodytes aedon*), ruby-crowned kinglet (*Regulus calendula*), warbling vireo (*Vireo gilvus*), Wilson’s warbler (*Wilsonia pusilla*), common yellowthroat (*Geothlypis trichas*), song sparrow (*Melospiza melodia*), black phoebe (*Sayornis nigricans*), and goldfinches (*Carduelis* spp.). The riparian scrub areas along Drainages 2 and 3 are not expected to support any aquatic or amphibian species or a significant diversity of resident and migratory birds given the proximity to roadways or the small isolated nature, which is the case along Drainage 3B. Still, a number of birds, especially smaller songbirds, could utilize the willows for perching and foraging, and to a lesser degree, nesting.

The project as currently proposed could impact an area of riparian scrub habitat along Morro Creek south of the baseball fields at Lila Kaiser Park during pipeline installation. In addition to the existing willow shrubs and trees, this area also contained restoration plantings consisting of blue elderberry (*Sambucus nigra* ssp. *caerulea*) and coast live oak (*Quercus agrifolia*) where

creek-side vegetation had been cleared to clean up an old homeless encampment. Siting of the wells in both the IPR-West and the IPR-East wellfields is expected to avoid riparian scrub associated with Morro Creek and Little Morro Creek; however, the final locations have yet to be determined.

### **Wetland**

Several small areas of wetland habitat were observed in the study area, and consisted of seasonal freshwater marsh vegetation, including spike rush, (*Eleocharis macrostachya*), soft rush, (*Juncus effusus*), brown-headed rush (*Juncus phaeocephalus*), rabbitsfoot grass (*Polypogon monspeliensis*), Italian ryegrass, and grass poly (*Lythrum hyssopifolia*). Locations of wetland habitat observed during field work were mapped (even when it extended outside the study area) to aid in project planning activities. Wetland habitat consistent with the Coastal and Valley Freshwater Marsh and Freshwater Seep described by Holland (1986) was mapped at the terminus of Drainage 1 adjacent to the western pipeline alignment (refer to Figure 3.4-3) and where Drainage 2A crosses the eastern pipeline alignment (refer to Figure 3.4-4).

Wetlands occur in nutrient-rich mineral soils that are saturated through part or all of the year. Seasonal wetland communities are found in locations that contain slow-moving, stagnant or ponded shallow water during the rainy season, or where groundwater “daylights” as seeps along drainages and on slopes. Typically, these areas do not stay wet through the dry season. These seasonal areas do not develop dense perennial wetland vegetation, and in late summer months may not contain any evidence of wetland plants. Seasonally ponded areas within these wetlands may provide enough ponded surface water for aquatic invertebrates such as water striders (family Gerridae) and boatmen (family Carixidae), and more opportunistic amphibians such as the Pacific chorus frog, but are not large enough in size and do not contain prolonged deep surface water to support larger amphibians such as the federal threatened California red-legged frog.

### **Riverine**

The active channel and bed of Morro Creek and Little Morro Creek in the study area were identified as riverine habitat. Due to drought conditions, no flowing water was present when inspected in the summer of 2016. Flowing water was present during the winter and spring of 2017, and the channel was composed of cobble and gravel substrate with remnant sandbars and sediment deposits as a result of high flow events. The banks of the creek were covered with the riparian scrub habitat that was previously described. Non-native weedy species such as Cape ivy (*Delairea odorata*) were also present outside the study area adjacent to the creek channel.

Great blue heron (*Ardea herodias*) and snowy egret (*Egretta thula*) are common predators within local riverine habitats when water is present, and numerous bird species are expected to use the creek and associated riparian scrub habitat for foraging and nesting. Several species of fish are likely to occur within riverine habitat of Morro Creek when water is present, including the federally threatened south-central California coast steelhead (*Oncorhynchus mykiss*), speckled dace (*Rhinichthys osculus*), three-spined stickleback (*Gasterosteus aculeatus*), and Pacific lamprey (*Lampetra tridentata*).

### **Native Bunchgrass Grassland**

Two small patches of purple needlegrass (*Stipa pulchra*) were present in the eastern portion of the preferred WRF site beyond the top of bank of Drainage 3B (please refer to Figure 3.4-5). The native bunchgrass occurrence, although relatively small, corresponds to the Valley Needlegrass Grassland described by Holland (1986) and the Purple Needlegrass Grassland described by Sawyer et al. (2009). Other native species observed in association with native bunchgrass included morning glory (*Calystegia macrostegia*), blue-eyed grass (*Sisyrinchium bellum*), and western vervain (*Verbena lasiostachys*). This native grassland occurrence is outside the proposed development area and will not be disturbed by construction of the proposed project.

### **Rock Outcrop**

Two areas of rock outcropping were observed in the study area, one in the eastern pipeline alignment and the other in the southern part of the WRF site (see Figure 3.4-4 and 3.4-6). The rock outcroppings were located in annual grassland habitat, but did support a combination of species more characteristic of coastal scrub and purple needlegrass habitats. While California coffeeberry shrubs were present in the rock outcrop in the eastern pipeline alignment, only sporadic occurrences of purple needlegrass were present on the WRF site, and did not warrant classification of the area as native bunchgrass grassland.

### **Ornamental**

Large occurrences of planted trees along the western pipeline alignment, including Monterey cypress (*Hesperocyparis macrocarpa*) and Monterey pine (*Pinus radiata*), which are native to California, just not naturally-occurring within the study area, were mapped as ornamental habitat. These areas provide better nesting opportunities for avian species accustomed to living in urban environments than the other areas described as ruderal/disturbed, because of the continuous stand of trees.

### **Iceplant**

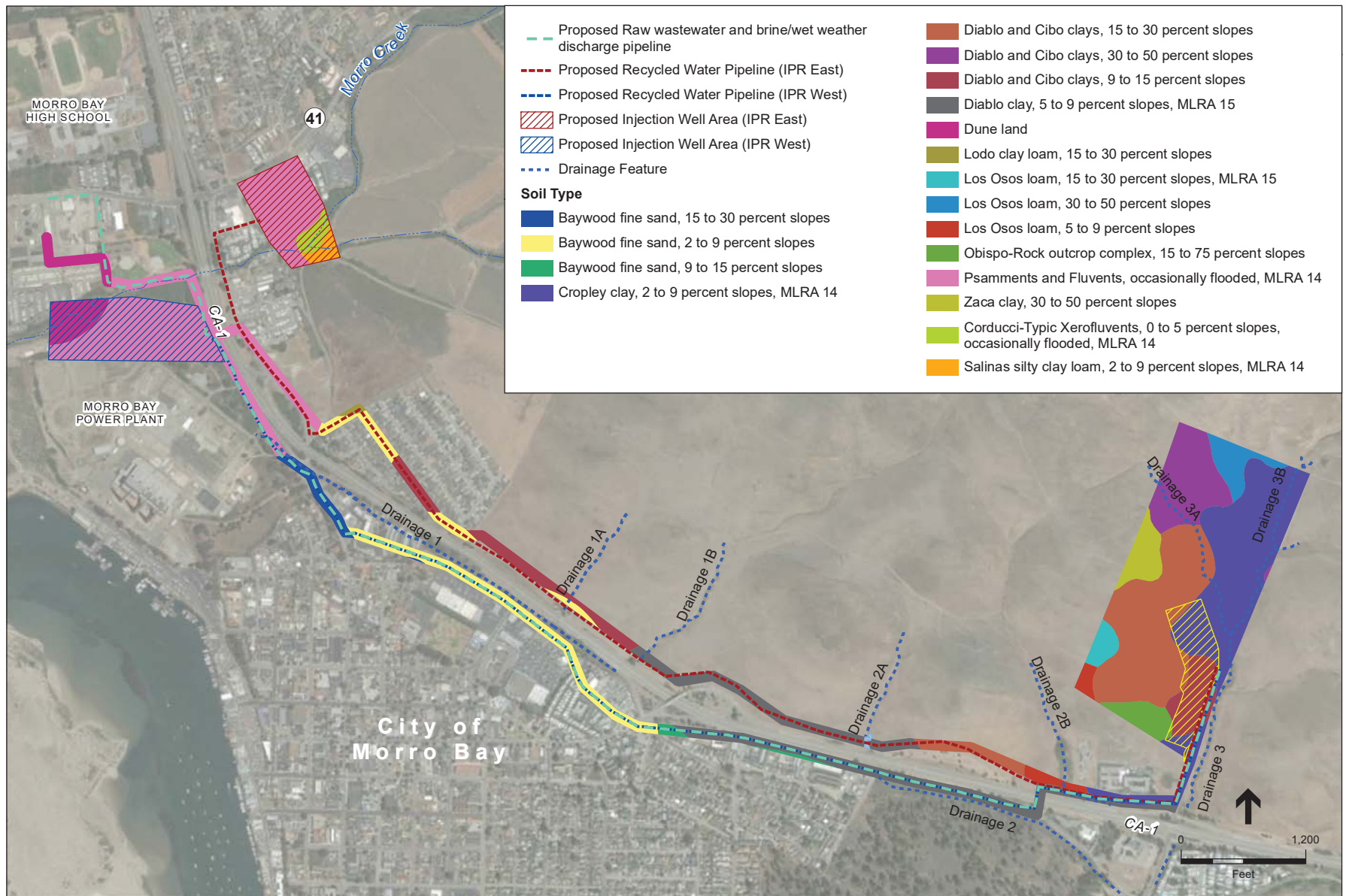
Large patches of iceplant (*Carpobrotus edulis*) were mapped on the proposed western pipeline alignment along Quintana Road and adjacent to the paved bike trail west of Main Street. Iceplant occurs on sandy soils in coastal habitats and was extensively planted historically along highways and for dune stabilization. Iceplant forms dense, prostrate mats that dominate the landscape and allows little to no herbaceous plant species in the understory. The federally-listed Morro shoulderband snail (*Helminthoglypta walkeriana*) has been known to occur within iceplant growing on dune sands within the project region.

### **Soils**

The Web Soil Survey (National Resources Conservation Service 2015) identified ten soil types as present within the study area. Those soil types are typical to coastal San Luis Obispo County, and include: Baywood fine sand, Cropley clay, Diablo clay, Diablo and Cibo clays, Dune land, Lodo clay loam, Los Osos loam, Obispo Rock Outcrop complex, Psammments and Fluvents, and Zaca clay (see **Figure 3.4-6**).







SOURCE: ESRI; USDA

Morro Bay Water Reclamation Facility Project . 150412

**Figure 3.4-6**  
Soils



### ***Special-status Biological Resources***

This section identifies special-status plant and animal species that are known or presumed to occur in the region where the proposed project would be located and considers whether these species could potentially occur in the study area. Special status species are those plants and animals that are recognized as sensitive or imperiled by federal, state, or other agencies, because of their rarity or vulnerability to various causes of habitat loss or population decline. Some of those species receive specific protection that is defined by federal or state endangered species legislation. Others have been designated as “sensitive” on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. Those species are referred to collectively as “special-status species”, following a convention that has developed in practice, but has no official sanction. More specifically, special-status species include:

- Plants or animals listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (ESA) (50 Code of Federal regulations [CFR] 17.12 [listed plants], 17.11 [listed animals] and various notices in the Federal Register [FR] [proposed species]).
- Plants or animals that are candidates for possible future listing as threatened or endangered under the federal ESA (61 FR 40, February 28, 1996);
- Plants or animals listed or proposed for listing by the State of California as threatened or endangered under the California ESA (14 California Code of Regulations [CCR] 670.5);
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, section 1900 *et seq.*);
- Plants that meet the definitions of rare and endangered under CEQA (*CEQA Guidelines*, section 15380);
- Plants considered by California Department of Fish and Wildlife (CDFW) and/or the California Native Plant Society (CNPS) to be “rare, threatened or endangered in California” (Rare Plant Ranks 1A, 1B, and 2 in CNPS 2008) and plants noted by CDFW and/or CNPS as plants about which more information is needed to determine their status, and plants of limited distribution (Rare Plant Ranks 3 and 4), or which may be included as special-status species on the basis of local significance or recent biological information; and
- Animals fully protected in California (California Fish and Game Code, sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]); and
- Plants or animals covered by a locally or state adopted species conservation plan, including sensitive plants and animals and narrow endemic plants that have reasonable potential to occur on-site.

The Estero Bay region supports numerous special-status, or rare, plant communities and species of plants and animals. Lands adjacent to the study area have been well studied for biological resources in the past, and special-status species have been identified in close proximity to the study area. As stated in the methodology section, the evaluation of special-status plant occurrence within the study area was based on a series of surveys conducted in spring and summer of 2016, spring 2017, and winter/spring 2018, and a habitat suitability analysis using a five-mile search radius to identify special-status resources that could potentially occur onsite. The studies did not

include definitive surveys to determine presence or absence of special-status wildlife such as the California red-legged frog (*Rana draytonii*) because the lower reach of Morro Creek and the ephemeral drainages in the study area do not appear to provide suitable aquatic habitat for the species. By reviewing background documents and studies from the region, as well as the CNDDDB records, a conclusion was made as to whether a particular species could be expected to occur within the study area, and ultimately be affected by the proposed project. **Table 3.4-1** includes a list of all special-status species and plant communities documented within the search area, and a determination as to their potential to occur onsite within the study area.

**TABLE 3.4-1**  
**SPECIAL-STATUS SPECIES AND VEGETATION COMMUNITIES RECORDED IN THE REGION**

Species	Status* Fed/CA/CNPS	Habitat Requirements	Project Site Suitability/Observations
<b>Lichens/Bryophytes</b>			
Popcorn lichen <i>Cladonia firma</i>	--/--/2B.1	Known in CA only from coast dunes in the Morro Bay and Los Osos area. Often forms biological soil crust and mosses.	No suitable habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
Splitting yarn lichen <i>Sulcaria isidiifera</i>	--/--/1B.1	Known from the Los Osos area growing on branches of coast live oak and maritime chaparral plants in sandy areas.	No suitable habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
Twisted horsehair lichen <i>Bryoria spiralifera</i>	--/--/1B.1	Largest known population is on the Samoa Peninsula in Humboldt Co. Possibly threatened by coastal development, air pollution, and climate change. Usually on <i>Picea sitchensis</i> , <i>Pinus contorta</i> var. <i>contorta</i> , <i>Pseudotsuga menziesii</i> , <i>Abies grandis</i> , and <i>Tsuga heterophylla</i> .	No suitable habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
<b>Plants</b>			
Arroyo de la Cruz manzanita <i>Arctostaphylos cruzensis</i>	--/--/1B.2	Perennial shrub; blooms from December to March; occurs between 60 and 310 meters in sandy soils; found in broadleaved upland forest, coastal bluff scrub, closed-cone coniferous forest, chaparral, coastal scrub and valley and foothill grassland. It is only known to occur in Monterey and San Luis Obispo Counties.	Conspicuous, perennial shrub not observed during surveys, not expected to occur within study area or be affected by the project.
Beach spectaclepod <i>Dithyrea maritima</i>	--/T/1B.1	Rhizomatous, perennial herb; blooms March through May; found in sandy soils, usually near shore, in coastal dunes and coastal scrub habitats; ranges from 3 to 50 meters in elevation.	No sand dunes present within the study area. Could be present in beach habitat west of the WWTP. Not observed during surveys. Not present in the study area.

Species	Status* Fed/CA/CNPS	Habitat Requirements	Project Site Suitability/Observations
Betty's dudleya <i>Dudleya abramsii</i> ssp. <i>bettinae</i>	--/--/1B.2	Perennial succulent; blooms May through July and is endemic to coastal San Luis Obispo County west of Cerro Romualdo; found in chaparral, coastal scrub, and valley and foothill grasslands, usually on serpentine outcrops or shallow rocky soils; ranges in elevation from 20 to 180 meters.	Suitable serpentine rock outcrop habitat is present in portions of the study area. Not observed during surveys, not expected to occur within study area or be affected by the project.
Blochman's dudleya <i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	--/--/1B.1	Perennial herb; blooms April through June; found on rocky, often clay or serpentine soils in coastal bluff scrub, chaparral, coastal scrub, and valley and foothill grassland; ranges from 5 to 450 meters in elevation.	Marginal suitable habitat present in bunchgrass grassland on clay soils. Not observed during surveys, and not expected to occur within study area or be affected by the project.
Blochman's leafy daisy <i>Erigeron blochmaniae</i>	--/--/1B.2	Rhizomatous perennial herb; blooms July through August; ranges from 3 to 45 meters in elevation and occurs in coastal dunes and coastal scrub.	This species is restricted to coastal dunes typically along the immediate coastline.  Could be present in beach habitat west of the WWTP. Not observed during surveys. Not present in the study area.
Brewer's spineflower <i>Chorizanthe breweri</i>	--/--/1B.3	Occurs in closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub habitats on serpentine derived soils and rock outcrops, mostly in rocky and gravelly areas; ranges in elevation from 45 to 800 meters; annual herb; blooms May through August.	Suitable serpentine rock outcrop habitat is present in portions of the study area. Not observed during surveys, not expected to occur within study area or be affected by the project.
California seablite <i>Suaeda californica</i>	E/--/1B.1	Perennial succulent shrub that grows along the margins of coastal salt marshes in a narrow elevational range from 0 to 5 meters; known to occur in the Morro Bay area	No coastal salt marsh habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
Cambria (San Luis Obispo County) morning-glory <i>Calystegia subacaulis</i> ssp. <i>episcopalis</i>	--/--/4.2	Rhizomatous, perennial herb; blooms from April to May; occurs in chaparral, cismontane woodland, and sparse to dense grassland covering sloped or flat areas in clay- rich soils; ranges from 60-500 meters; restricted to outer South Coast ranges in SLO and Santa Barbara Counties.	Species is present within grassland areas of the WRF site and in patchy occurrences along the eastern pipeline alignment.
Coast woolly threads <i>Nemacaulis denudata</i> var. <i>denudata</i>	--/--/1B.2	Annual herb that grows in coastal sand dunes in open spaces of the coastal strand; known to occur in the Montana de Oro area in sandy soils.	No suitable habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
Coastal goosefoot <i>Chenopodium littoreum</i>	--/--/1B.2	Annual herb that grows on sandy flats in coastal dunes along wetland and salt marsh habitat. Typically found between 30 and 100 meters, and is known from the Morro Bay estuary.	No coastal dune or salt marsh habitats present. Not observed during surveys, not expected to occur within study area or be affected by the project.

Species	Status* Fed/CA/CNPS	Habitat Requirements	Project Site Suitability/Observations
Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	--/--/1B.1	Annual herb that grows in coastal salt marshes, playas, valley and foothill grassland, and vernal pools usually on alkaline soils from 1- 1,400 meters.	Marginal suitable habitat present in bunchgrass grassland on clay soils. Not observed during surveys, and not expected to occur within study area or be affected by the project.
Cuesta Ridge thistle <i>Cirsium occidentale</i> var. <i>lucianum</i>	--/--/1B.2	Perennial herb known to occur along the Cuesta Ridge in openings on steep rocky serpentine slopes from 500 to 750 meters.	Study area is outside the known range for this species. Not observed during surveys, not expected to occur within study area or be affected by the project.
Dacite manzanita <i>Arctostaphylos tomentosa</i> ssp. <i>dacitcola</i>	--/--/1B.1	Perennial shrub known to occur in chaparral and cismontane woodland. Only one known occurrence of this species in SLO County on the porphyry buttes (Hollister Peak) east of Morro Bay	No suitable habitat for this species present onsite. Perennial shrub would have been identifiable if encountered onsite during the surveys. Not observed during surveys. Not present in the study area.
Eastwood's larkspur <i>Delphinium parryi</i> ssp. <i>eastwoodiae</i>	--/--/1B.2	Perennial herb known to occur on serpentine based soils (clays) and outcrops in the general San Luis Obispo area with collections made on Camp San Luis Obispo. Blooms March to May.	Suitable serpentine rock outcrop habitat is present in portions of the study area. Not observed during surveys, not expected to occur within study area or be affected by the project.
Hardhams evening primrose <i>Camissoniopsis hardhamiae</i>	--/--/1B.2	Annual herb found in chaparral, cismontane woodland habitats on decomposed carbonate or recently burned soils; 330-500 meter elevation. Typically blooms March to May.	No suitable habitat for this species present onsite. Project location is well below the species elevational range. Not observed during surveys. Not present in the study area.
Indian knob mountainbalm <i>Eriodictyon altissimum</i>	E/C/1B.1	Perennial, evergreen shrub found on ridges in open, disturbed areas within chaparral on Pismo sandstone ranges in elevation from 90 to 270 meters	No suitable habitat for this species present onsite. Perennial shrub would have been identifiable if encountered onsite during the surveys. Not observed during surveys. Not present in the study area.
Jones' layia <i>Layia jonesii</i>	--/--/1B.2	Annual herb; blooms March through May; occurs on clay soils in close association to serpentine outcrops in chaparral and valley and foothill grassland; ranges in elevation from 5 to 400 meters.	Suitable serpentine rock outcrop habitat is present in portions of the study area. Not observed during surveys, not expected to occur within study area or be affected by the project.
Marsh sandwort <i>Arenaria paludicola</i>	E/E/1B.1	Stoloniferous, perennial herb; blooms May to August; occurs in freshwater marshes and swamps, bogs and fens, and some coastal scrub, ranging from 3 to 170 meters in elevation; common associates include Typha, Juncus, and Scirpus.	Marginal freshwater marsh habitat present in drainages along the eastern pipeline alignment.  Not observed during surveys, not expected to occur within study area or be affected by the project.
Miles' milk-vetch <i>Astragalus didymocarpus</i> var. <i>milesianus</i>	--/--/1B.2	Annual herb; blooms March to June; found in coastal scrub habitats, typically occurring on clay soils; ranges in elevation 20 to 90 meters.	Marginal coastal scrub habitat present in study area. Not observed during surveys, not expected to occur within study area or be affected by the project.

Species	Status* Fed/CA/CNPS	Habitat Requirements	Project Site Suitability/Observations
Morro manzanita <i>Arctostaphylos morroensis</i>	T/--/1B.1	Evergreen shrub; blooms December through March; ranges in elevation from 5 to 205 meters; typically found on sandy-loam or Baywood sands in chaparral, woodlands, coastal dunes and coastal scrub.	Project site is outside the known range of this species. Not observed during surveys. Not present onsite.
Most beautiful jewel-flower <i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	--/--/1B.2	Annual herb; blooms April through June; occurs on serpentine soils in chaparral, valley and foothill grassland, and cismontane woodland, ranging from 120 to 1000 meters in elevation.	Suitable serpentine rock outcrop habitat is present in portions of the study area. Not observed during surveys, not expected to occur within study area or be affected by the project.
Oso manzanita <i>Arctostaphylos osoensis</i>	--/--/1B.2	Perennial shrub known to occur in chaparral and cismontane woodland on the porphyry buttes east of Morro Bay.	No suitable habitat present. Shrub would have been identifiable if encountered during surveys. Not observed during surveys. Not present in the study area.
Palmer's monardella <i>Monardella palmeri</i>	--/--/1B.2	Rhizomatous, perennial herb; blooms June through August; occurs on serpentine soils in chaparral and cismontane woodland habitats at elevations ranging from 200 to 800 meters.	No suitable habitat present due to lack of rocky serpentine soils. Not observed during surveys, not expected to occur within study area or be affected by the project.
Pecho manzanita <i>Arctostaphylos pechoensis</i>	--/--/1B.2	Perennial shrub; blooms November to March; occurs on siliceous shale in closed-cone coniferous forest, chaparral, and coastal scrub habitats, ranging from 170 to 1100 meters in elevation.	No suitable habitat present. Shrub would have been identifiable if encountered during surveys. Not observed during surveys. Not present in the study area.
Salt marsh bird's-beak <i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	E/E/1B.2	Annual herb known to occur along margins of salt marsh habitat and coastal dunes. Limited to the higher zones of the Morro Bay estuary.	No salt marsh habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
San Benito fritillary <i>Fritillaria viridea</i>	--/--/1B.2	Bulbiferous, perennial herb; blooms March to May; ranges from 200 to 1525 meters in elevation and occurs in chaparral on serpentine soils.	Suitable serpentine rock outcrop habitat is present in portions of the study area. Not observed during surveys, not expected to occur within study area or be affected by the project.
San Joaquin spearscale <i>Atriplex joaquinana</i>	--/--/1B.2	Annual herb that grows in seasonal alkali wetlands and alkali sink scrub typically found in the San Joaquin Valley. One recorded occurrence of this species from 1899 in CNDDB was from the vicinity of Morro Bay.	No alkali wetland habitats present, and no other alkali wetland indicator species such as <i>Frankenia salina</i> were observed. Not observed during surveys, and unlikely to occur onsite.
San Luis mariposa-lily <i>Calochortus obispoensis</i>	--/--/1B.2	Bulbiferous, perennial herb; blooms May to July; ranges from 75 to 730 meters on sandstone, serpentine and/or sandy soils in chaparral, coastal scrub and valley and foothill grassland; endemic to San Luis Obispo County.	Suitable serpentine rock outcrop habitat is present in portions of the study area. Not observed during surveys, not expected to occur within study area or be affected by the project.



Species	Status* Fed/CA/CNPS	Habitat Requirements	Project Site Suitability/Observations
San Luis Obispo fountain thistle (Chorro Creek bog thistle) <i>Cirsium fontinale</i> var. <i>obispoense</i>	E/E/1B.2	Perennial herb; blooms February to July; ranges from 35 to 365 meters in elevation; occurs in chaparral and cismontane woodland habitats, often in serpentine seeps.	No suitable habitat present due to lack of serpentine seeps. This perennial plant was not observed during surveys. Not expected to occur within study area or be affected by the project.
San Luis Obispo owl's clover <i>Castilleja densiflora</i> ssp. <i>obispoensis</i>	--/--/1B.2	Annual herb; blooms in April; ranges from 10 to 400 meters in elevation and occurs in meadows, seeps, and valley and foothill grassland.	Species is present within native bunchgrass grassland areas of the WRF site, outside the area proposed for development. Not expected to be affected by the project.
Southern curly-leaved monardella <i>Monardella undulata</i>	--/--/4.2	Annual herb; blooms May through September; occurs on dunes and sandy soils in coastal strand, chaparral, northern coastal scrub, coastal sage scrub, at elevations below 300 meters.	No suitable coastal scrub habitat present. Not observed during surveys. Not expected to occur within study area or be affected by the project.
<b>Invertebrates</b>			
Globose dune beetle <i>Coelus globosus</i>	--/SA/--	Inhabits coastal sand dune habitat in foredunes and sand hummocks most common beneath dune vegetation.	No suitable habitat present. Not expected to occur within study area or be affected by the project.
Mimic tryonia (=California brackishwater snail) <i>Tryonia imitator</i>	--/SA/--	Found only in permanently submerged areas in coastal lagoons.	No suitable habitat present. Not expected to occur within study area or be affected by the project.
Monarch butterfly <i>Danaus plexippus</i>	--/SA/--	Wind-protected tree groves of eucalyptus, Monterey pine and cypress with nectar and water sources nearby.	No suitable overwintering habitat present in study area. Species was observed flying and foraging in study area, but no overwintering habitat is present.
Morro Bay blue butterfly <i>Plebejus icarioides moroensis</i>	--/SA/--	Inhabits stabilized dunes and adjacent areas of coastal San Luis Obispo and NW Santa Barbara counties.	No suitable habitat present. Not expected to occur within study area or be affected by the project.
Morro shoulderband snail <i>Helminthoglypta walkeriana</i>	E/--/--	Known to occur in coastal sage scrub and dune scrub habitats on Baywood fine sands near Morro Bay.	Potentially suitable sandy soils present along Quintana Road and near Morro Bay Power Plant. Potentially present in iceplant and other suitable vegetative cover on sandy soils.
Obscure bumble bee <i>Bombus caliginosus</i>	--/ SA / --	The Pacific Coast from Santa Barbara County north to Washington state. Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia, and Phacelia.	Marginal vegetative opportunities present in grassland areas. Not expected to occur within study area or be affected by the project.
San Luis Obispo pyrg <i>Pyrgulopsis taylori</i>	--/SA/--	Freshwater habitats in San Luis Obispo County.	Suitable habitat present in Morro Creek and Little Morro Creek further upstream outside study area. Small ephemeral drainages within the study area do not provide suitable habitat.
Sandy beach tiger beetle <i>Cicindela hirticollis grvida</i>	--/SA/--	Inhabits area adjacent to non-brackish water along the coast of California from San Francisco Bay to Northern Mexico.	No suitable habitat present. Not expected to occur within study area or be affected by the project.

Species	Status* Fed/CA/CNPS	Habitat Requirements	Project Site Suitability/Observations
<b>Fish</b>			
Steelhead – South/Central California ESU <i>Oncorhynchus mykiss irideus</i>	T/SSC/--	Fresh water, fast flowing, highly oxygenated, clear, cool stream where riffles tend to predominate pools.	Seasonal habitat present in Morro Creek and Little Morro Creek. Morro Creek is identified by USFWS as critical habitat for the species. Not expected to occur in the small ephemeral drainages within the study area.
Tidewater goby <i>Eucyclogobius newberryi</i>	E/SSC/--	Brackish water habitats along the California coast from San Diego county to Del Norte county.	This species is known to occur in tidal portions of Morro Creek. Could potentially be present in study area when surface water is present.
<b>Amphibians/Reptiles</b>			
California red-legged frog <i>Rana draytonii</i>	T/SSC/--	Lowland and foothills in or near permanent or semi-permanent sources of deep water (at least 0.5 meter) bordered by emergent wetland and/or riparian vegetation. May use a variety of aquatic and upland habitats during the year for refugia and dispersal.	Suitable habitat present in Morro Creek and Little Morro Creek, but the species has not been found in the study area. Morro Creek is identified by USFWS as critical habitat for the species. Not expected to occur in the small ephemeral drainages within the study area.
Coast horned lizard <i>Phrynosoma blainvillii</i>	--/SSC/--	Frequents a wide variety of habitat including sandy washes with scattered shrubs and open areas for sunning. Loose soils for burial.	Portions of the study area that contain loose sandy soils have been disturbed by development thereby reducing the potential for this species to occur. No suitable habitat present in clay soils areas.
Coast Range newt <i>Taricha torosa</i>	--/SSC/--	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats & will migrate over 1 km to breed in ponds, reservoirs & slow moving streams.	Seasonal habitat present in Morro Creek and Little Morro Creek further upstream outside study area. Small ephemeral drainages within the study area do not provide suitable habitat.
Silvery/Black legless lizard <i>Anniella pulchra</i>	--/SSC/--	Sandy or loamy soils in valley and foothill woodlands, chaparral, coastal scrub and coastal dunes.	Portions of the study area that contain loose sandy soils have been disturbed by development and thereby reduce potential for this species to occur. No suitable habitat present in clay soils areas.
Southern Pacific (western) pond turtle <i>Emys marmorata</i>	--/SSC/--	Basking sites such as partially submerged logs, vegetation mats, or open mud banks.	Suitable habitat present in Morro Creek and Little Morro Creek, but the species has not been found in the study area. Small ephemeral drainages within the study area do not provide suitable habitat.

Species	Status* Fed/CA/CNPS	Habitat Requirements	Project Site Suitability/Observations
<b>Birds</b>			
California black rail <i>Laterallus jamaicensis coturniculus</i>	--/T/--	Freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that does not fluctuate and dense vegetation for nesting.	No suitable habitat present. Small ephemeral drainage features are not suitable habitat for this species. Known to occur in the estuarine habitats of Morro Bay. Not expected to occur within study area or be affected by the project.
California clapper rail <i>Rallus longirostris obsoletus</i>	E/E/--	Occurs in salt-water and brackish marshes traversed by tidal sloughs with abundant growths of pickleweed.	No suitable habitat present. Species is known to occur further west of the study area and in the estuarine habitats of Morro Bay. Not expected to occur within study area or be affected by the project.
Cooper's hawk <i>Accipiter cooperii</i>	--/WL/-- (nesting)	Wooded areas. Nests in tall trees and often hunts around human structures.	Potential roosting and nesting habitat on-site in large trees present along the pipeline alignments. Ornamental trees (cypress and pines) were searched during field work and no nests observed. Could forage in grasslands and occur seasonally in the study area.
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	T/SSC/-- (nesting)	Sandy beaches, salt pond levees or shores of large alkali lakes. Sandy, gravelly or friable soils required for nesting. Federal listing refers only to the Pacific coastal population.	No suitable habitat present. Species is known to occur further west of the study area along beach habitats. Not expected to occur within study area or be affected by the project.
<b>Mammals</b>			
American badger <i>Taxidea taxus</i>	--/SSC/--	Friable soils and open, uncultivated ground for denning. Preys on burrowing rodents such as ground squirrels.	Suitable habitat is present in grasslands, but no prey base or dens were observed within the study area. Unlikely, but could potentially occur as a transient. Unlikely to be affected by the project.
Big free-tailed bat <i>Nyctinomops macrotis</i>	--/SSC/--	Occurs in low lying arid areas of Southern California. Needs high cliffs or rocky outcrops for roosting sites. Feeds primarily on large moths.	No suitable habitat present. Not expected to roost within study area or be affected by the project.
Morro Bay kangaroo rat <i>Dipodomys heermanni morroensis</i>	E/E/--	Coastal sage scrub on the south side of Morro Bay. Needs sandy soil on stabilized dunes with vegetation.	No suitable habitat present. Not expected to occur within study area or be affected by the project.
Pallid bat <i>Antrozous pallidus</i>	--/SSC/--	Occurs in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts under bridges and in some areas in old structures such as barns.	Potentially suitable roosting habitat present at Highway 1 and bike path bridges over Morro Creek. Suitable foraging habitat present in grassland areas. Could occur, but not expected to be affected by the project.
Townsend's western big-eared bat <i>Corynorhinus townsendii townsendii</i>	--/SSC/--	Requires caves, tunnels, mines, or similar man-made structures for roosting. This bat feeds primarily on moths, but will eat a variety of soft-bodied insects.	Suitable foraging habitat present throughout the study area. Could occur, but unlikely to be affected by the project.

Species	Status* Fed/CA/CNPS	Habitat Requirements	Project Site Suitability/Observations
<b>Plant/Natural Communities</b>			
Central Dune Scrub			Not present in study area
Central Maritime Chaparral			Not present in study area
Coastal Brackish Marsh			Not present in study area
Northern Coastal Salt Marsh			Not present in study area
Bunchgrass Grassland (purple needlegrass)			Not present in study area
Central Coast Arroyo Willow Riparian Forest			Not present in study area
<b>Legend:</b> <b>Federal Endangered Species Act</b> E- Endangered T- Threatened C- Candidate for Listing  <b>California Endangered Species Act/CDFW</b> E- Endangered C- Candidate for Listing SA- Special Animal (tracked in the CNDDDB) SSC- Species of Special Concern T- Threatened WL- Watch List			
<b>California Rare Plant Rank Society (CNPS)</b> 1A- Plants presumed extinct in California 1B- Plants rare, threatened, or endangered in California elsewhere 2- Plants rare, threatened, or endangered in California but more common elsewhere 3- Plants about which we need more review 4- Plants of limited distribution <b>Threat Rank</b> .1 Seriously Endangered .2 Fairly Endangered .3 Not Very Endangered			

### Special-Status Natural Communities

The CNDDDB search conducted in March 2016 and again in 2017 identified occurrences of five special-status plant communities within the proposed project vicinity, which included Central Maritime Chaparral, Coastal Brackish Marsh, Northern Coastal Salt Marsh, Coastal and Valley Freshwater Marsh, and Central Dune Scrub. Additional special-status plant communities observed within the study area include Riparian Scrub and Native Bunchgrass Grassland.

### Special-Status Plants

As shown in **Table 3.4-1**, the CNDDDB identified 30 special-status plant species, and three lichen species known to occur within a five-mile radius of the study area. Although 2016 was a drought year, sufficient rain fell to initiate germination and growth of annual plants in the study area. Surveys in 2016 identified one CRPR 1B plant species, San Luis Obispo owl's clover (*Castilleja densiflora* ssp. *obispoensis*) growing in areas of native bunchgrass grassland habitat on the WRF site. Additional surveys conducted in March and April 2017 confirmed San Luis Obispo owl's clover was in the same general location observed in 2016. Cambria morning glory (*Calystegia subacaulis* ssp. *episcopalis*) was also identified in the study area, but it is a CRPR 4 species (a watch list) and is common throughout coastal habitats in the general area and should not be considered a rare plant. Surveys to date did not detect any additional special-status plants in the study area.

The majority of the special-status plant species identified by the CNDDDB have highly specialized habitat requirements (i.e., they occur on serpentine rock outcrops and serpentine derived soils, active and stabilized coastal dunes, in maritime chaparral, or in brackish marsh habitats, etc.) that do not occur within the study area. Although coastal sand dunes, and the Morro Bay estuary are in relatively close proximity to the study area, they are not present onsite. In addition, the rock

outcroppings identified onsite were not strongly influenced by serpentine material, and were carefully searched for any serpentine endemic species. Upslope outside the study area where serpentine rock outcrops were observed were inspected to confirm serpentine endemic species are present in the area, just not within the study area developed for the proposed project.

Species identified in the area by the CNDDDB that are known to occur on serpentine based soils such as La Panza mariposa lily (*Calochortus obispoensis*), Jones layia (*Layia jonesii*), Betty's Dudleya (*Dudleya abramsii* ssp. *bettinae*), and most beautiful jewel flower (*Streptanthus albidus* ssp. *peramoenus*) were not observed in the study area. The gently sloping hills with clay soils dominated by weedy non-native annual grasses and forbs do not provide suitable habitat for these serpentine endemic species. Similarly, special-status plants known to occur in coastal salt marsh habitat such as salt marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*) and California seablite (*Suaeda californica*) are not present due to lack of suitable habitat. In addition, a number of species identified in the database search are known from higher elevations in the Santa Lucia Mountains such as San Benito fritillary (*Fritillaria viridea*) and Cuesta Ridge thistle (*Cirsium occidentale* var. *lucianum*). Due to the lack of suitable habitat and range restrictions, these species are not expected to occur onsite.

Perennial shrubs such as Arroyo de la Cruz manzanita (*Arctostaphylos cruzensis*), Morro manzanita (*Arctostaphylos morroensis*), dacite manzanita (*Arctostaphylos tomentosa* ssp. *daciticola*), and Indian Knob mountainbalm (*Eriodictyon altissimum*) were not observed during surveys, and would have been identifiable at the times that field surveys were conducted. As such, those species are not expected to occur onsite or be affected by the proposed project. Moreover, black-flowered figwort (*Scrophularia atrata*), an herbaceous perennial species was not observed during field surveys of the study area, and is not expected to occur onsite.

Coastal dune species known from the region such as beach spectaclepod (*Dithyrea maritima*), Blochman's leafy daisy (*Erigeron blochmaniae*), coast woolly-heads (*Nemacaulis denudata*), and coastal goosefoot (*Chenopodium littoreum*) occur in sand dune habitats not found in the study area. While coastal sands are mapped in the western part of the study area, they are in currently developed or disturbed areas that would not support these species. No impacts to suitable habitat for these species would occur since the preferred and proposed project sites are separated from the immediate coastline and does not contain dune habitat.

The survey efforts identified one special-status plant, San Luis Obispo owl's clover, in native grassland habitat on the WRF site. Two medium-sized occurrences (estimated at approximately 200 plants total on 0.48 acres) were observed in distinct patches where purple needlegrass was dominant and non-native annual grasses were less dense. As previously stated, Cambria (the County) morning glory, a CRPR 4 watch list plant, was observed in scattered occurrences as a common component of the annual grassland along the proposed eastern pipeline alignment and preferred WRF site.

### Special-Status Animals

The CNDDDB contained occurrence data for 24 special-status animal species known to occur within the general proposed project area. Federally designated critical habitat areas for six species

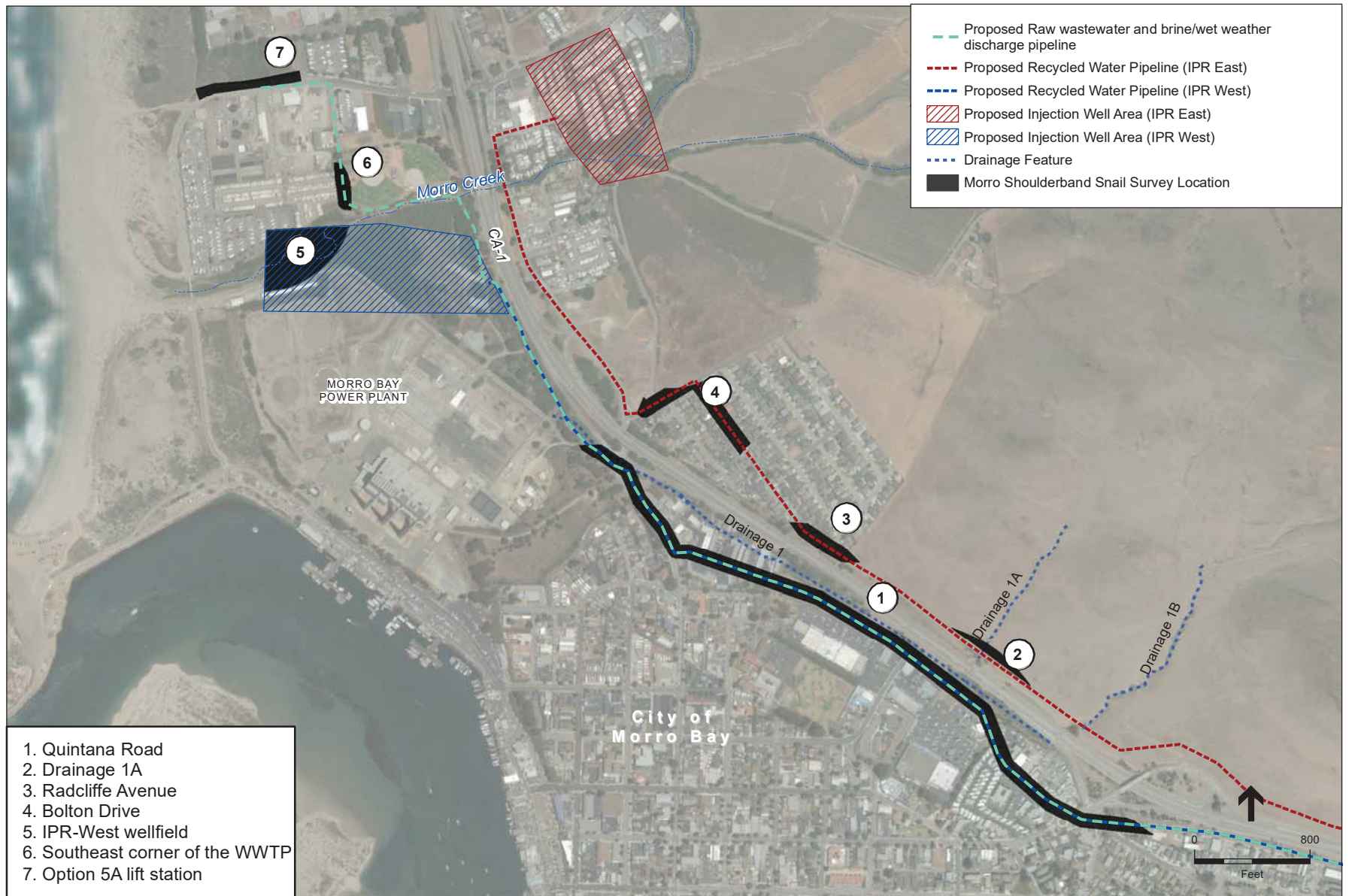
are also present within the five-mile search radius. Similar to the special-status plant discussion above, the majority of the special-status animals identified in the CNDDDB search are not expected to occur in the study area due to the lack of suitable habitat and generally disturbed and urban conditions. The majority of the preferred WRF site and the proposed eastern pipeline alignment are highly disturbed from long-term grazing, and, except for patchy riparian areas, are not expected to provide suitable habitat conditions for special-status animals due to lack of habitat diversity. The proposed western pipeline alignment consists primarily of developed areas and paved roadways, and has very low habitat value for special-status animals.

Dune species, specifically the sandy beach tiger beetle (*Cicindela hirticollis gravida*) and globose dune beetle (*Coelus globosus*), may be present west or south of the study area in coastal dunes, but no true dune habitat is present within the study area even though Dune Land is mapped by the USDA as a soil type within the study area. Similarly, no habitat for shorebirds such as western snowy plover (*Charadrius alexandrinus nivosus*) and California black rail (*Rallus longirostris obsoletus*) is present since the area is separated from the immediate coastline and foredune habitat. Species such as the coast horned lizard (*Phrynosoma blainvillii*), Monarch butterfly (*Danaus plexippus*), and Morro Bay blue butterfly (*Plebejus icarioides morroensis*) also have specific habitat attributes or host plant requirements that are not present in the study area, and therefore, those species are not expected to occur.

The Morro shoulderband snail (*Helminthoglypta walkeriana*, MSS) is a federally endangered mollusk found in coastal scrub habitats on Baywood fine sand soil and Dune Lands in the Los Osos and Morro Bay areas. The species has been observed in, and has adapted to, non-native habitats such as iceplant mats and veldt grass (*Ehrharta calycina*) stands growing on sandy soils. It does not occur on other soil types such as clay. Suitable sandy soil conditions for the species are present along portions of Quintana Road and the southeast corner of the WWTP in the proposed western pipeline alignment, small portions of the proposed eastern pipeline alignment at Bolton Drive, Radcliffe Avenue, and Drainage 1A and the northwest corner of the proposed IPR West wellfield (see **Figure 3.4-7**). Although the study area is mostly developed and disturbed by urban development, areas with low growing vegetation growing on sandy soils could provide low quality habitat for the species.

The California red-legged frog (CRLF), tidewater goby (*Eucyclogobius newberryi*), southern steelhead (*Oncorhynchus mykiss irideus*), and western pond turtle (*Emys marmorata*) could potentially be present, at least on a seasonal basis, in Morro Creek at the proposed pipeline crossing locations. Species presence would be dependent on flowing or ponded water within the channel, and would likely be temporary use within the study area related to migration or foraging instead of permanent occupation since suitable breeding habitat does not appear to be present in this portion of the creek.





SOURCE: ESRI; ESA

Morro Bay Water Reclamation Facility Project . 150412

**Figure 3.4-7**

Morro Shoulderband Snail Survey Locations





The USFWS has identified critical habitat for steelhead and CRLF in the region, including the upstream of the study area in the Morro Creek watershed, including Little Morro Creek. The evaluation of potential aquatic special-status species occurrence onsite did not include protocol-level surveys for the two species, but did include direct observation of onsite conditions and review of biological reports and the CNDDDB records documenting their presence in the Morro Creek watershed. The three ephemeral drainage features within the study area that drain to Morro Creek and Chorro Creek do not provide suitable habitat for any fish species. Since they are highly ephemeral in nature and have prolonged periods of time when no surface water is present, mobile species such as CRLF and western pond turtle would be unlikely to occur in these features within the study area.

A number of bird species are known from the general area and could potentially utilize grasslands, scrub, trees and ornamental habitats in the study area as foraging and nesting habitat, including Cooper's hawk (*Accipiter cooperii*). Other special-status bird species known from the region such as burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), peregrine falcon (*Falco peregrinus anatum*), golden eagle (*Aquila chrysaetos*), and white-tailed kite (*Elanus leucurus*) could potentially occur in the vicinity of the study area at some point during the year, but would not be expected to nest onsite due to the lack of suitable habitat conditions. These species are more likely to occur in undeveloped areas in the hills to the north and east of the study area, and occur in the vicinity of the study area as uncommon transients during foraging or migration periods.

Bat species such as the pallid bat (*Antrozous pallidus*) and big free-tailed bat (*Nyctinomops macrotis*) usually roost on high cliffs or rocky outcrops. While they may forage over and around the study area, there is no suitable roosting habitat onsite (man-made or natural).

American Badger (*Taxidea taxus*) could also forage on the site based on known occurrence in the general area. American badgers are known to utilize many different habitats and have a large home range. No badger activity or potential den sites were observed during surveys of the study area, and there were no large ground squirrel colonies that would provide a suitable prey base for this mobile carnivore.

As stated above, the evaluation of special-status wildlife species occurrence within the study area was based on a habitat suitability analysis coupled with direct field observations and knowledge of specific species' biology and ecological requirements. It did not include protocol surveys to determine presence or absence. Based on this analysis, it is unlikely that any special-status wildlife species would be present within the preferred WRF site, with the exception of seasonal bird nesting activity that may occur in willow scrub and grasslands.

Based on the lack of suitable habitat, aquatic species, such as CRLF, southern steelhead, tidewater goby, and western pond turtle, are unlikely to be present in or near the preferred WRF site or along the proposed pipeline alignments except at the Morro Creek crossing locations. Morro shoulderband snail could be present in vegetated sandy soil areas along portions of the eastern and western proposed pipeline alignments, but most of the area is highly disturbed and developed and provides low quality habitat. Nonetheless, formal surveys may be

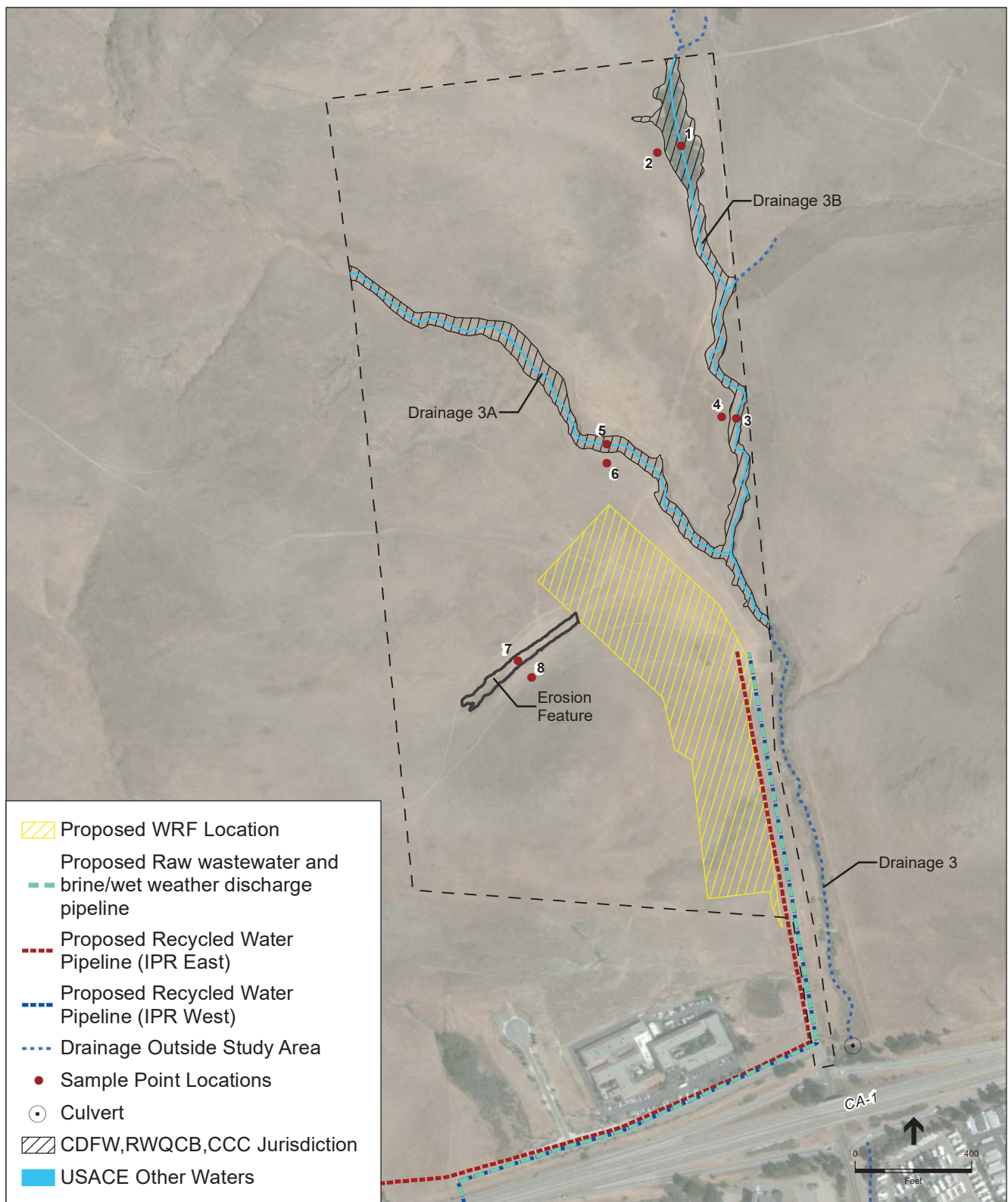
necessary for this species given the presence of iceplant and patchy coastal scrub habitats on Baywood fine sands (Figure 3.4-7).

### ***Jurisdictional Waters***

Morro Creek and three primary drainage features (labeled Drainages 1-3) are located within the study area (please refer to Figures 3.4-1 to 3.4-5). Morro Creek is a large seasonal stream that drains a watershed of approximately 15,400 acres directly to the Pacific Ocean. In the study area, riparian scrub habitat forms the primary plant cover along Morro Creek, but the channel did not support a predominance of wetland vegetation at the proposed bike path crossing area. No water was present in the channel during the summer of 2016, but high flows were observed in the winter and spring of 2017.

The National Wetland Inventory (NWI; USFWS, 2017) identifies the small drainage features bisecting or paralleling the study area as containing both riverine and wetland habitats that are tributaries to either Morro or Chorro Creeks (see Figure 3.4-1). Those small drainage features have small watersheds originating in open grasslands to the north of the study area, and drain in a generally southerly direction to culvert crossings under Highway 1. Drainage 1 flows in a northwesterly direction along Quintana Road towards Morro Creek, which then drains directly into the Pacific Ocean. A clear hydrologic connection between Drainage 1 and Morro Creek could not be identified in the field, but is anticipated to be present outside the study area on the Morro Bay Power Plant property. When present, surface water in the eastern drainages (*i.e.*, Drainages 2 and 3) flows in a generally southerly direction to Chorro Creek, which then drains into Morro Bay and ultimately the Pacific Ocean further to the west of the study area. All of the drainages exhibited well-defined bed and bank structure, and scour and deposition features were also present. Although select areas of the drainage features contained some riparian or seasonal wetland vegetation, the majority of the drainage features onsite were dominated by annual grasses, shrubs such as coyote brush, and other non-wetland plant species. Drainages 1, 2, and 3 shown on the habitat maps (Figures 3.4-2 through 3.4-5) and the jurisdictional delineation map for the WRF site (see **Figure 3.4-8**) are expected to be “jurisdictional drainages” subject to Clean Water Act and California Fish and Game Code permitting requirements for any future activities that disturb their beds or banks.

A small, isolated erosional, swale-like feature was present on the WRF site to the west of Drainage 3 (refer to Figure 3.4-8). This feature exhibited weakly defined bank features in its upper portion, and did not have any signs of periodic flowing water such as bare soils, scour, sediment or debris deposits, and shelving. No ordinary high water mark (OHWM) was visible, and the feature vanishes in upland annual grassland habitat with no identifiable hydrologic surface connection to the well-defined channel of Drainage 3 to the east. The feature supported annual grassland habitat consistent with the surrounding upland areas. Based on the lack of hydrologic connection to Drainage 3 and no visible OHWM, this erosional feature was determined to not be subject to Clean Water Act or California Fish and Game Code requirements.



SOURCE: ESRI; USFWS 2018

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**Figure 3.4-8**  
Jurisdictional Delineation

## 3.4.2 Regulatory Framework

### Federal

#### ***Endangered Species Act (USC, Title 16, § 1531 through 1543)***

The Federal Endangered Species Act (FESA) and subsequent amendments provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. In addition, the FESA defines species as threatened or endangered and provides regulatory protection for listed species. The FESA also provides a program for the conservation and recovery of threatened and endangered species as well as the conservation of designated critical habitat that USFWS determines is required for the survival and recovery of these listed species.

Section 7 of the FESA requires federal agencies, in consultation with and assistance from the Secretary of the Interior or the Secretary of Commerce, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. The U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) share responsibilities for administering the FESA. Regulations governing interagency cooperation under Section 7 are found in CCR Title 50, Part 402. The opinion issued at the conclusion of consultation will include a statement authorizing “take” (i.e., to harass, harm, pursue, hunt, wound, kill, etc.) that may occur incidental to an otherwise legal activity.

Section 9 lists those actions that are prohibited under the FESA. Although take of a listed species is prohibited, it is allowed when it is incidental to an otherwise legal activity. Section 9 prohibits take of listed species of fish, wildlife, and plants without special exemption. The definition of “harm” includes significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns related to breeding, feeding, or shelter. “Harass” is defined as actions that create the likelihood of injury to listed species by disrupting normal behavioral patterns related to breeding, feeding, and shelter significantly.

Section 10 provides a means whereby a nonfederal action with the potential to result in take of a listed species can be allowed under an incidental take permit. Application procedures are found at 50 CFR 13 and 17 for species under the jurisdiction of USFWS and 50 CFR 217, 220, and 222 for species under the jurisdiction of NMFS.

#### ***Coastal Zone Management Act***

The Coastal Zone Management Act (CZMA) establishes national policy to preserve, protect, develop, and, where possible, restore or enhance the resources of the nation’s coastal zones. In accordance with Section 307(c) of the CZMA, after approval by the Secretary of Commerce of a state’s management program, any applicant for a required Federal license or permit to conduct an activity in or outside of the coastal zone affecting any land or water use or natural resource of the coastal zone of that state shall provide in the application to the licensing or permitting agency a certification that the proposed activity complies with the enforceable policies of the state’s approved program and that such activity would be conducted in a manner consistent with the program. The Federal government certified the California Coastal Management Program (CCMP)

in 1977. The enforceable policies of that document are Chapter 3 of the California Coastal Act of 1976. All consistency documents are reviewed for consistency with these policies.

For all of the California Coast, except San Francisco Bay, the state agency responsible for implementing the CZMA is the California Coastal Commission (CCC). The CCC is responsible for reviewing proposed Federal and Federally-licensed or permitted activities to assess their consistency with the approved CCMP. Please refer to Chapter 7, CEQA Plus Considerations, for additional information.

### ***Migratory Bird Treaty Act (16 USC 703 through 711)***

The Migratory Bird Treaty Act (MBTA) is the domestic law that affirms, or implements, a commitment by the U.S. to four international conventions (with Canada, Mexico, Japan, and Russia) for the protection of a shared migratory bird resource. The MBTA makes it unlawful at any time, by any means, or in any manner to pursue, hunt, take, capture, or kill migratory birds. The law also applies to the removal of nests occupied by migratory birds during the breeding season. The MBTA makes it unlawful to take, pursue, molest, or disturb these species, their nests, or their eggs anywhere in the United States.

### ***Clean Water Act Section 401***

Applicants for a federal license or permit for activities which may discharge to waters of the US must seek Water Quality Certification from the state or Indian tribe with jurisdiction.<sup>1</sup> Such Certification is based on a finding that the discharge would meet water quality standards and other applicable requirements. In California, Regional Water Quality Control Boards (Regional Boards) issue or deny Certification for discharges within their geographical jurisdiction. Water Quality Certification must be based on a finding that the proposed discharge would comply with water quality standards, which are defined as numeric and narrative objectives in each Regional Board's Basin Plan. Where applicable, the State Water Resources Control Board (SWRCB) has this responsibility for projects affecting waters within the jurisdiction of multiple Regional Boards. The Regional Board's jurisdiction extends to all waters of the state and all waters of the US, including wetlands.

Clean Water Act (CWA) section 401 requires that "any applicant for a federal permit for activities that involve a discharge to waters of the State, shall provide the federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge would comply with the applicable provisions under the federal Clean Water Act." Therefore, before the United States Army Corps of Engineers (Corps) would issue a Section 404 Permit, applicants must apply for and receive a Section 401 Water Quality Certification from the Regional Board.

### ***Clean Water Act Section 404***

CWA section 404 requires a permit be obtained from the Corps prior to the discharge of dredged or fill materials into any "waters of the United States or wetlands." Waters of the US are broadly

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<sup>1</sup> Title 33, United States Code, Section 1341; Clean Water Act Section.

defined in the Corps regulations to include navigable waterways, their tributaries, lakes, ponds, and wetlands.<sup>2</sup> Wetlands are defined as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that normally do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” Wetlands that are not specifically exempt from Section 404 regulations (such as drainage channels excavated on dry land) are considered to be “jurisdictional wetlands.” In a recent Supreme Court Case, the Court acted to limit the Corps’ regulatory jurisdiction under CWA section 404, as it applies to adjacent waters. Specifically, the Court ruled that waters that are non-navigable, isolated, and intrastate are not subject to the Corps jurisdiction. The Corps are required to consult with the USFWS, Environmental Protection Agency, and Regional Board, among other agencies, in carrying out its discretionary authority under Section 404.

The Corps grants two types of permits, individual and nationwide. Project-specific individual permits are required for certain activities that may have a potential for more than a minimal impact and necessitate a detailed application. The most common type of permit is a nationwide permit. Nationwide permits authorize activities on a nationwide basis unless specifically limited, and are designed to regulate with little delay or paperwork certain activities having minimal impacts. Nationwide permits typically take two to three months to obtain, whereas individual permits can take a year or more. To qualify for a nationwide permit, specific criteria must be met. If the criteria restrictions are met, permittees may proceed with certain activities without notifying the Corps. Some nationwide permits require a pre-construction notification before activities can begin.

## State

### ***California Coastal Act §30000 et seq.***

California Coastal Act (Coastal Act) Chapter 3 contains policies to: protect water quality and the biological productivity of coastal waters (Public Resources Code [PRC] section 30231); avoid and minimize dredging, diking, and filling sediments (PRC section 30233); and mitigate wetland impacts (PRC section 30607.1). The Coastal Act established the CCC and created a state and local government partnership to ensure that public concerns regarding coastal development are addressed.

In addition, under the Coastal Act “environmentally sensitive area means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments” (PRC section 30107.5).

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<sup>2</sup> Title 33, United States Code, Section 328; Definition of Waters of the United States.

The Coastal Act requires that jurisdictions protect Environmentally Sensitive Habitat Areas (ESHA). Specifically, PRC section 30240 states:

- Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.
- Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.

The Coastal Act generally protects ESHAs where they exist and also protects “against any significant disruption of habitat values.” Coastal Act section 30007.5 states where there is a conflict between policies that:

*be resolved in a manner, which on balance is the most protective of significant coastal resources. In this context, the Legislature declares that broader policies which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies.*

### **California Code of Regulations Title 14**

The California Department of Fish and Wildlife administers 14 California Code of Regulations (CCR) 14 sections 2050 through 2098 to list California plant and animals declared as rare, threatened, and endangered.

### **California Endangered Species Act**

State-listed threatened and endangered species are protected under provisions of the California Endangered Species Act (CESA). Activities that may result in “take” of individuals (defined in CESA as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”) are regulated by the CDFW. Habitat degradation or modification is not included in the definition of “take” under CESA. Nonetheless, CDFW has interpreted “take” to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.

The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A rare species is one that is considered present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are fully protected against take, as defined above.

The CDFW has also produced a Species of Special Concern list to serve as a species watch list. Species on this list are either of limited distribution or their habitats have been reduced substantially, such that a threat to their populations may be imminent. Species of special concern



may receive special attention during environmental review, but they do not have formal statutory protection.

### **California Environmental Quality Act**

*CEQA Guidelines* section 15380 independently defines “endangered” and “rare” species separately from the CESA definitions. Under CEQA, “endangered” species of plants or animals are defined as those whose survival and reproduction in the wild are in immediate jeopardy, while “rare” species are defined as those who are in such low numbers that they could become endangered if their environment worsens. The California Native Plant Society (CNPS) created six California Rare Plant Ranks (CRPR) in an effort to categorize degrees of concern for rare plant species. Those include taxa, which meet the criteria for listing under CESA, even if not currently included on any list, as described in Section 15380. All CRPR 1 and 2, and some Rank 3 and 4 plants, may fall under Section 15380.

### **Fish and Game Code Sections 3503, 3503.5, 3511, 3513, 4700, 5050, and 5515**

The CDFW administers the California Fish and Game Code (FGC). There are particular FGC sections that are applicable to natural resource management. For example, FGC section 3503 makes it unlawful to destroy the nests or eggs of any birds that are protected under the MBTA. Furthermore, any birds in the orders Falconiformes or Strigiformes (Birds of Prey, such as hawks, eagles, and owls) are protected under Code Section 3503.5, which makes it unlawful to take, possess, or destroy their nest or eggs. A consultation with CDFW would be required prior to the removal of any bird of prey nest that may occur on a survey area. Code Section 3511 lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species. Examples of species that are State fully protected include golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*). Code Section 3513 makes it unlawful to take or possess any migratory nongame bird as MBTA designated or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under MBTA provisions. Code Section 4700, 5050, and 5515 designate fully-protected species and prohibit any take of their habitat unless for scientific purpose.

### **Fish and Game Code Section 1602**

FGC section 1600 *et seq.* applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State. FGC section 1602 establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided. Pursuant to FGC section 1602, a notification must be submitted to the CDFW for any activity that would divert or obstruct the natural flow or alter the bed, channel, or bank (which may include associated biological resources) of a river or stream or use material from a streambed. This includes activities taking place within rivers or streams that flow perennially or episodically and that are defined by the area in which surface water currently flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical and biological indicators.

### ***Fish and Game Code Section 1900 et seq.***

The California Native Plant Protection Act of 1977 is incorporated into FGC section 1900 *et seq.* The FGC section 1900 *et seq.* designates rare, threatened, and endangered plants in the State of California in order to preserve, protect, and enhance these plants. FGC section 1930 *et seq.* designates significant natural areas including refuges, riparian areas, and vernal pools.

### ***Porter-Cologne Water Quality Control Act***

The Porter-Cologne Act is the principal law governing water quality regulation in California (California Water Code §13000 *et seq.*). It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and groundwater and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act, the policy of the state is as follows:

*That the quality of all the waters of the State shall be protected;*

*That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason; and*

*That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.*

The Regional Water Quality Control Board regulates discharges under the Porter-Cologne Act primarily through issuance of NPDES permits for point source discharges and waste discharge requirements (WDRs) for nonpoint source discharges. Anyone discharging or proposing to discharge materials that could affect water quality (other than to a community sanitary sewer system regulated by an NPDES permit) must file a report of waste discharge. The Porter-Cologne Act applies to the Project since grading, filling, and other construction-related activities could affect the water quality of waters of the State.

## **Local**

### ***Morro Bay National Estuary Program***

The Morro Bay National Estuary Program seeks to identify a network of interconnected lands to focus conservation efforts that provide critical habitat for sensitive species; high biodiversity patterns; essential ecosystem services and functions; and provide the greatest opportunity for biodiversity to adapt naturally in a changing and variable environment. In order to do this, the Program has identified the following needs for biological resources that are pertinent to the proposed project:

- Support the maintenance and enhancement of in-stream habitat for freshwater aquatic species, including but not limited to streambed composition, stream geomorphology, water quality, and water temperature.
- Support the maintenance and enhancement of riparian corridors and native riparian vegetation and the implementation of projects to advance bank stabilization, floodplain restoration, and stream geomorphology restoration.

- Promote wetlands protection and enhancement by supporting appropriate regulatory standards and by encouraging effective management.
- Identify the most valuable wetlands areas to provide buffer areas and transition habitats and to create functional connections between ecologically important areas.
- Support installation of new and help maintain existing sediment traps to reduce sediment delivery to Morro Bay. Support efforts to reduce erosion from sediment source areas, such as gullies and bank failures.
- Support conservation and restoration of ecologically significant upland habitats, including but not limited to dunes scrub, maritime chaparral, oak woodlands, and native perennial grasslands and support their preservation and enhancement.
- Develop a better shared understanding of population dynamics of special status species populations in the estuary and watershed.
- Support the removal of barriers to steelhead migration and the enhancement and maintenance of in-stream habitat for steelhead and other aquatic species.

### ***County of San Luis Obispo General Plan***

#### **Estero Area Plan/Certified Local Coastal Program**

The Estero Area Plan is consistent with the intent and policies of the Coastal Act and the County LCP. All other county plans, policies and programs that involve the Estero Planning Area and are subject to the LCP are to be consistent with and implement this plan. For the Morro Bay estuary and its watershed, the Estero Plan provides the following policies that are applicable to the proposed project:

- Slow the process of bay sedimentation. Keep Chorro and Los Osos Creeks and other watercourses free of excessive sediment and other pollutants to maintain fresh water flow into the estuary, nurture steelhead and support other plant and animal species.
- Implement provisions of Total Maximum Daily Loads (TMDLs) as they are developed for Chorro Creek, Los Osos Creek and the Morro Bay estuary consistent with Regional Board requirements.
- Where appropriate, continue to obtain open space easements for sensitive wetlands and bayfront areas, and encourage other agencies and conservation organizations to obtain open space and conservation easements and fee title to these areas.

#### **Conservation/Open Space Element**

The Conservation and Open Space Element of the County General Plan is a tool to protect and preserve these unique community resources. Conservation is the planned management, preservation, and wise utilization of natural resources and landscapes to ensure their availability in the future. The following goals for biological resources have been identified in the Conservation and Open Space Element:

- Native habitat and biodiversity will be protected, restored, and enhanced.
- Threatened, rare, endangered, and sensitive species will be protected.
- Maintain the acreage of native woodlands, forests, and trees at 2008 levels.

- The natural structure and function of streams and riparian habitat will be protected and restored.
- Wetlands will be preserved, enhanced, and restored.
- The County's fisheries and aquatic habitats will be preserved and improved.
- Significant marine resources will be protected.

***County of San Luis Obispo Coastal Zone Land Use Ordinance (Title 23 of the San Luis Obispo County Code)***

The County Coastal Zone Land Use Ordinance (CZLUO) was created to implement the County General Plan and the County Local Coastal Program, and to guide and manage the future growth of the county in accordance with those plans. As such, all development and land divisions within or adjacent to an ESHA shall be designed and located in a manner which avoids any significant disruption or degradation of habitat values. That standard requires any project which has the potential to cause significant adverse impacts to an ESHA be redesigned or relocated so as to avoid the impact, or reduce the impact to a less than significant level where complete avoidance is not possible. In those cases, where development within the ESHA cannot be avoided, the development shall be modified as necessary so that it is the least environmentally damaging feasible alternative. Development shall be consistent with the biological continuance of the habitat.

In order to preserve and protect the natural hydrological system and ecological functions of coastal streams and adjacent riparian areas, the following applicable provisions are stated in the CZLUO:

- Development adjacent to a coastal stream shall be sited and designed to protect the habitat and shall be compatible with the continuance of such habitat.
- New development shall be setback from the upland edge of riparian vegetation the maximum amount feasible. In the urban areas this setback shall be a minimum of 50 feet. In the rural areas this setback shall be a minimum of 100 feet. A larger setback will be preferable in both the urban and rural areas depending on parcel configuration, slope, vegetation types, habitat quality, water quality, and any other environmental consideration.
- Vegetation that is rare or endangered, or that serves as habitat for rare or endangered species shall be protected. Development shall be sited to minimize disruption of habitat.

While native grasslands dominated by purple needlegrass are relatively common in the general area, the small occurrences of native bunchgrass grassland on the WRF site were intermixed with San Luis Obispo owl's clover, a special status plant, and therefore should be considered ESHA.

***City of Morro Bay's Coastal Land Use Plan (Chapter XII. Environmentally Sensitive Habitat Areas)***

The City's Coastal Land Use Plan (Chapter XII. Environmentally Sensitive Habitat Areas) and associated Coastal Act policies define ESHA as "areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." Sensitive habitat areas are identified using specific criteria developed under the

Coastal Act. Those resources that meet one or more of the following criteria are typically designated as ESHA:

1. Unique, rare or fragile communities which should be preserved to ensure their survival in the future;
2. Rare and endangered species habitats that are also protected by state and federal laws;
3. Specialized wildlife habitats which are vital to species survival;
4. Outstanding representative natural communities which have an unusual variety or diversity of plant and animal species; and
5. Areas with outstanding educational values that should be protected for scientific research and education uses now and in the future.

Subdivision 30240(a) of the Coastal Act states: “Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas. (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.” Therefore, to be consistent with City policies relating to the protection of ESHA, any future development footprint should avoid and setback or buffer the natural drainage features, native bunchgrass grassland, and riparian habitats. City policy requires a 100-foot setback from the limits of stream ESHA in rural areas and 50-foot in urban areas, but the policy also provides the potential for a project to have a reduced setback from stream ESHA, but in no circumstances is the setback to be reduced greater than 50%.

### ***City of Morro Bay’s City Tree Regulations***

No person other than the Director of Public Works or his or her duly authorized agent or deputy shall cut, trim, prune, spray, brace, plant, move or remove, or replace any public tree in any public right-of-way within the city, or shall cause the same to be done, unless and until a written permit to do so shall have been first obtained from the director of public services. Any such permit may be declared void by the director of public services if its terms are violated.

## **3.4.3 Impacts and Mitigation Measure**

### **Significance Criteria**

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to biological resources in the study area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by CDFW or USFWS

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP

## Methodology

A direct impact would occur if a modification, disturbance, or destruction of biological resources would result from project-related activities, such as the removal of habitat. An indirect impact would occur if project-related development would indirectly affect protected plant and wildlife species or habitat, such as through the introduction of noise levels substantially exceeding existing conditions on nesting sites in adjacent areas.

## Impact Analysis

### *Special Status Species*

**Impact 3.4-1: Ground disturbing activities during construction of the proposed project could have impacts to special status plant and wildlife species, including Morro shoulderband snail, American badger, and nesting birds, as well as indirect impacts to special status plant species such as San Luis Obispo owl's clover. Pre-construction surveys will be conducted to determine presence or absence of species prior to initiation of construction activities. If species are present, measures to avoid or relocate individuals or avoid nests would be implemented to mitigate potential adverse impacts. This is a Class II impact, Less than Significant with Mitigation.**

### **Special Status Plants**

The study area contains two occurrences of the San Luis Obispo owl's clover, a CRPR List 1B species, that are outside the proposed development footprint. Native bunchgrass grasslands observed on portions of the preferred WRF site are also outside the development footprint, and would not be impacted by the proposed project. The Cambria morning glory is present in annual grasslands throughout the eastern pipeline alignment as well as at the preferred WRF site. That is a watch list (CRPR 4) species and typically does not meet the CEQA thresholds used to define rarity (please refer to Section 15380 of CEQA). Although no direct impacts are expected, indirect impacts to special-status plants during construction of the WRF could result in potentially significant impacts.

In order to minimize potential indirect impacts to special-status plant species, implementation of construction worker environmental awareness training and best management practices as described in **Mitigation Measure BIO-1 and BIO-2** would ensure potential impacts to special status plants are less than significant.

### Special Status Wildlife

Aquatic species, such as CRLF, southern steelhead, tidewater goby, and western pond turtle, may be present on a seasonal basis at the pipeline crossings of Morro Creek. As stated in Chapter 2, Project Description, trenchless construction methods would be used to install the conveyance pipelines across sensitive features, including Morro Creek. Implementation of trenchless construction methods would avoid direct impacts to Morro Creek and to these aquatic species. As such, direct impacts to those special status wildlife species and their associated habitat are not expected.

Although no direct impacts are expected, indirect impacts to special-status wildlife species could result due to construction activities in and around Morro Creek, which could result in potentially significant impacts. In order to minimize potential indirect impacts to special-status wildlife and associated habitat, implementation of construction worker environmental awareness training and best management practices as described in **Mitigation Measure BIO-1 and BIO-2** would ensure potential impacts to special status wildlife are less than significant.

**Morro Shoulderband Snail.** As currently designed, portions of the western and eastern proposed pipeline alignments, and the northwest corner of the proposed IPR West wellfields, contain Baywood fine sand soils or dunes, and areas of non-native plants along road shoulders that could provide habitat for the federally-protected Morro shoulderband snail (MSS). Suitable sandy soil conditions for the species are present along portions of Quintana Road and adjacent to the southeast corner of the WWTP in the proposed western pipeline alignment, small portions of the eastern pipeline alignment at Bolton Drive and Radcliffe Avenue a portion of the proposed eastern pipeline alignment at Drainage 1A and the northwest corner of the proposed IPR West wellfield (see Figure 3.4.7). Those areas are mostly developed and disturbed by urban development; however, areas with low growing vegetation growing on sandy soils could provide low quality habitat for the species such that MSS could potentially occur in these areas. Construction-related ground disturbance could result in take of MSS and would be a potentially significant impact.

In addition, MSS have been previously identified in an undeveloped parcel near the existing WWTP, between Atascadero Road and the Morro Bay High School. That property is adjacent to, but outside, the proposed project impact area; however, an adjacent dirt parking area on Atascadero Road is likely to be used during project construction and is the location for the proposed lift station Option 5A. Construction on, or use of, the dirt parking area opposite the existing WWTP during wet weather could impact MSS if individuals enter the work area, and would be a potentially significant impact.

To avoid take of MSS during project construction, during design of the project components, surveys would be conducted in areas with potential habitat. The survey information will be used to locate facilities to avoid MSS habitat. If avoidance of MSS habitat is not feasible, then protocol surveys would be conducted to determine if MSS are present. If MSS are present, then consultation with the USFWS would be conducted as appropriate and MSS individuals would be relocated from project areas as necessary. **Mitigation Measure BIO-3** outlines all steps to be taken to ensure impacts to MSS are avoided during project construction. Once project facilities

are built, there would be no long-term impacts to MSS due to project operation. With implementation of Mitigation Measure BIO-3, impacts would be less than significant.

**American Badger.** The American badger was determined to have potential to occur on the preferred WRF site and in portions of the proposed eastern pipeline alignment, due to presence of grassland habitats, water, and a prey base of California ground squirrels and pocket gophers in the general region. The American badger is a California Species of Special Concern. Because of the limited impact area, the degree of habitat diversity in the region, and the amount of open space surrounding these proposed project components, potential impacts to American badger would only be anticipated to occur during initial construction activities, with no impacts expected during operation. During initial ground disturbance, construction activities may could result in direct harm to badger or destruction of badger dens due to the operation of heavy equipment for purposes of clearing and grading of the preferred WRF site and proposed pipeline alignments. That is a potentially significant impact.

To avoid impacts to the American badger during project construction, first preconstruction surveys would be conducted in areas with potential habitat, to confirm presence or absence prior to initiating construction activities. If badger are present, or active badger dens are found, then measures will be taken to either avoid dens or to discourage badgers from using dens. **Mitigation Measure BIO-4** outlines all steps to be taken to ensure impacts to American badgers are avoided during project construction. Once project facilities are built, there would be no long-term impacts to American badgers due to project operation. With implementation of Mitigation Measure BIO-4, impacts would be less than significant.

### **Nesting Birds**

The removal of vegetation during proposed project construction could result in direct impacts to nesting birds if any are present. In addition, indirect impacts to birds nesting in the vicinity of the proposed disturbance could result from construction activities. Nesting activity typically occurs from February 1 to August 31 for songbirds and from January 15 to August 31 for raptors. Disturbing or destroying active nests is a violation of the Migratory Bird Treaty Act. In addition, nests and eggs are protected under FGC sections 3503 and 3503.5. As such, direct impacts (removal of active nests) and indirect impacts (e.g. by noise causing abandonment of the nest) to nesting birds would be considered a potentially significant impact.

To avoid impacts to nesting birds, the initiation of construction activities within annual grassland habitat and the removal of any trees would occur outside of the nesting season if feasible. If not feasible, then preconstruction surveys for active nests would be required. If active nests are found, measures would be taken to establish a buffer around nests where no project construction activities would occur until nesting activities have ceased, as determined by a qualified biologist. **Mitigation Measure BIO-5** outlines all steps to be taken to ensure impacts to nesting birds are avoided during project construction. Once proposed project facilities are built, there would be no long-term impacts to nesting birds due to project operation. With implementation of Mitigation Measure BIO-5, impacts would be less than significant.



## Mitigation Measures

**BIO-1: Construction Worker Environmental Awareness Training and Education Program.** Prior to the commencement, and for the duration of proposed construction activities, all construction workers shall attend an Environmental Awareness Training and Education Program, developed and presented by the Lead Biologist. The Training and Education shall include:

1. The program shall include information on San Luis Obispo owl's clover and the life history of steelhead, CRLF, MSS, and other raptors; nesting birds; as well as other wildlife and plant species that may be encountered during construction activities. The program will also include descriptions of sensitive habitats (drainages, riparian habitat, and wetlands) and The program shall also discuss the legal protection status of each species and sensitive habitat, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the project proponent is implementing to protect each species and sensitive habitat, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species and sensitive habitats, and penalties for violation of the Federal Endangered Species Act or California Endangered Species Act.
2. An acknowledgement form signed by each worker indicating that Environmental Awareness Training and Education Program has been completed would be kept on record;
3. A sticker shall be placed on hard hats indicating that the worker has completed the Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker;
4. A copy of the training transcript, training video or informational binder for specific procedures shall be kept available for all personnel to review and be familiar with as necessary.
5. The construction crews and contractor(s) shall be responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits.

**BIO-2: Avoidance and Protection of Biological Resources.** During proposed construction, operations and maintenance, and decommissioning the City and/or contractor shall implement the following general avoidance and protective measures:

1. All proposed impact areas, including staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided.
2. The project proponent shall limit the areas of disturbance to the maximum extent that is practicable. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.
3. Riparian habitat, drainages, and wetlands will be flagged and signed to restrict project access into these areas.

4. Spoils shall be stockpiled in disturbed areas that lack native vegetation. Best Management Practices shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan (SWPPP; as described in Chapter 3.9).
5. To prevent inadvertent entrapment of American badgers or other wildlife during construction, all excavated, steep-walled holes or trenches shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks. If trapped animals are observed, the appropriate agency shall be consulted and escape ramps or structures shall be installed immediately to allow escape. If a listed species is trapped, the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife shall be contacted immediately.
6. Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated work areas shall be prohibited.
7. Workers shall be prohibited from bringing pets and firearms to the project site and from feeding wildlife.
8. Intentional killing or collection of any plant or wildlife species shall be prohibited.

**BIO-3: Morro Shoulderband Snail.** The following mitigation measures shall be implemented to avoid or minimize impacts to Morro shoulderband snail (MSS):

1. During project design, if project components would be located in areas determined to have soils and vegetation that could support MSS (e.g., see Figure 3.4-7), then a qualified biologist shall conduct a survey to delineate the extent of potential habitat. The survey information shall be incorporated into the project design such that facilities are located to avoid potential MSS habitat. The following project components have either been mapped as Baywood fine sands or dunes, or are in areas adjacent to known populations (see Figure 3.4.7):
  - Option 5A lift station adjacent to Atascadero Road;
  - the western pipeline alignment adjacent to the southeast corner of the WWTP;
  - a portion of the eastern pipeline alignment at Drainage 1A; and
  - the northwest corner of the IPR-West wellfield.
2. For pipeline alignments or other project components that are sited in areas adjacent to vegetated areas that have capacity to support MSS, silt fencing shall be installed, under the direction of a qualified biologist, to restrict project activities into these areas and to deter MSS movement into the project area.
3. If avoidance of MSS habitat is not feasible, then protocol levels surveys for MSS shall be conducted to determine presence/absence and distribution of MSS. Surveys shall be conducted by a biologist in possession of a valid recovery permit for the species. If the survey results are negative, the City shall request a concurrence determination for the project based on absence of the species. Coordination with USFWS during project design may facilitate receipt of a concurrence determination.
4. If survey results are negative and a concurrence authorization is granted, then vegetation shall be removed under supervision of the permitted biologist, and the site(s) shall be graded/grubbed down to bare mineral soil, and bordered with silt fence to preclude MSS from subsequently entering the area(s).

5. If live MSS are found within areas proposed for impact, then consultation with USFWS will be necessary and the issuance of a Biological Opinion (B.O.) may be required to allow individuals to be moved out of project areas prior to construction. A permitted biologist must be retained to move MSS per the B.O. requirements, and to monitor vegetation clearing activities occurring within the MSS habitat area(s).
6. If equipment use, materials stockpiling, lift station construction, or any other uses are proposed on the north side of Atascadero Road opposite the existing WWTP, then all such areas shall be delineated by installation of silt fencing to create a barrier between potential MSS habitat and project activities. If fenced areas are utilized during or immediately following rain events or dense fog conditions, then a permitted biologist will survey and clear the work areas each morning prior to start of work to ensure that no MSS have entered the site.
7. Work crews will undergo an environmental training session conducted by a qualified biologist prior to start of construction activities in or adjacent to MSS habitat areas. Environmental training would inform project personnel of the constraints associated with working within and adjacent to MSS habitat, and the appropriate protocol should MSS be encountered during construction activities.

**BIO-4: American Badger.** A pre-construction survey for active badger dens will be conducted within the proposed construction impact footprint and surrounding accessible areas of the mapped annual grassland portions of the eastern pipeline alignment (between the WRF and Downing Street on the west; see Figures 3.4-3 through 3.4-5) and the WRF site at least two weeks prior to any ground disturbing activities. The survey will be conducted by a qualified biologist. In order to avoid potential direct impacts to adults and nursing young, no grading should occur within 50 feet of an active badger den as determined by the project biologist. Construction activities between July 1 and February 28 shall comply with the following measures to avoid direct take of adult and weaned juvenile badgers through the forced abandonment of dens:

1. A qualified biologist will conduct a focused survey at least two (2) weeks prior to the start of construction;
2. If a potential den is located that is too long to see the end, then a fiber optic scope (or other acceptable method such as using tracking medium for a three-night period) will be used to determine if the den is being actively used by a badger;
3. Inactive dens will be excavated by hand with a shovel or using a small excavator to prevent badgers from re-using them during construction.
4. Badgers will be discouraged from using currently active dens prior to the grading of the site by partially blocking the entrance of the den with sticks, debris and soil for three to five days. Access to the den shall be incrementally blocked to a greater degree over this period. This should cause the badger to abandon the den and move elsewhere. After badgers have stopped using any den(s) within the project boundary, the den(s) will be hand-excavated with a shovel or carefully excavated with the use of an excavator to prevent re-use.
5. The qualified biologist will be present during the initial clearing and grading activity. If additional badger dens are found, all work within the area will cease until the biologist can complete measures described above for inactive and active dens. Once the badger dens have been excavated, work in the area may resume.

**BIO-5: Nesting Birds.** The following mitigation measures are recommended to avoid or minimize impacts to nesting bird species, including special-status species and species protected by the Migratory Bird Treaty Act.

1. Any removal of trees and disturbance of annual grassland habitat will be limited to the time period between September 1 and February 14 if feasible. If tree removal and grassland impacts cannot be conducted during this time period, a qualified biologist shall conduct pre-construction surveys for active bird nests within the limits of the project.
2. If active nest sites of bird species protected under the Migratory Bird Treaty Act and/or FGC section 3503 are observed within or adjacent to the study area, then the project shall be modified and/or delayed as necessary to avoid direct take of the identified nests, eggs, and/or young. Potential project modifications may include establishing appropriate “no activity” buffers around the nest site. The buffer will be 500 feet for raptors and 250 feet for other bird species, or as otherwise determined and documented by a qualified biologist. Construction activities shall not occur in the buffer until the project biologist has determined that the nesting activity has ceased.
3. Active nests shall be documented and monitored by the project biologist, and a letter report will be submitted to the USFWS and CDFW, documenting project compliance with the MBTA and applicable project mitigation measures.

### **Significance Determination**

Less than Significant with Mitigation

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### ***Sensitive Natural Communities***

**Impact 3.4-2: Construction of proposed conveyance pipelines could result in direct and indirect impacts to riparian habitat. Construction of proposed wells could impact riparian habitat associated with Morro Creek and Little Morro Creek. The proposed project would use trenchless construction methods to install pipelines across Morro Creek to avoid direct impacts, and wells would be sited in upland areas to avoid riparian habitat. Implementation of best management practices during construction would minimize indirect impacts to adjacent riparian areas. This would be a Class II impact, Less than Significant with Mitigation.**

Based on biological assessment and jurisdictional delineation conducted in the study area to date, numbered drainage features are expected to be subject to Clean Water Act and California Fish and Game Code jurisdiction. The upper portion of Drainage 3B near the WRF site, Morro Creek and several areas along the western pipeline alignment on Quintana Road contained a predominance of arroyo willows creating a low canopy, riparian scrub habitat type. While not a forest community, these small patches of arroyo willow are more consistent with the Central Coast Arroyo Willow Riparian Scrub plant community described by Holland (1986) and Arroyo Willow Thickets described by Sawyer et al. (2009). The riparian scrub areas may contain areas of moist soils and pockets of seasonally ponded water, and on the WRF site were disturbed by cattle grazing. In addition, the IPR West and IPR East wellfield areas include portions of Morro Creek, Little Morro Creek, and adjacent riparian areas.

The riparian habitat near the WRF site would not be affected by the development at the site (see Figure 3.4-5 and Figure 3.4-8). The riparian vegetation would be greater than 100 feet from the footprint of disturbance by the proposed WRF, in accordance with the County's CZLUO. The riparian habitat along Quintana Road would be avoided as the pipeline in the western alignment would be installed within the right-of-way of Quintana Road. However, the riparian habitat south of Lila Keiser Park and north of Morro Creek could be indirectly impacted due to installation of the raw wastewater pipeline along the creek, including an area of restored riparian habitat consisting of planted willows, elderberry, and coast live oaks. Installation of the proposed pipeline across the creek could have direct impacts to the riparian habitat as well. In addition, the proposed IPR West and IPR East wellfield areas may contain areas of riparian habitat associated with Morro Creek (see Figure 3.4-2). Installation of proposed injection and monitoring wells and associated pipelines could directly and/or indirectly affect riparian habitat. These impacts would be considered potentially significant.

Construction of the proposed pipeline south of Lila Keiser Park would be sited to avoid riparian habitat adjacent to Morro Creek, as required by **Mitigation Measure BIO-6**. That would avoid direct impacts to riparian habitat. Prior to initiation of ground disturbance, measures would be implemented to identify the limits of construction adjacent to the creek and to delineate riparian areas to be avoided to prevent indirect impacts to riparian habitat. Mitigation Measure BIO-6 identifies the measures to be implemented by a qualified biologist to avoid direct and indirect construction-related impacts to riparian habitat. With implementation of Mitigation Measure BIO-6, impacts would be mitigated to less than significant levels.

As described in Chapter 2, Project Description, trenchless construction methods would be used to cross sensitive surface features such as Morro Creek; or pipelines could be installed across the creek suspended on existing bridges. **Mitigation Measure BIO-7** includes requirements for trenching to stop at least 50 feet away from jurisdictional features, such as riparian habitat, and for the remaining distance to be installed using trenchless methods such as horizontal directional drilling (HDD), to ensure impacts to riparian habitat are avoided. That measure would also ensure a buffer around riparian habitat during construction that complies with the City's Coastal Land Use Plan. With implementation of Mitigation Measure BIO-6 and BIO-7, impacts to riparian areas at the Morro Creek crossing would be less than significant.

The proposed IPR West and IPR East wellfield areas contain Morro Creek and Little Morro Creek that support riparian habitat; however, as stated in Chapter 2, Project Description, the proposed injection and monitoring wells would be located on vacant, disturbed lands owned by the City and would be sited to avoid sensitive habitat areas like riparian habitat. With implementation of **Mitigation Measures BIO-1, BIO-2, BIO-6 and BIO-7**, impacts to riparian areas within the proposed IPR-West and IPR-East wellfields would be less than significant.

### **Mitigation Measures**

**BIO-6: Riparian Habitat Avoidance.** During proposed project design, a qualified biologist shall identify the project boundaries adjacent to Morro Creek and the allowable limits of construction activities to avoid direct and indirect impacts to riparian habitat. Those limits shall be used during proposed project design to identify a pipeline alignment that avoids impacts to riparian habitat as well as areas to be avoided for siting injection

and monitoring wells. During construction, the riparian boundaries and limits shall be clearly flagged or fenced so that contractors are aware of the limits of allowable site access and disturbance. Areas to be preserved should be clearly flagged as off-limits to avoid unnecessary damage and potential erosion.

**BIO-7: Trenching Buffer for Jurisdictional Features.** During construction of proposed project pipelines, trenching shall stop at least 50 feet away from jurisdictional features, such as the top of stream banks, riparian habitat and wetlands, and the remaining distance shall be installed using trenchless construction methods, such as horizontal directional drilling.

### **Significance Determination**

Less than Significant with Mitigation

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### **Wetlands**

**Impact 3.4-3: Construction of proposed conveyance pipelines could result in temporary impacts to wetlands associated with ephemeral drainages; construction of the proposed wells could impact adjacent wetlands associated with Morro Creek and Little Morro Creek. The proposed project would use trenchless construction methods to install pipelines across wetlands and avoid direct impacts. Siting of the wells in upland areas would avoid direct impacts to wetlands. Implementation of best management practices during construction would minimize indirect impacts to adjacent wetland areas. This would be a Class II impact, Less than Significant with Mitigation.**

Based on biological assessment and jurisdictional delineation conducted in the study area to date, numbered drainage features are expected to be subject to Clean Water Act and FGC jurisdiction, as will Morro Creek and Little Morro Creek. No wetlands were identified at the proposed pipeline crossing of Morro Creek. Wetland habitat consistent with the Coastal and Valley Freshwater Marsh and Freshwater Seep described by Holland (1986) was mapped at the terminus of Drainage 1 adjacent to the western pipeline alignment as it travels along the bike path next to Quintana Road (refer to Figure 3.4-2) and where Drainage 2A crosses the eastern pipeline alignment (refer to Figure 3.4-4). Additionally, the proposed IPR West and IPR East wellfield areas contain Morro Creek and Little Morro Creek and could have adjacent wetlands that have not been identified. Trenching for pipeline installation and well construction could cause direct or indirect temporary impacts to a wetland area, which would be a potentially significant impact.

The wetlands associated with Drainage 1 are adjacent to the proposed western pipeline alignment but could be indirectly degraded by construction activities. Installation of pipelines would progress at a rate of approximately 150 feet per day on average, and as such potential impacts to these wetlands would be limited to less than one week of activity. Impacts would be avoided through construction best management practices (BMPs) that would ensure indirect impacts would not occur. As described in Chapter 3.9, Hydrology and Water Quality, the City would be required to prepare a SWPPP for the proposed project in compliance with the NPDES General Construction Permit. The SWPPP would include BMPs to control erosion, sedimentation, and

hazardous materials release. In addition, construction of the proposed project is also subject to the BMPs included in the City's Storm Water Management Plan to control runoff and protect water quality during the construction period. In accordance with the Morro Bay Municipal Code for Building Regulations—Stormwater Control (Chapter 14.48), the SWPPP would need to be approved by the City prior to commencement of construction activities. **Mitigation Measure BIO-8** includes specific BMPs to be incorporated into the SWPPP to minimize impacts to jurisdictional features. With implementation of Mitigation Measures BIO-1, BIO-2, BIO-7, and BIO-8, indirect impacts to wetlands associated with Drainage 1 would be less than significant.

As described in Chapter 2, Project Description, trenchless construction methods would be used to cross sensitive surface features such as wetlands. With implementation of such methods, impacts to wetlands at Drainage 2A would be avoided. Mitigation Measure BIO-7 includes requirements for trenching to stop at least 50 feet away from jurisdictional features, such as stream banks and wetlands, and for the remaining distance to be installed using trenchless methods such as HDD, to ensure impacts to wetlands are avoided. **Mitigation Measure BIO-9** includes the preparation of a frac-out contingency plan to deal with any inadvertent return of drilling lubricant during HDD beneath wetlands and waterways. With implementation of **Mitigation Measure BIO-1, BIO-2, BIO-7, BIO-8 and BIO-9**, impacts to wetlands at Drainage 2A would be less than significant.

The proposed IPR West and IPR East wellfield areas contain Morro Creek and Little Morro Creek that support riparian habitat and potential wetland areas; however, as stated in Chapter 2, Project Description, the proposed injection and monitoring wells would be located on vacant, disturbed lands owned by the City and would be sited to avoid sensitive habitat areas like riparian habitat and wetlands. With implementation of **Mitigation Measures BIO-1, BIO-2, BIO-7, and BIO-8**, avoidance of these features would be ensured and indirect impacts would be minimized. Impacts to wetlands within the proposed IPR West and IPR East wellfields would be less than significant.

### **Mitigation Measure**

#### **BIO-8: Construction BMPs to Protect Jurisdictional Features and Aquatic Habitat.**

The following mitigation measures should be implemented prior to and during construction near Morro Creek and Little Morro Creek, as well as Drainages 1, 1A, 1B, 2, 2A, 2B, 3, 3A, and 3B, and wetlands:

1. Prior to start of construction activities, the applicant should retain a qualified biological monitor to ensure compliance with all permit requirements and avoidance and minimization measures (i.e.: pre-construction surveys, worker environmental training, and construction monitoring) during work within and adjacent to drainage features.
2. The qualified biological monitor will conduct pre-construction surveys to identify any new wetland areas and the expansion of existing wetland to determine their limits. The results will be used in the implementation of Mitigation Measure BIO-7.
3. Prior to issuance of construction permits, an Erosion Control Plan incorporating up to date Best Management Practices should be prepared by the project engineer to minimize impacts to jurisdictional features and aquatic habitats. The plan should address installation and maintenance of both temporary and permanent measures to control erosion and dust, contain spills, protect stockpiles, and generally maintain

good housekeeping practices within the worksite. All project plans should show that erosion, sediment, and dust control measures must be installed prior to start of any ground disturbing work.

4. All applicable plans should clearly show project stockpile and materials staging areas. These areas would be at least 50 feet from drainage features, wetlands, and active storm drain inlets, and must conform to BMPs applicable for storm drain protection.
5. Prior to start of work, the contractor should prepare and implement a Spill Prevention Plan to ensure prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. All project-related hazardous materials spills within the project site should be cleaned up immediately. Spill prevention and cleanup materials should be on-site at all times during the course of the project.
6. All refueling, maintenance, and washing of equipment and vehicles should occur on paved areas in a location where a spill would not travel onto bare ground or to a storm drain inlet. This fueling/staging area will conform to BMPs applicable to attaining zero discharge of stormwater runoff. At a minimum, all equipment and vehicles must be checked and maintained on a daily basis to ensure proper operation and avoid potential leaks or spills. Washing of equipment should occur only in a location where polluted water and materials can be contained for subsequent removal from the site.
7. A designated concrete washout location should be established onsite, in an area at least 50 feet from any drainage or storm drain inlet. The washout should be maintained and inspected weekly, and will be covered prior to and during any rain event. Concrete debris should be removed whenever the washout container reaches the 1/2 full mark.
8. BMP's for dust abatement shall be a component of the project's construction documents. Dust control requirements should be carefully implemented to prevent water used for dust abatement from transporting pollutants to storm drains leading to the creek channel.
9. During project activities, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.

**BIO-9: Preparation of a Frac-Out Contingency Plan.** A Frac-Out Contingency Plan shall be prepared prior to initiation of construction activities that involve horizontal direction drilling activities. The Frac-Out Plan shall be implemented during HDD construction activities. At a minimum, the Frac-Out Plan will include the following:

1. Minimize the potential for a frac-out associated with horizontal directional drilling activities
2. Provide for the timely detection of frac-outs
3. Protect areas that are considered environmentally sensitive (streams, wetlands, other biological resources, cultural resources)
4. Ensure an organized, timely, and "minimum-impact" response in the event a frac-out and release of drilling mud occurs



5. Ensure that all appropriate notifications are made to the appropriate environmental specialists immediately (e.g., qualified biological monitor), and to appropriate regulatory agencies in 24 hours and that documentation is completed.

### Significance Determination

Less than Significant with Mitigation

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### *Migratory Species and Wildlife Corridors*

**Impact 3.4-4: Construction of the proposed project could affect southern steelhead, a migratory fish species, in Morro Creek and its critical habitat, as well as native wildlife nursery sites in Morro Bay. Implementation of trenchless construction methods to install conveyance pipelines across Morro Creek would avoid direct impacts to steelhead and its habitat. Implementation of a Storm Water Pollution Prevent Plan and best management practices to protect water quality in ephemeral drainages that flow to Morro Creek, Chorro Creek, and Morro Bay would minimize indirect impacts to steelhead and its habitat. This is a Class II impact, Less than Significant with Mitigation.**

The primary wildlife corridors in the proposed project area are Morro Creek and Chorro Creek. Seasonal habitat is present in Morro Creek and Chorro Creek for southern steelhead, a migratory species, and Morro Creek is identified by USFWS as critical habitat for the species. As described above under Impacts 3.4-1 and 3.4-2, the proposed project would not have direct impacts to Morro Creek or aquatic species in Morro Creek because trenchless construction methods would be used to install the conveyance pipelines across the creek. Implementation of Mitigation Measures BIO-7 would also ensure no indirect impacts to Morro Creek would occur during construction of the pipeline crossing by requiring trenching to stop at least 50 feet prior to the top of the stream bank.

Southern steelhead is not expected to occur in the small ephemeral drainages within the study area, but impacts to those features could have detrimental effects downstream in Morro Creek and potentially Chorro Creek and Morro Bay. Proposed project construction may temporarily affect these drainages, but no permanent alteration is expected post-construction. Overall, proposed project construction activities could expose soils and other materials to erosion or transport by rainfall and runoff that could affect water quality if allowed to enter drainages or storm drains. Soil, fuels, hydraulic fluids, and associated building materials including concrete, asphalt, paints, solvents, and other chemicals entering the drainages and washing downstream to Morro or Chorro Creek could cause an increase in suspended sediments, sedimentation of aquatic habitat, and introduce compounds that could potentially be toxic to aquatic organisms. Construction-related impacts to ephemeral drainages could result in potentially significant impacts to aquatic habitat for southern steelhead downstream in Morro Creek or aquatic habitat for native wildlife in Morro Bay.

Ensuring sediment-laden runoff does not leave the preferred and proposed project sites during construction, and that post-construction runoff is consistent with pre-construction conditions is

essential to reduce impacts to water quality. As described in Chapter 3.9, Hydrology and Water Quality, the City would be required to prepare a SWPPP for the proposed project in compliance with the NPDES General Construction Permit. The SWPPP would include BMPs to control erosion, sedimentation, and hazardous materials release. In addition, construction of the proposed project is also subject to the BMPs included in the City's Storm Water Management Plan to control runoff and protect water quality during the construction period. In accordance with the Morro Bay Municipal Code for Building Regulations—Stormwater Control (Chapter 14.48), the SWPPP would need to be approved by the City prior to commencement of construction activities. Mitigation Measure BIO-8 includes specific BMPs to be incorporated into the SWPPP to minimize impacts to water quality and ensure there are no significant impacts to aquatic habitat downstream of the ephemeral drainages within the project area. With implementation of Mitigation Measures BIO-1, BIO-2, BIO-7, BIO-8, and BIO-9, impacts to migratory wildlife or native wildlife nursery sites would be less than significant.

#### **Mitigation Measure**

Implementation of Mitigation Measures BIO-1, BIO-2, BIO-7, BIO-8, and BIO-9.

#### **Significance Determination**

Less than Significant with Mitigation

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#### **Local Policies and Ordinances**

**Impact 3.4-5: Construction of the proposed project could affect streams, which are designated as Environmentally Sensitive Habitat Areas. The proposed project would use trenchless construction methods to install pipelines across streams and avoid direct impacts. Implementation of best management practices during construction would minimize indirect impacts to streams. While no trees are expected to be removed, construction of the proposed project could impact protected trees within the City limits. Protection measures would be put in place to avoid impacts from construction activities. This would be a Class II impact, Less than Significant with Mitigation.**

#### **ESHA**

The City Coastal Land Use Plan (CLUP) Chapter XII provides definitions of ESHA within the City limits, and identifies coastal streams and riparian areas as follows: "*A Stream or a River is a natural watercourse as designated by a solid line or dash and three dots symbol as shown on the USGS Survey map most recently published, or any well-defined channel with distinguishable bed and bank that shows evidence of having contained flowing water as indicated by scour or deposit of rock, sand, gravel, soil, or debris.*" The County also includes coastal streams and wetlands in its description of ESHA. As such, Morro Creek and the ephemeral drainages would be considered coastal stream ESHA. Construction of the proposed WRF and conveyance pipelines have the potential to result in temporary direct and indirect significant impacts to Morro Creek, ephemeral drainages, and wetlands as described above under Impact 3.4-2 and Impact 3.4-3. Implementation of **Mitigation Measures BIO-1, BIO-2, BIO-6, BIO-7, BIO-8, and BIO-9** would ensure there

are no significant impacts to Morro Creek or ephemeral drainages, and as such, impacts to ESHA would be less than significant.

While the County LCP does identify rare or unusual native plant communities as ESHA, it does not specifically state native perennial grasslands shall be protected. While native grasslands dominated by purple needlegrass are relatively common in the general area (KMA personal observation), the small occurrences of native bunchgrass grassland in the WRF site study area site were intermixed with San Luis Obispo owl's clover, a special-status plant, and therefore should be considered ESHA. However, the proposed WRF facility would be developed outside of the areas that support San Luis Obispo owl's clover and purple needlegrass, and as such its construction would not impact the ESHA.

Overall, with the implementation of **Mitigation Measures BIO-1, BIO-2, BIO-6, BIO-7, BIO-8, and BIO-9**, impacts to ESHAs would be reduced to less than significant based upon the provisions stated in the City and County LCPs. Additionally, these mitigation measures would satisfy the requirements of the County General Plan and the Morro Bay National Estuary Program.

### **Public Trees**

Ornamental trees such as blue gum eucalyptus and Monterey cypress are present along the proposed western and eastern pipeline alignments within the City's limits. Depending on the location of the pipeline to the proposed WRF, trees may or may not be impacted. It is anticipated all trees would be avoided by the proposed project, and those within 25 feet of the limits of disturbance would have protective measures put in place to ensure they remain uninjured during the course of construction. No direct removal of protected trees is expected from the operation of the proposed project. To minimize impacts during construction, **Mitigation Measure BIO-10** will be implemented to protect any adjacent trees from construction activities. With implementation of Mitigation Measure BIO-10, impacts to protected trees would be less than significant.

### **Mitigation Measure**

**BIO-10: Tree Protection.** For public trees, protection will be established at a minimum distance of 1.5 times the dripline (*i.e.*, the distance from the trunk to the outermost limits of leaves and branches). During development, orange construction fencing or sufficient staking to identify the protection area will surround each tree or clusters of trees.

### **Significance Determination**

Less than Significant with Mitigation

### **Habitat Conservation Plan**

**Impact 3.4-6: The proposed project is not located within the boundaries of a habitat conservation plan or natural community conservation plan. There would be no impact.**

The proposed project is not located within any habitat conservation plan (HCP), natural community conservation plan (NCCP), or other approved local, regional, or state HCP. As such there would be no conflict with such a plan. There would be no impact.

### **Mitigation Measures**

None required.

### **Significance Determination**

No Impact.

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## 3.5 Cultural Resources

This section addresses the potential impacts of the proposed project to cultural resources in the project vicinity in accordance with the significance criteria established in Appendix G of the *CEQA Guidelines*. This section is based on the following sources:

- *Archaeological Survey Report for the Morro Bay Water Reclamation Facility Project, South Bay Boulevard, San Luis Obispo County, California* (Ruby, 2016)
- *First Supplemental Archaeological Survey Report for the South Bay Boulevard Morro Bay Water Reclamation Facility Project, San Luis Obispo County, California* (Ruby, 2017); *Summary of Cultural Resources Identification Efforts to Date for the Morro Bay New Water Reclamation Facility Project* (Kaijankoski, 2018)
- *Draft Second Supplemental Archaeological Survey Report for the Morro Bay Water Reclamation Facility Project, San Luis Obispo County, California* (Kaijankoski, 2018)
- *A paleontological database review conducted for the project by the Natural History Museum of Los Angeles County* (McLeod, 2018)

Cultural resources include prehistoric and historic sites, structures, districts, places, and landscapes, or any other physical evidence associated with human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious or any other reason. Under CEQA, paleontological resources, although not associated with past human activity, are grouped within cultural resources. For the purposes of this analysis, cultural resources may be categorized into the following groups: archaeological resources, historic resources (including architectural/engineering resources), contemporary Native American resources, human remains, and paleontological resources.

### 3.5.1 Environmental Setting

#### Geologic Setting

The proposed project is located within the Coast Ranges Geomorphic Province, which extends from the Transverse Ranges in southern California to the Klamath Mountains in northern California and into Oregon. Geomorphic Provinces are large regions that display common characteristic landforms and geologic structures, which are governed by tectonics. The Coast Ranges are northwest-trending mountain ranges (2,000 to 4,000, occasionally 6,000 feet elevation above sea level), and valleys composed of sedimentary, volcanic, and metamorphic formations comprised predominantly of Jurassic and Cretaceous age rocks with Tertiary to Quaternary age rocks commonly overlying the older formations along the flanks and foothills of those ranges. Recent sediments of alluvium and colluvium are found above the rock within intervening drainages, valleys, and coastal areas. The ranges and valleys trend northwest, subparallel to the San Andreas Fault (DOC, 2002; Yeh and Associates Inc., 2017).

The proposed project is located within the City of Morro Bay (City) and in unincorporated area of the County of San Luis Obispo (County) adjacent to the City boundaries. The bedrock geology within the preferred and proposed project sites is characterized as the Cretaceous-Jurassic age Mélange of the Franciscan Complex. The Mélange is a mixture of fragmented rock masses

embedded in the sheared matrix of argillite and crushed metasandstone. The Mélange within the project area is mostly concealed by residual soils, colluvium, landslide deposits and alluvium. Further, Jurassic age serpentanized ultramafic rocks are generally found in east-west trending outcrops in and around the City of Morro Bay (Yeh and Associates Inc., 2017).

The preferred and proposed project sites are underlain by a variety of geologic units. **Table 3.5-1** identifies the geologic units underlying each project component and its paleontological sensitivity. **Figure 3.5-1** depicts the geology of the project site.

**TABLE 3.5-1  
GEOLOGIC UNITS**

Project Component	Geologic Unit	Paleontological Sensitivity
WRF	Qa: Alluvial Gravel	Low; maybe underlain by higher sensitivity older sediments at depth
	fm: Franciscan Rocks, Melange	None
	sp: Serpentine	None
Lift Station	Qa: Alluvial Gravel	Low; maybe underlain by higher sensitivity older sediments at depth
Conveyance Pipelines	Qa: Alluvial Gravel	Low; maybe underlain by higher sensitivity older sediments at depth
	Qs: Beach and Dune Sands	Low; maybe underlain by higher sensitivity older sediments at depth
	fm: Franciscan Rocks, Melange	None
Injection and Monitoring Wells	Qa: Alluvial Gravel	Low; maybe underlain by higher sensitivity older sediments at depth
	fg: Franciscan Rocks, Greenstone	None
	fs: Franciscan Rocks, Graywacke sandstone	Low
WWTP	Qa: Alluvial Gravel	Low; maybe underlain by higher sensitivity older sediments at depth
	Qs: Beach and Dune Sands	Low; maybe underlain by higher sensitivity older sediments at depth
SOURCE: Dibblee Geological Foundation		







## Prehistoric Setting

Archaeologists have developed individual cultural chronological sequences tailored to the archaeology and material culture of each subregion of California. Each of these sequences is based principally on the presence of distinctive cultural traits and stratigraphic separation of deposits. Jones et al. (2007) provide a framework for the interpretation of the Central Coast, which encompasses the region of the California coast between San Francisco Bay in the north and Point Concepcion in the south. Jones et al. (2007) has developed a chronology for the Central Coast which is divided into the following six periods: the Paleo-Indian Period (pre-8000 B.C.), the Millingstone Period (8000 to 3500 B.C.), the Early Period (3500 to 600 B.C.), the Middle Period (600 B.C. to A.D. 1000), the Middle/Late Transition Period (1000 to 1250 A.D.), and the Late Period (A.D. 1250–1769). The periods have been largely defined on the basis of distinctive bead types; typological analysis and radiocarbon dating of Olivella beads show the bead sequence in the Monterey Bay Area as generally similar to those of the California Central Valley and the Santa Barbara coast. Economic patterns, stylistic aspects, and regional phases further subdivide cultural periods into shorter phases. That scheme uses economic and technological types, socio-politics, trade networks, population density, and variations of artifact types to differentiate between cultural periods.

Very little evidence of human habitation during the Paleo-Indian Period, characterized by big-game hunters occupying broad geographic areas, has been found along the Central Coast region. The only definitive evidence for Paleo-Indian use of the region includes isolated finds of fluted projectile points from Nipomo, located approximately 30 miles southeast of the project, and at archeological site, CA-SLO-1429, located near Santa Margarita approximately 14 miles east of the project area.

The Millingstone Period is characterized by large numbers of handstones and/or milling slabs, crude core and cobble-core tools, large side-notched projectile points. The vast majority of Millingstone Period sites are located no further than 25 kilometers (km) from the coastlines, and many of these sites have produced quantities of marine shell indicating that coastal and estuarine environments were being exploited during this period (Jones et al. 2007). The closest Millingstone components to the project are associated with the Morro Bay Estuary, located approximately 1.25 miles south of the project.

The Early and Middle Periods are represented by the Hunting Culture (3500 B.C. to A.D. 1250), which is marked by large quantities of stemmed and notched projectile points. During the Early Period (3500 to 600 B.C.), the first cut shell beads and the mortar and pestle are documented in burials, indicating the beginning of a shift from mobility to sedentism (Jones et al., 2007). During the Middle Period, (600 B.C. to A.D. 1000), geographic mobility may have continued, although groups began to establish longer-term base camps in localities from which a more diverse range of resources could be exploited. The first rich black middens are recorded from this period. The addition of milling tools, obsidian and chert concave-base projectile points, and the occurrence of sites in a wider range of environments suggest that the economic base was more diverse and required logistical hunting techniques (Jones et al., 2007). Coastal habitation was still preferred but large Hunting Culture middens have also been identified in inland valleys.

The Late Period (A.D. 1250–1769) is distinguished from the Hunting Culture by large amounts of Desert side-notched and Cottonwood arrow points, small bifacial bead drills, bedrock mortars, hopper mortars, distinct Olivella bead types, and steatite disk beads. These assemblages represent social complexity developed toward lifeways of large, central villages with resident political leaders and specialized activity

## **Ethnographic Setting**

At the time of European contact, the preferred and proposed project sites were occupied by two Native American groups: the Chumash and the Salinan. Detailed descriptions of the Chumash and Salinan groups are provided in the following paragraphs.

### ***Chumash***

Kroeber (1925) identifies the Chumash as “predominantly a coast people” who “were more nearly maritime in their habits than any other Californian group.” Chumash territory included the Topanga and Malibu areas in the south, north to the approximate location of Morro Bay and east across the coastal range toward the San Joaquin Valley. The Santa Barbara Channel Islands (San Miguel, Santa Rosa, Santa Cruz, and Anacapa) were also included within Chumash territory. Chumash living near the preferred and proposed project area were known, by Europeans, as Obispeño Chumash, after the Mission San Luis Obispo to which many of them were relocated in the 18<sup>th</sup> century (Greenwood, 1978).

Chumash society consisted of tribal groups lead by a single chief who was responsible for the management and distribution of tribal resources. Chumash settlement sites included established village sites with large, circular residential huts of willow or pole construction and covered with tule mats or thatch. Also present within a Chumash village was a large ceremonial lodge or sweathouse. Along with more permanently settled villages, temporary short-term camps were established by the Chumash for use during resource foraging excursions.

The Chumash were a complex society with a strict social order, a well-established and prosperous system of trade, and standardized money exchange in the form of shell beads. With settlements along the Channel Islands, the Chumash were master maritime navigators, having developed the *tomol*, a wooden plank canoe, to ferry people and trade goods between the islands and the mainland. Other key cultural items representative of the Chumash are finely crafted basketry of all forms, sizes, and decorations. Chumash peoples made use of their diverse environment, capitalizing upon a wide range of natural and animal resources for food and as raw material for the crafting of function tools and non-functional, ornamental items (Kroeber, 1925). Burial practices of the Chumash involved mourning ceremonies and permanent cemeteries near to villages in which the remains were buried. Personal items of the deceased as well as other offerings or objects were placed into the grave, prior to the completion of burial.

### ***Salinan***

Far less studied than the Chumash are their northern neighbors, the Salinan. Salinan territory extended between the Pacific Ocean and the South Coast Ranges from the Salinas River Valley near the Mission Soledad on the north to the vicinity of Morro Bay on the south (Hester, 1978).

There were two major divisions of Salinan: the Antoniaños on the north, and the Migueleños on the south, both named, by Europeans, for the Spanish missions with which they became associated. The Salinan language had similarities to the Chumash language (as both are of Hokan stock), but is completely unrelated to neighboring Yokuts and Costanoan languages (Kroeber, 1925).

As with other central Californian groups, subsistence was based on the gathering of plant foods such as acorns, wild oats, sage seeds, berries, and fruits, and the hunting of small game. Material culture was typified by basketry, stone artifacts such as projectile points and grinding stones, bone and shell fishhooks, and some wooden implements. Houses were square, domed structures constructed of wooden poles and covered with tule or other grass. Autonomous villages were the primary sociopolitical unit, each ruled by a chief, and descent was primarily patrilineal. About 20 villages are known ethnographically; while many cannot be accurately mapped, the nearest known Salinan villages to the project area were located near Santa Margarita and San Simeon.

Juan Rodriguez Cabrillo's 1542 expedition, the first recorded visit by Europeans to the California coast, did not record the presence of Native Americans along the Salinan Coast. The first description of Chumash and Salinan villages comes some two centuries later, with the expeditions of Don Gaspar de Portolá in 1769. Records describe about 10 different towns along the coast between what are now the cities of San Luis Obispo and Monterey, with population estimates of between 30 and 400 residents per village. This territory would have included Salinan, Chumash, Esselen, and Costanoan villages (Kroeber, 1925).

After the arrival of the Spanish and the establishment of the missions, disease and hard labor took a toll on the native populations. The Salinan population, estimated at 3,000 at the time of Spanish contact, dropped to fewer than 700 by 1831, and the Chumash population fell from 8,000 to 2,500 in the same period (Hester, 1978). After secularization, populations dropped even faster, with only three Salinan families being reported by early 20<sup>th</sup>-century anthropologists. In addition, native economies were disrupted, trade routes were interrupted, and native ways of life were significantly altered.

## **Historic Setting**

Morro Rock, the prominent landmark at the entrance to Morro Bay, was first named by Spanish explorer Juan Rodriguez Cabrillo during his voyage of the California coast in 1542. Cabrillo called the rock "El Moro," because it resembled the head of a Moor, the people from North Africa known for the turbans they wore.

Several centuries later, Don Gaspar de Portolá and his party camped near the rock during their march to Monterey in 1769 (Greenwood, 1978). Also in 1769, the Spanish began establishing missions in California and forcibly relocating and converting native peoples. Mission San Luis Obispo, Mission San Antonio de Padua, and Mission San Miguel were the most prominent missions in the area, with Mission San Luis Obispo being nearest to the preferred and proposed project sites.

During Mexico's rule of California, Morro Bay was within the Rancho Moro Y Cayucos, one of the large Mexican land grants, which contained thousands of acres of grazing land around Morro Bay (Krieger, 1988). Local commerce depended on the sea for transportation, as the nearest rail line ended hundreds of miles away from Morro Bay.

Morro Bay pioneer and founder Franklin Riley moved to Morro Bay from San Simeon Creek in 1864 in search of better farming land. Riley built the first house in Morro Bay, which stood on what is now Morro Street between Morro Bay Boulevard and Harbor Street. In 1870, Riley officially founded the town of Morro Bay on a homestead of 160 acres, and built a wharf on what would become the Embarcadero (Morrobay.com, 2008).

At that time the landscape of Morro Bay was covered with greasewood and brush lupia, the only natural vegetation that would grow in the loose, sandy soil. To combat the strong wind and shifting sands, Riley and other early settlers planted eucalyptus trees. The seedlings slowly matured, and Morro Bay was eventually covered with eucalyptus trees (Morrobay.com, 2008).

The town grew quickly in the 1870s as schooners docked along the Embarcadero to pick up local products. Although hazardous due to the swift currents and high surf, boats could enter the harbor through channels on the north and south side of Morro Rock. The nascent town centered on the Embarcadero, where fisherman and coastal travelers would arrive and disembark.

In the late 1800s, Captain James Cass built a deep water wharf in the neighboring town of Cayucos, which began to compete with Morro Bay for shipping traffic. Many ships captains preferred to dock in Cayucos, rather than face the hazardous Morro Bay entrance. While the Embarcadero began to falter due to the competition posed by Cayucos's new deep-water port, land development elsewhere was taking off. Throughout the early 1900's, various real estate developers promoted Morro Bay as a seaside resort (Morrobay.com, 2008).

Morro Rock had been quarried since the late 19<sup>th</sup> century, but in the early 1930s, a WPA project resulted in much of the base of the rock being dynamited and the volcanic rock used to construct a jetty that would connect the rock to the mainland and close the north entrance to the harbor. The north and south breakwaters, the inner harbor revetment, and the two T-Piers were created, and the Morro Channel was dredged and the spoils deposited behind the inner harbor revetment, creating what is now the Embarcadero Road Area (Morrobay.com, 2008). Once the waterfront became more protected from high surf, the Embarcadero once again grew as a commercial fishing port. Fishermen began to bring in huge catches of albacore, salmon, and cod. Numerous oyster beds, which provided an abundance of oysters for local and regional consumption, were also constructed in the shallow back-bay called Estero Bay.

The U.S. Navy began training operations in Morro Bay in 1940, and base was constructed where the PG&E power plant now stands (City of Morro Bay, 1982). Amphibious landing crafts frequently staged "invasions" along the beach north of the Rock. During World War II, naval operations were expanded.

By 1951, Morro Bay had grown to a population of 2,000 residents. In 1953, groundbreaking ceremonies were held for the PG&E power plant, which was completed the following year and

would eventually provide the tax base for Morro Bay's incorporation, which occurred in 1964 (Caste and Ream, 2006). Morro Rock was declared a State Historical Landmark in 1968. Although Morro Bay continues to operate the Embarcadero as a working waterfront, and it remains a fishing port for halibut, sole, rockfish, albacore, and many other species for both commercial and sport vessels, tourism is the city's largest industry. Morro Bay had a population of approximately 10,000 residents in the 2000 Census (City of Morro Bay, 1982).

## **Identification of Cultural Resources in the Project Site**

Identification of known cultural resources within the proposed project area included: records searches at the California Historical Resources Information System (CHRIS) Central Coast Information Center (CCIC) and cultural resources surveys. The CHRIS-SCCIC records search included a review of all recorded cultural resources within a 0.25-mile radius of the proposed project, as well as a review of cultural resource reports on file. The cultural resources surveys included the proposed pipeline alignments plus an approximately 100-foot buffer on either side of the alignments (200-foot wide survey corridor), Lift Station Option 1A, Lift Station Option 5A, the existing WWTP, the preferred WRF location, and the portions of the proposed injection well locations that are not located on private property. In addition, a buried sensitivity analysis was conducted to assess the potential for unknown cultural resources within the project area.

A historic resources survey of the WWTP was conducted on January 30, 2009. Plant records and interviews with plant employees were conducted. The WWTP contains a total of 16 buildings or structures on a 5.5-acre site that were constructed between 1954 and 1984. Three of those structures, the Primary Clarifier/Chlorine Contact Chamber, the Biofilter/Trickling Filter No. 1, and the Digester No. 1, date from the original construction of the plant in 1954. The historic resources survey resulted in the documentation and evaluation of the WWTP for its potential historic significance. The WWTP was found not eligible for listing in the National Register of Historic Places (National Register or NRHP) or California Register of Historical Resources (California Register or CRHR) under any of the applicable criteria due to a lack of historical and architectural merit.

A paleontological resources records search was requested from the LACM in an effort to identify paleontological resources and/or fossil-bearing geologic formation, which may underlie the proposed and preferred project sites.

### ***Known Cultural Resources***

A total of 19 cultural resources have been identified within a 0.25-mile radius of the proposed and preferred project sites (**Table 3.5-2**). Eight of these resources are within or immediately adjacent to (within 100 feet of) those sites (CA-SLO-16, -43, -165, -239, -2222, -2845, WRF-2, and WWTP).

**TABLE 3.5-2  
CULTURAL RESOURCES WITHIN 0.25-MILES OF THE PROJECT SITE**

Resource Number	Resource Type	Description	NRHP/CRHR Eligibility Status	Within or Immediately Adjacent Project Area
CA-SLO-16	Prehistoric archaeological site	Lithic scatter, burials, and habitation debris Site boundaries not fully defined	Unevaluated	Yes
CA-SLO-29	Prehistoric archaeological site	Shell mound with lithics	Unevaluated	No
CA-SLO-43	Prehistoric archaeological site	Shell midden with habitation debris Site boundaries not fully defined	Unevaluated	Yes
CA-SLO-165	Prehistoric archaeological site	Shell midden with burials Site boundaries not fully defined	Determined eligible for NRHP Listed in CRHR	Yes
CA-SLO-166	Prehistoric archaeological site	Midden with lithics	Unevaluated	No
CA-SLO-239	Prehistoric archaeological site	Lithic scatter, burials, heaths/pits, and habitation debris Site boundaries not fully defined	Unevaluated	Yes
CA-SLO-499	Prehistoric archaeological site	Shell midden with bedrock mortars and lithics	Unevaluated	No
CA-SLO-1183	Prehistoric archaeological site	Lithic scatter	Unevaluated	No
CA-SLO-1303	Prehistoric archaeological site	Midden with lithics	Determined not eligible for NRHP Not evaluated for CRHR	No
CA-SLO-2022	Prehistoric archaeological site	Midden with lithics	Unevaluated	No
CA-SLO-2124	Prehistoric archaeological site	Midden with faunal bone and debitage	Unevaluated	No
CA-SLO-2142	Prehistoric archaeological site	Shell midden with beads and a burial	Unevaluated	No
CA-SLO-2143	Prehistoric archaeological site	Shell midden	Unevaluated	No
CA-SLO-2222	Prehistoric archaeological site	Lithics, burials, and habitation debris Site boundaries not fully defined	Unevaluated	Yes
CA-SLO-2232	Historic-era archaeological site	Refuse scatter with shellfish, glass, and ceramics	Unevaluated	No

Resource Number	Resource Type	Description	NRHP/CRHR Eligibility Status	Within or Immediately Adjacent Project Area
CA-SLO-2845	Prehistoric archaeological site	Shell midden with lithics Site boundaries not fully defined	Unevaluated	Yes
WRF-1	Historic-era feature	Concrete highway marker installed between 1914-1934	Not eligible	No
WRF-2	Historic-era feature	Concrete highway marker installed between 1914-1934	Not eligible	Yes
WWTP	Historic architectural resource	A total of 16 buildings or structures constructed between 1954 and 1984	Not eligible	Yes

NRHP = National Register of Historic Places

CRHR = California Register of Historical Resources

### ***Buried Archaeological Site Assessment***

The potential for encountering buried prehistoric archaeological sites within the preferred and proposed project sites was determined based on the landform age and distribution of surface soil deposits combined with the proximity to historic-era stream channels (*i.e.*, distance to water). Researchers have shown the highest potential for buried sites occurs where young deposits (late Holocene-age or later) occur within 100 meters of a perennial water source, with the potential for buried sites diminishing rapidly at distance of 200 meters (656 feet) or more from active or formerly active sources of fresh water (e.g., springs, streams, lakes). Sensitivity was assigned one of five categories from Lowest to Highest (Lowest, Low, Moderate, High, Highest). A High sensitivity rating does not mean that an archaeological site will necessarily be discovered there, but that there is a greater likelihood that buried soils could contain cultural deposits.

The northern portions of the preferred and proposed project sites were identified as having a High to Highest potential for buried resources. The remainder of the project site has a Low to Lowest potential for buried resources.

### ***Paleontological Resources Records Search***

The paleontological records search conducted by the LACM on January 3, 2018 identified three geologic units underlying the preferred and proposed project sites: Franciscan complex metamorphic rock; younger Quaternary dune sands; and younger Quaternary Alluvium (McLeod, 2018). The Franciscan complex metamorphic rock underlies the portions of those sites located north of Highway 1. Because that geologic unit is comprised of metamorphic rock it has no potential to contain paleontological resources. The portion of those sites located south of Highway 1 is underlain by younger Quaternary dune sands. These younger Quaternary deposits are too young to contain paleontological resources; however, they are often underlain by older Quaternary deposits that are known to produce fossil specimens. Younger Quaternary Alluvium underlies the northwestern portion of those sites, and is derived from alluvial fan deposits



originating from the mountains north of the proposed project and deposited within the preferred and proposed project sites via Morro Creek.

The LACM did not identify any fossil localities within the project site, but two fossil localities (LACM 5903 and 5790) were identified within older Quaternary deposits located approximately 2 miles and 22 miles from the preferred and proposed project sites, respectively. Fossil locality LACM 5903 produced a fossil specimen of mastodon (*Mammutidae*) in stream gravels at a depth of 6 feet below the ground surface. Fossil locality LACM 5790 produced a fossil specimen of mammoth (*Mammuthus*) at shallow but unstated depth (McLeod, 2018).

## 3.5.2 Regulatory Framework

### Federal

#### ***National Historic Preservation Act***

The principal federal law addressing historic properties is the National Historic Preservation Act (NHPA), as amended (54 United States Code of Laws [USC] 300101 *et seq.*), and its implementing regulations (36 CFR Part 800). Section 106 requires a federal agency with jurisdiction over a proposed federal action (referred to as an “undertaking” under the NHPA) to take into account the effects of the undertaking on historic properties, and to provide the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on the undertaking.

The term “historic properties” refers to “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register” (36 CFR Part 800.16(l)(1)). The implementing regulations (36 CFR Part 800) describe the process for identifying and evaluating historic properties, for assessing the potential adverse effects of federal undertakings on historic properties, and seeking to develop measures to avoid, minimize, or mitigate adverse effects. The Section 106 process does not require the preservation of historic properties; instead, it is a procedural requirement mandating that federal agencies take into account effects to historic properties from an undertaking prior to approval.

The steps of the Section 106 process are accomplished through consultation with the State Historic Preservation Officer (SHPO), federally-recognized Indian tribes, local governments, and other interested parties. The goal of consultation is to identify potentially affected historic properties, assess effects to such properties, and seek ways to avoid, minimize, or mitigate any adverse effects on such properties. The agency also must provide an opportunity for public involvement (36 CFR 800.1(a)). Consultation with Indian tribes regarding issues related to Section 106 and other authorities (such as the National Environmental Policy Act, or NEPA, and Executive Order No. 13007) must recognize the government-to-government relationship between the Federal government and Indian tribes, as set forth in Executive Order 13175, 65 FR 87249 (Nov. 9, 2000), and Presidential Memorandum of Nov. 5, 2009.

#### ***National Register of Historic Places***

The National Register was established by the NHPA of 1966, as “an authoritative guide to be used by federal, State, and local governments, private groups and citizens to identify the Nation’s historic resources and to indicate what properties should be considered for protection from

destruction or impairment” (36 CFR 60.2). The National Register recognizes a broad range of cultural resources that are significant at the national, state, and local levels and can include districts, buildings, structures, objects, prehistoric archaeological sites, historic-period archaeological sites, traditional cultural properties, and cultural landscapes. As noted above, a resource that is listed in or eligible for listing in the National Register is considered “historic property” under Section 106 of the NHPA.

To be eligible for listing in the National Register, a property must be significant in American history, architecture, archaeology, engineering, or culture. Properties of potential significance must meet one or more of the following four established criteria:

- A. Are associated with events that have made a significant contribution to the broad patterns of our history;
- B. Are associated with the lives of persons significant in our past;
- C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. Have yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of the criteria of significance, a property must have integrity. Integrity is defined as “the ability of a property to convey its significance” (U.S. Department of the Interior, 2002). The National Register recognizes seven qualities that, in various combinations, define integrity. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance.

Ordinarily religious properties, moved properties, birthplaces or graves, cemeteries, reconstructed properties, commemorative properties, and properties that have achieved significance within the past 50 years are not considered eligible for the National Register unless they meet one of the Criteria Considerations (A-G), in addition to meeting at least one of the four significance criteria and possessing integrity (U.S. Department of the Interior, 2002).

## State

### ***California Environmental Quality Act***

CEQA is the principal statute governing environmental review of projects occurring in the state and is codified at *Public Resources Code (PRC) Section 21000 et seq.* CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or unique archaeological resources. Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment.

The *CEQA Guidelines* (14 California Code of Regulations [CCR] section 15064.5) recognize historical resources include: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register, (2) a resource included in

a local register of historical resources, as defined in PRC subdivision 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC subdivision 5024.1(g) and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact a resource does not meet the three criteria outlined above does not preclude the lead agency from determining the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines an archaeological site is a historical resource, then the provisions of Section 21084.1 of CEQA and Section 15064.5 of the *CEQA Guidelines* apply. If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is as a unique archaeological resource. As defined in Section 21083.2 of CEQA a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, then mitigation measures shall be required. The *CEQA Guidelines* note if an archaeological resource is neither a unique archaeological nor a historical resource, then the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* subdivision 15064.5(c)(4)).

A significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* subdivision 15064.5(a). Substantial adverse change is defined as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (*CEQA Guidelines* subdivision 15064.5(b)(1)). According to *CEQA Guidelines* subdivision 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

- A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
- B. Account for its inclusion in a local register of historical resources pursuant to Subdivision 5020.1(k) of the PRC or its identification in a historical resources survey meeting the requirements of Subdivision 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- C. Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.

In general, a project that complies with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (Standards) (Weeks and Grimer, 1995) is considered to have mitigated its impacts to historical resources to a less-than-significant level (CEQA Guidelines subdivision 15064.5(b)(3)).

### **California Register of Historical Resources**

The California Register is “an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC subdivision 5024.1[a]). The criteria for eligibility for the California Register are based upon National Register criteria (PRC subdivision 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a prehistoric or historic-period property must be significant at the local, state, and/or federal level under one or more of the following four criteria:

- 1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- 2. Is associated with the lives of persons important in our past;
- 3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- 4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally determined eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

### ***California Health and Safety Code Section 7050.5***

California Health and Safety Code section 7050.5 requires that in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the NAHC within 24 hours to relinquish jurisdiction.

### ***California Public Resources Code Section 5097.98***

California PRC section 5097.98 provides procedures in the event human remains of Native American origin are discovered during project implementation. PRC section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. PRC section 5097.98 further requires the NAHC, upon notification by a county coroner, designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. Once the MLD has been granted access to the site by the landowner and inspected the discovery, the MLD then has 48 hours to provide recommendations to the landowner for the treatment of the human remains and any associated grave goods.

In the event no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the land owner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

## Local

### ***The City of Morro Bay Local Coastal Land Use Plan (1982)***

The 1982 City of Morro Bay Land Use Plan contains the following regulations related to archaeological resources:

#### **D. ARCHAEOLOGY POLICIES**

**Policy 4.01:** Where necessary significant archaeological and historic resources shall be preserved to the greatest extent possible both on public and privately held lands.

**Policy 4.02:** The City shall establish and maintain an inventory of archaeological site records. A sensitivity map shall be developed based on available information on file with the California Archaeological Site Survey Office. This information shall be treated as confidential to protect the archaeological resources. Until the mapping has been completed, an archaeological reconnaissance performed by a qualified archaeologist and/or a review of record sites shall be required of all projects applying for a coastal permit.

**Policy 4.03:** An archaeological reconnaissance performed by a qualified archaeologist shall be required as part of the permit review process for projects with areas identified as having potential archaeological sites. An archaeological reconnaissance will be required for all projects requiring an Environmental Impact Report under CEQA.

**Policy 4.0:** Where archaeological resources are found as a result of a preliminary site survey before construction, the City shall require a mitigation plan to protect the site.

**Policy 4.0:** Where archaeological resources are discovered during construction of new development, or through other non-permit activities (such as repair and maintenance of public works projects) all activities shall cease until a qualified archaeologist knowledgeable in Chumash culture can determine the significance of the resource and designate alternative mitigation measures. Development that impacts archaeological resources shall be required to mitigate impacts in one of the following manners:

- a. Removal of artifacts
- b. Dedication of impacted area as permanent open space
- c. Coverage of archaeological site by at least 24 inches of sterile sand.

**Policy 4.06:** Any archaeological sites of state-wide significance shall be nominated for inclusion in the Registry of California Historic Landmarks. Those of national significance shall be nominated for inclusion the National Registry of Historic Place and the National Historic Landmark Program.

**Policy 4.07:** All available measure, including purchases, tax relief, purchase of development rights, etc. shall be explored to avoid development on significant archaeological sites. Where sites containing significant archaeological resources are already in public ownership including ownership of the City, the City shall encourage the retention of the site in public ownership and the protection of the archaeological resources. The transfer of City owned properties containing significant archaeological resources shall be accompanied by a deed restriction containing provisions protecting the archaeological resources on the site.

**Policy 4.08:** Activities other than development which could damage or destroy archaeological resources including, but not limited to, off-road vehicle activity and

unauthorized collecting of artifacts. shall be prohibited unless specifically permitted by the permit issuing agency with provisions for adequately protecting any archaeological resources.

### ***City of Morro Bay Zoning Code 17.48.310: Protection of Archaeological Resources.***

The City's Zoning Ordinance (17.48.310) contains the following applicable regulations concerning archaeological resources, with the goal of the protection of cultural resources "to the greatest extent possible":

- B. Archaeological Reconnaissance.** An archaeological reconnaissance by a qualified archaeologist shall be required as part of initial review for application submission for the following proposed development projects:
1. *Potential archaeological sites:* projects located within three hundred feet of areas identified by the city through an archaeological resource inventory as having potential archaeological sites.
  2. *Archaeological resources:* where evidence of potentially significant archaeological resources is found in an initial study conducted pursuant to the California Environmental Quality Act (CEQA).
- C. Mitigation Plans for Archaeological Sites.** Mitigation plans for the protection of archaeological resources during development and related activities shall be required in accordance with the following provisions:
1. *Site Reconnaissance.* Where unique, significant or valuable archaeological resources are found as a result of a site reconnaissance as required above, the city shall either require a mitigation plan to protect the site, or to recover the resources.
  2. *Construction.* Where archaeological resources are discovered during construction of new development (including otherwise ministerial activities such as repair and maintenance of certain public utility facilities) all activities shall cease. Such activities may resume when the director finds the following:
    - a. *Determination of Significance.* That a qualified archaeologist knowledgeable in Chumash culture has determined the significance of the resource and the designated mitigation measures for the protection of such resources;
    - b. *Potential Impacts.* That the potential impacts of the development will be mitigated in the manner recommended by the archaeologist, and/or by one of the following techniques:
      - i. Removal of artifacts;
      - ii. Dedication of impacted area as permanent open space;
      - iii. Coverage of the archaeological site by at least 24 inches of sterile sand;
      - iv. Any other available measures to avoid development of significant archaeological sites, including purchase tax relief and transfer of development rights.

## **Paleontological Resources**

### ***CEQA***

Paleontological resources are also afforded protection by CEQA. Appendix G (Part V) of the *CEQA Guidelines* provides guidance relative to significant impacts on paleontological resources,

stating that a project will normally result in a significant impact on the environment if it will “disrupt or adversely affect a paleontological resource or site or unique geologic feature, except as part of a scientific study.”

### ***California Public Resources Code (PRC) Section 5097.5***

PRC sections 5097.5 and 30244 prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, and district) lands.

### ***Society for Vertebrate Paleontology***

#### **Professional Standards**

The Society for Vertebrate Paleontology (SVP) has established standard guidelines for acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional paleontologists in the nation adhere closely to the SVP’s assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most California State regulatory agencies accept the SVP standard guidelines as a measure of professional practice.

#### **Paleontological Sensitivity**

Paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. In its “Standard Guidelines for the Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontological Resources,” the SVP (1995) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential:

- **High Potential.** Rock units from which vertebrate or significant invertebrate fossils or suites of plant fossils have been recovered and are considered to have a high potential for containing significant nonrenewable fossiliferous resources. These units include, but are not limited to, sedimentary formations and some volcanic formations that contain significant nonrenewable paleontological resources anywhere within their geographical extent and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical; and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Also classified as significant are areas that contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways.
- **Low Potential.** Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils. Such units will be poorly represented by specimens in institutional collections.



- **Undetermined Potential.** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials.
- **No Potential.** Metamorphic and granitic rock units generally do not yield fossils and therefore have no potential to yield significant non-renewable fossiliferous resources.

For geologic units with high potential, full-time monitoring is generally recommended during any project-related ground disturbance. For geologic units with low potential, protection or salvage efforts will not generally be required. For geologic units with undetermined potential, field surveys by a qualified vertebrate paleontologist should be conducted to specifically determine the paleontological potential of the rock units present within the study area.

### 3.5.3 Impacts and Mitigation Measures

#### Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to cultural resources in the project area. Those same criteria are provided below. This EIR assumes implementation of the proposed project would have a significant impact related to cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

CEQA provides that a project may cause a significant environmental effect where the project could result in a substantial adverse change in the significance of a historical resource (PRC, section 21084.1). *CEQA Guidelines*, section 15064.5 defines a “substantial adverse change” in the significance of a historical resource to mean physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be “materially impaired” (*CEQA Guidelines* subdivision 15064.5[b][1]).

*CEQA Guidelines* subdivision 15064.5(b)(2), defines “materially impaired” for purposes of the definition of “substantial adverse change” as follows:

The significance of a historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Subdivision 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Subdivision 5024.1(g) of the PRC, unless the public agency

reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

CEQA also provides a project may cause a significant environmental effect where the project could result in damage to or destroy unique archaeological resources<sup>1</sup>, unique paleontological resource or site or unique geologic feature, or human remains.

## Methodology

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the proposed project as related to cultural resources. The proposed project would have a significant impact if it would:

1. Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5.
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.
3. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
4. Disturb any human remains, including those interred outside of formal cemeteries.

## Impact Analysis

### *Historic and Archaeological Resources*

**Impact 3.5-1: The proposed project could cause a substantial adverse change in the significance of a historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5. This would be a Class I impact, Significant and Unavoidable.**

### **Construction**

A total of eight resources were identified within or immediately adjacent to (within 100 feet or) the proposed and preferred project sites (**Table 3.5-3**). Of these, two (WWTP and WRF-2) have been evaluated as not eligible for the California Register and are not historical resources under CEQA. One (CA-SLO-165) is listed in the California Register and is a historical resource under CEQA. The remaining five resources (CA-SLO-16, -43, -239, -2222, and -2845) have been discretionarily determined to be eligible by the City for the purposes of this Draft EIR pursuant to CEQA subdivision 15064.5(a)(3), and they are all considered historical resources.

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<sup>1</sup> Per *CEQA Guidelines* subdivision 15064.5(c), when a project will impact an archaeological site, a lead agency shall first determine whether the site is a historical resource. If the archaeological site does not meet the criteria for historical resource, it will then be assessed for significance as a unique archaeological resource. If it meets the definition of unique archaeological resource, the provisions of section PRC subdivision 21083.2 shall apply.



**TABLE 3.5-3  
CULTURAL RESOURCES WITHIN OR IMMEDIATELY ADJACENT TO THE PROJECT SITE**

Resource Number	Resource Type	Description	CRHR Eligibility Status	Proposed Project Component	Impact Determination
CA-SLO-16	Prehistoric archaeological site	Lithic scatter, burials, and habitation debris Site boundaries not fully defined	*Not evaluated/ Discretionarily eligible	Raw wastewater and brine/wet weather discharge pipeline Injection Well Area (IPR West)	Significant and unavoidable
CA-SLO-43	Prehistoric archaeological site	Shell midden with habitation debris Site boundaries not fully defined	*Not evaluated/ Discretionarily eligible	Injection Well Area (IPR East)	Significant and unavoidable
CA-SLO-165	Prehistoric archaeological site	Shell midden with burials Site boundaries not fully defined	Listed in CRHR	Injection Well Area (IPR East)	Significant and unavoidable
CA-SLO-239	Prehistoric archaeological site	Lithic scatter, burials, heaths/pits, and habitation debris Site boundaries not fully defined	*Not evaluated/ Discretionarily eligible	Raw wastewater and brine/wet weather discharge pipeline Recycled water pipeline (IPR West)	Significant and unavoidable
CA-SLO-2222	Prehistoric archaeological site	Lithics, burials, and habitation debris Site boundaries not fully defined	*Not evaluated/ Discretionarily eligible	Recycled water pipeline (IPR East)	Significant and unavoidable
CA-SLO-2845	Prehistoric archaeological site	Shell midden with lithics Site boundaries not fully defined	*Not evaluated/ Discretionarily eligible	Recycled water pipeline (IPR East)	Significant and unavoidable
WRF-2	Historic-era feature	Concrete highway marker installed between 1914-1934	Not eligible	Recycled water pipeline (IPR East)	N/A
WWTP	Historic architectural resource	A total of 16 buildings or structures constructed between 1954 and 1984	Not eligible	WWTP	N/A

CRHR = California Register of Historical Resources

\*denotes resource determined discretionarily eligible by the City for the purposes of this DEIR pursuant to CEQA Section 15064.5(a)(3)



## **WRF**

No historic architectural resources or known archaeological resources are located within the preferred WRF location. The preferred WRF location was identified as having a Lowest to Low sensitivity for the presence of buried archaeological deposits. Nevertheless, ground disturbance related to construction of the proposed WRF has the potential to impact unknown archaeological resources that could qualify as historical or unique archaeological resources under CEQA. Implementation of **Mitigation Measures CUL-1 and CUL-5 through CUL-9** would reduce impacts to less than significant.

## **Lift Station**

No historic architectural resources or known archaeological resources are located within the proposed lift station options. Those lift station options were identified as having a High sensitivity for the presence of buried archaeological deposits. Ground disturbance related to construction of the lift station has the potential to impact unknown archaeological resources that could qualify as historical or unique archaeological resources under CEQA. Implementation of **Mitigation Measures CUL-1 and CUL-5 through CUL-9** would reduce impacts to less than significant.

## **Conveyance Pipelines**

A total of five resources are located within or immediately adjacent to the proposed conveyance pipelines, including CA-SLO-16, -239, -2222, -2845, and WRF-2. One resource, WRF-2, was recommended not eligible and is not considered a historical resource under CEQA. The remaining five resources have been discretionarily determined to be eligible by the City for the purposes of this Draft EIR pursuant to CEQA subdivision 15064.5(a)(3), and are considered historical resources. Ground disturbance related to construction of the conveyance pipelines has the potential to directly impact all of these resources, which would constitute a significant and unavoidable impact under CEQA.

Additionally, some portions of the conveyance pipeline alignments were identified as having a High to Highest sensitivity for the presence of buried archaeological deposits. Ground disturbance related to construction of the conveyance pipelines has the potential to impact unknown archaeological resources that could qualify as historical or unique archaeological resources under CEQA.

Implementation of **Mitigation Measures CUL-1 through CUL-9** would reduce impacts to the degree feasible, however, since CA-SLO-16, -239, -2222, and -2845 are historical resources pursuant to CEQA and ground disturbance related to construction of the conveyance pipelines would directly impact these resources, even after mitigation the impact would remain significant and unavoidable.

## **Injection and Monitoring Wells**

A total of three resources are located within the proposed IPR East and IPR West wellfield areas, including CA-SLO-16, CA-SLO-43, and CA-SLO-165. CA-SLO-165 is listed in the California Register and is a historical resource. CA-SLO-16 and CA-SLO-43 have been discretionarily determined to be eligible by the City for the purposes of this Draft EIR pursuant to CEQA

subdivision 15064.5(a)(3), and they are considered historical resources. Since the exact locations of the wells within the wellfield areas have not been identified yet, ground disturbance related to construction of the injection and monitoring wells has the potential to directly impact all of these resources, which would constitute a significant and unavoidable impact under CEQA.

Additionally, the IPR East and IPR West wellfield areas were identified as having a High to Highest sensitivity for the presence of buried archaeological deposits. Ground disturbance related to construction of the injection and monitoring wells has the potential to impact unknown archaeological resources that could qualify as historical or unique archaeological resources under CEQA.

Implementation of **Mitigation Measures CUL-1 through and CUL-9** would reduce impacts to the degree feasible, however, since CA-SLO-16, CA-SLO-43, and CA-SLO-165 are historical resources pursuant to CEQA and ground disturbance related to construction of the injection and monitoring wells would potentially directly impact these resources, even after mitigation the impact would remain significant and unavoidable.

### **Decommissioning of Current WWTP**

The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure such as the piping located four to five feet below grade. Since the existing WWTP is more than 45 years old (the California OHP's threshold for consideration as a historical resource) it was evaluated for listing in the National Register and California Register and was found not eligible. As such, it does not qualify as a historical resource and its shutdown, demolition, and removal would not constitute a significant impact.

No known archaeological sites are located within the WWTP. The WWTP location was identified as having a High to Highest sensitivity for the presence of buried archaeological deposits. Ground disturbance related to the shutdown, demolition, and removal of all WWTP facilities and infrastructure such as the piping located four to five feet below grade, has the potential to impact archaeological resources that could qualify as historical or unique archaeological resources under CEQA.

Implementation of **Mitigation Measures CUL-1 and CUL-5 through CUL-9** would reduce impacts to less than significant.

### **Operation**

WRF, Lift Station, Conveyance Pipelines, Injection and Monitoring Wells, Decommissioning of the WWTP

Although there is unlikely to be ground disturbance associated with the operation of the proposed project facilities, there is potential ground disturbance could occur during maintenance or repair of those facilities. If ground disturbance occurred within areas that have not been previously disturbed, then there is the potential to impact archaeological resources that qualify as, or could qualify as, historical or unique archaeological resources under CEQA. Implementation of

**Mitigation Measures CUL-1 and CUL-6 through CUL-9** would reduce impacts to less than significant.

### **Mitigation Measures**

**CUL-1: Retention of a Qualified Archaeologist.** Within 30 days after the City's approval of the final design plans and prior to start of any ground-disturbing activities (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the City shall retain a Qualified Archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior, 1983) to carry out all mitigation related to archaeological resources.

**CUL-2: Pre-Construction Phase I Cultural Resources Survey.** Within 30 days after the City's approval of the final design plans and prior to the start of any ground-disturbing activity (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the Qualified Archaeologist shall conduct pre-construction Phase I Cultural Resources Survey of all areas that have not been previously surveyed within the last 5 years.

The survey shall document resources potentially qualifying as historical resources or unique archaeological under CEQA. The Qualified Archaeologist shall document the results of the survey in a Phase I Cultural Resources Survey Report that follows *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* (OHP, 1990). The Qualified Archaeologist shall also prepare Department of Parks and Recreation 523 forms for resources encountered during the survey, which shall be appended to the report. If historic architectural resources are encountered that could potentially be impacted by the project, the Qualified Archaeologist shall consult with a Qualified Architectural Historian meeting the Secretary of the Interior's Professional Qualifications Standards for architectural history (U.S. Department of the Interior, 1983). The Qualified Archaeologist shall submit the draft Phase I Cultural Resources Survey Report to the City within 30 days after completion of the survey. The final Phase I Cultural Resources Survey Report shall be submitted to the City within 10 days after receipt of City's comments. The Qualified Archaeologist shall also submit the final Phase I Cultural Resources Survey Report to the Central Coast Information Center.

In the event resources potentially qualifying as historical resources or unique archaeological resources under CEQA are identified during the survey, avoidance and preservation in place shall be the preferred manner of mitigating impacts to the resources in accordance with **Mitigation Measure CUL-3**. If avoidance of the identified resources is determined by the City to be infeasible in light of factors such as the nature of the find, proposed project design, costs, and other considerations, then the portion of the resource within the Area of Direct Impact (ADI) shall be subject to presence/absence testing and if potentially significant deposits are identified, the resource shall be evaluated for significance under all four National Register/California Register Criteria (A/1-D/4). If a resource is found to be significant (*i.e.*, meets the definition for historical resource in *CEQA Guidelines* subdivision 15064.5(a) or unique archaeological resource in PRC subdivision 21083.2(g)), then it shall be incorporated into the Archaeological Resources Data Recovery and Treatment Plan outlined in **Mitigation Measure CUL-4**.



**CUL-3: Avoidance and Preservation in Place of Archaeological Resources.** The City shall avoid and preserve in place resources CA-SLO-16, -43, -165, -239, -2222, and -2845, and any other resources that are identified as potentially qualifying as historical resources or unique archaeological resources under CEQA, through proposed project redesign. Avoidance and preservation in place is the preferred manner of mitigating impacts to archaeological resources. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that avoidance and preservation in place of a resource is determined by the City to be infeasible in light of factors such as project design, costs, and other considerations, then **Mitigation Measure CUL-4** shall be implemented for that resource. If avoidance and preservation in place of a resource is determined by the City to be feasible, then **Mitigation Measures CUL-5** shall be implemented for that resource.

**CUL-4: Development of an Archaeological Resources Data Recovery and Treatment Plan.** The Qualified Archaeologist shall prepare an Archaeological Resources Data Recovery and Treatment Plan for all significant resources that will be impacted by the proposed project. The plan shall be submitted to the City for review and approval prior to the start of field work for data recovery efforts for resources that are eligible under Criterion D/4 (data potential). Data recovery field work shall be completed prior to the start of any project-related ground-disturbing activity. Treatment for resources that are eligible under Criteria A/1 (events), B/2 (persons), and/or C/3 (design/workmanship) shall be completed within 3 years of completion of the project. The Archaeological Resources Data Recovery and Treatment Plan shall include:

- *Research Design.* The plan shall outline the applicable cultural context(s) for the region, identify research goals and questions that are applicable to each resource or class of resources, and list the data needs (types, quantities, quality) required to answer each research question. The research design shall address all four National Register/California Register Criteria (A/1-D/4) and identify the methods that will be required to inform treatment, such as subsurface investigation, documentary/archival research, and/or oral history, depending on the nature of the resource.
- *Data Recovery for Resources Eligible under Criterion D/4.* The plan shall outline the field and laboratory methods to be employed, and any specialized studies that will be conducted, as part of the data recovery effort for resources that are eligible under National Register/California Register Criterion D/4 (data potential). If a resource is eligible under additional criteria, treatment beyond data recovery shall be implemented (see CUL-4c).
- *Treatment for Resources Eligible under Criteria A/1, B/2, and/or C/3.* In the event a resource is eligible under National Register/California Register Criteria A/1 (events), B/2 (persons), or C/3 (design/workmanship), then resource-specific treatment shall be developed to mitigate project-related impacts to the degree feasible. That could include forms of documentation, interpretation, public outreach, ethnographic and language studies, publications, and educational programs, depending on the nature of the resource, and may require the retention of additional technical specialists. Treatment measures shall be generally outlined in the plan based on existing information on the resource. Once data recovery is completed and the results are

available to better inform resource-specific treatment, the treatment measures shall be formalized and implemented. Treatment shall be developed by the Qualified Archaeologist in consultation with the City and Native American Tribal representatives for resources that are Native American in origin.

- *Security Measures.* The plan shall include recommended security measures to protect archaeological resources from vandalism, looting, and non-intentionally damaging activities during field work.
- *Procedures for Discovery of Human Remains and Associated Funerary Objects.* The plan shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects are encountered during field work. These shall include stop-work and protective measures, notification protocols, and compliance with California Health and Safety Code section 7050.5 and PRC section 5097.98. See also CUL-14.
- *Reporting Requirements.* Upon completion of data recovery for resources eligible under Criterion D/4, the Qualified Archaeologist shall document the findings in an Archaeological Data Recovery Report. The draft Archaeological Data Recovery Report shall be submitted to the City within 360 days after completion of data recovery, and the final Archaeological Data Recovery Report shall be submitted to the City within 60 days after the receipt of City comments. The Qualified Archaeologist shall also submit the final Archaeological Data Recovery Report to the Central Coast Information Center.

Upon completion of all other treatment for resources eligible under Criteria A/1, B/2, and C/3, the Qualified Archaeologist shall document the resource-specific treatment that was implemented for each resource and verification that treatment has been completed in a technical document (report or memorandum). The document shall be provided to the City within 30 days after completion of treatment.

- *Curation Requirements.* Disposition of Native American archaeological materials shall be determined through consultation between Native American representatives, the Qualified Archaeologist, and the City. Disposition of human remains and associated funerary objects shall be determined by the landowner in consultation with the City and Most Likely Descendant (see **Mitigation Measure CUL-14**).

Any historic-period archaeological materials that are not Native American in origin shall be curated at a repository accredited by the American Association of Museums that meets the standards outlined in 36 Code of Federal Regulations (CFR) 79.9. If no accredited repository accepts the collection, then it may be curated at a non-accredited repository as long as it meets the minimum standards set forth by 36 CFR 79.9. If neither an accredited nor a non-accredited repository accepts the collection, then it may be offered to a public, non-profit institution with a research interest in the materials, or donated to a local school or historical society in the area for educational purposes, to be determined by the Qualified Archaeologist in consultation with the City.

- *Protocols for Native American Monitoring and Input.* The plan shall outline the role and responsibilities of Native American Tribal representatives. It shall include communication protocols and an opportunity and timelines for review of cultural resources documents. The plan shall include provisions for full-time Native American monitoring during field work (see **Mitigation Measure CUL-8**).

**CUL-5: Development of a Cultural Resources Monitoring and Mitigation Program (CRMMP).** Within 60 days of the award of the contractor's bid and prior to the start of any ground-disturbing activity (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the Qualified Archaeologist shall prepare a Cultural Resources Mitigation and Monitoring Program (CRMMP) based on the final City-approved project design plans. The CRMMP shall include:

- *Establishment of Environmentally Sensitive Areas.* The CRMMP shall outline areas that will be designated Environmentally Sensitive Areas (including maps). Significant or unevaluated cultural resources that are being avoided and are within 50 feet of the construction zone shall be delineated with exclusion markers to ensure avoidance. These areas will not be marked as archaeological resources, but will be designated as "exclusion zones" on project plans and protective fencing in order to discourage unauthorized disturbance or collection of artifacts.
- *Provisions for Archaeological Monitoring.* Full-time archaeological monitoring shall be required for all ground disturbance. The CRMMP shall outline the archaeological monitor(s) responsibilities and requirements (see **Mitigation Measure CUL-7**).
- *Procedures for Discovery of Archaeological Resources.* Procedures to be implemented in the event of an archaeological discovery shall be fully defined in the CRMMP, and shall include stop-work and protective measures, notification protocols, procedures for significance assessments, and appropriate treatment measures. The CRMMP shall state avoidance or preservation in place is the preferred manner of mitigating impacts to historical resources and unique archaeological resources, but shall provide procedures to follow should avoidance be infeasible in light of factors such as the nature of the find, project design, costs, and other considerations. See also **Mitigation Measure CUL-9**.

If, based on the recommendation of the Qualified Archaeologist, it is determined a discovered archaeological resource constitutes a historical resource or unique archaeological resource pursuant to CEQA, then avoidance and preservation in place shall be the preferred manner of mitigating impacts to such a resource in accordance with **Mitigation Measure CUL-3**. In the event that preservation in place is determined to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Data Recovery and Treatment Plan shall be prepared and implemented following the procedures outlined in **Mitigation Measure CUL-4**. The City shall consult with appropriate Native American representatives in determining treatment of resources that are Native American in origin to ensure cultural values ascribed to the resource, beyond those that are scientifically important, are considered.

- *Procedures for Discovery of Human Remains and Associated Funerary Objects.* The CRMMP shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects are encountered during construction. These shall include stop-work and protective measures, notification protocols, and compliance with California Health and Safety Code section 7050.5 and PRC section 5097.98 (see **Mitigation Measure CUL-14**).
- *Reporting Requirements.* The CRMMP shall outline provisions for weekly, monthly, and final reporting. The Qualified Archaeologist shall prepare weekly status reports detailing activities and locations observed (including maps) and summarizing any

discoveries for the duration of monitoring to be submitted to the City via email for each week in which monitoring activities occur. Monthly progress reports summarizing monitoring efforts shall be prepared and submitted to the City for the duration of ground disturbance. The Qualified Archaeologist shall prepare a draft Archaeological Resources Monitoring Report and submit it to the City within 180 days after completion of the monitoring program or treatment for significant discoveries should treatment extend beyond the cessation of monitoring. The final Archaeological Resources Monitoring Report shall be submitted to the City within 60 days after receipt of City comments. The Qualified Archaeologist shall also submit the final Archaeological Resources Monitoring Report to the Central Coast Information Center. If human remains are encountered, a confidential report documenting all activities shall be submitted to the California Native American Heritage Commission within 90 days after completion of any treatment (see **Mitigation Measure CUL-14**).

- *Curation Requirements.* Disposition of Native American archaeological materials shall be determined through consultation between Native American representatives, the Qualified Archaeologist, and the City. Disposition of human remains and associated funerary objects shall be determined by the landowner in consultation with the City and Most Likely Descendant (see **Mitigation Measure CUL-14**).

Any historic-period archaeological materials that are not Native American in origin shall be curated at a repository accredited by the American Association of Museums that meets the standards outlined in 36 CFR 79.9. If no accredited repository accepts the collection, then it may be curated at a non-accredited repository as long as it meets the minimum standards set forth by 36 CFR 79.9. If neither an accredited nor a non-accredited repository accepts the collection, then it may be offered to a public, non-profit institution with a research interest in the materials, or donated to a local school or historical society in the area for educational purposes, to be determined by the Qualified Archaeologist in consultation with the City.

- *Protocols for Native American Monitoring and Input.* The CRMMP shall outline the role and responsibilities of Native American Tribal representatives. It shall include communication protocols, an opportunity and timelines for review of cultural resources documents related to discoveries that are Native American in origin, and provisions for Native American monitoring. The CRMMP shall include provisions for full-time Native American monitoring of all project-related ground disturbance, as well as during any subsurface investigation and data recovery for discovered resources that are Native American in origin (see **Mitigation Measures CUL-8**).

**CUL-6: Construction Worker Cultural Resources Sensitivity Training.** Prior to start of any ground-disturbing activities (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the Qualified Archaeologist, or his/her designee, and a Native American representative shall conduct cultural resources sensitivity training for all construction personnel. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains, confidentiality of discoveries, and safety precautions to be taken when working with cultural resources monitors. The City shall ensure construction personnel are made

available for and attend the training and retain documentation demonstrating attendance. That training may be conducted in coordination with paleontological sensitivity training required by **Mitigation Measure CUL-11**.

**CUL-7: Archaeological Resources Monitoring.** All project-related ground disturbance (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) shall be monitored by an archaeological monitor(s) familiar with the types of resources that could be encountered and shall work under the direct supervisor of the Qualified Archaeologist. The number of archaeological monitors required to be on-site during ground disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another will require additional monitors. The archaeological monitor(s) shall keep daily logs detailing the types of activities and soils observed, and any discoveries. Archaeological monitor(s) shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance and treatment implemented, if necessary, based on the recommendations of the Qualified Archaeologist in coordination with the City, and the Native American representatives in the event the resource is Native American in origin, and in accordance with the protocols and procedures outlined in the CRMMP (see **Mitigation Measure CUL-5**).

**CUL-8: Native American Monitoring.** The City shall retain a Native American monitor(s) from a Tribe that is culturally and geographically affiliated with the project site (according to the California Native American Heritage Commission). The Native American monitor shall monitor all project-related ground disturbance (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) and all ground disturbance related to subsurface investigation and data recovery efforts for discovered resources that are Native American in origin. The number of Native American monitors required to be on-site during ground disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another require additional monitors. Native American monitors shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance.

**CUL-9 : Inadvertent Discovery.** In the event archaeological resources are encountered during construction of the proposed project, all activity in the vicinity of the find shall cease (within 100 feet), and the protocols and procedures for discoveries outlined in the CRMMP (see **Mitigation Measure CUL-5**) shall be implemented. The discovery shall be evaluated for potential significance by the Qualified Archaeologist. If the Qualified Archaeologist determines that the resource may be significant (*i.e.*, meets the definition for historical resource in *CEQA Guidelines* subdivision 15064.5(a) or unique archaeological resource in PRC subdivision 21083.2(g)), the Qualified Archaeologist shall develop an Archaeological Resources Data Recovery and Treatment Plan for the resource in accordance with the CRMMP (see **Mitigation Measure CUL-5**) and

following the procedures outlined in **Mitigation Measure CUL-4**. When assessing significance and developing treatment for resources that are Native American in origin, the Qualified Archaeologist and the City shall consult with the appropriate Native American representatives. The Qualified Archaeologist shall also determine if work may proceed in other parts of the project site while data recovery and treatment is being carried out.

**Significance Determination:** Significant and Unavoidable

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### ***Paleontological Resources***

**Impact 3.5-2: Construction-related excavation for the proposed project could affect a unique paleontological resource. Implementation of worker training and monitoring during construction would reduce the potential for adverse effects to paleontological resources. This would be a Class II impact, Less than Significant with Mitigation.**

#### ***Construction***

The proposed and preferred project sites are underlain by a variety of geologic units, all of which have low to no paleontological sensitivity (refer to Table 3.5-1). However, the portions of those sites underlain by alluvial gravel (Qa) and beach and dune sands (Qs) increase sensitivity at depth since higher sensitivity older sediments may underlie them. The LACM did not identify any fossil localities within the project site, but two fossil localities (LACM 5903 and 5790) were identified within older Quaternary deposits located approximately 2 miles and 22 miles from the project site, respectively. Fossil locality LACM 5903 produced a fossil specimen of mastodon (*Mammutidae*) in stream gravels at a depth of 6 feet below the ground surface. Fossil locality LACM 5790 produced a fossil specimen of mammoth (*Mammuthus*) at shallow but unstated depth (McLeod, 2018).

#### ***WRF***

The preferred WRF site is underlain by alluvial gravel (Qa), Franciscan rocks, mélange (fm), and serpentine (sp), which have low or no paleontological sensitivity. The portions of the proposed WRF located on alluvial gravel (Qa) increase sensitivity at depth since higher sensitivity older sediments may underlie the younger deposits. If construction-related excavation for the proposed WRF extends into older deposits, then it could impact unique paleontological resources. Implementation of **Mitigation Measures CUL-10 through CUL-13** would reduce impacts to less than significant.

#### ***Lift Station***

The proposed lift station is underlain by alluvial gravel (Qa), which has low paleontological sensitivity. However, sensitivity increases at depth since higher sensitivity older sediments may underlie the younger deposits. If construction-related excavation for the proposed lift station extends into older deposits, then it could impact unique paleontological resources. Implementation of **Mitigation Measures CUL-10 through CUL-13** would reduce impacts to less than significant.

### Conveyance Pipelines

The proposed conveyance pipelines are underlain by alluvial gravel (Qa), beach and dune sands (Qs), and Franciscan rocks, mélange (fm), which have low or no paleontological sensitivity. The portions of the proposed conveyance pipelines located on alluvial gravel (Qa) and beach and dune sands (Qs) increase sensitivity at depth since higher sensitivity older sediments may underlie the younger deposits. If construction-related excavation for the conveyance pipelines extends into older deposits, then it could impact unique paleontological resources. Implementation of **Mitigation Measures CUL-10 through CUL-13** would reduce impacts to less than significant.

### Injection and Monitoring Wells

The proposed IPR East and IPR West wellfield areas are underlain by alluvial gravel (Qa), Franciscan rocks, greenstone (fg) and Franciscan rocks, graywacke sandstone (fs), which have low or no paleontological sensitivity. The portions of the proposed IPR East and IPR West wellfield areas located on alluvial gravel (Qa) increase sensitivity at depth since higher sensitivity older sediments may underlie the younger deposits. If construction-related excavation for the proposed injection and monitoring wells extends into older deposits, then it could impact unique paleontological resources. Implementation of **Mitigation Measures CUL-10 through CUL-13** would reduce impacts to less than significant.

### Decommissioning of Current WWTP

The WWTP is underlain by alluvial gravel (Qa) and beach and dune sands (Qs), which have low paleontological sensitivity. Those sediments increase sensitivity at depth since higher sensitivity older sediments may underlie the younger deposits. Ground-disturbance associated with decommissioning of the current WWTP includes removal of pipelines from at least 4-5 feet below ground surface. If construction-related excavation for the decommissioning of the WWTP extends into older deposits, then it could impact unique paleontological resources. Implementation of **Mitigation Measures CUL-10 through CUL-13** would reduce impacts to less than significant.

### Operation

WRF, Lift Station, Conveyance Pipelines, Injection and Monitoring Wells, Decommissioning of the WWTP

Although there is unlikely to be ground disturbance associated with the operation of the proposed project facilities, there is potential ground disturbance could occur during maintenance or repair of these facilities. If ground disturbance occurred within areas that have not been previously disturbed extend into paleontologically sensitive sediments, then there is the potential to impact unique paleontological resources. Implementation of **Mitigation Measures CUL-13** would reduce impacts to less than significant.

### Mitigation Measures

**CUL-10: Retention of a Qualified Paleontologist.** Within 60 days prior to the start of any ground-disturbing activity (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the City shall retain a paleontologist who meets the (SVP) Standards (SVP,

2010) (Qualified Paleontologist) to carry out all mitigation measures related to paleontological resources.

**CUL-11: Paleontological Resources Sensitivity Training.** The Qualified Paleontologist, or his/her designee, shall conduct construction worker paleontological resources sensitivity training prior to the start of ground disturbing activities. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the project site and the procedures to be followed if they are found. The City shall ensure construction personnel are made available for and attend the training and retain documentation demonstrating attendance. That training may be conducted in coordination with construction worker cultural resources sensitivity training required by CUL-6.

**CUL-12: Paleontological Resources Monitoring.** All ground disturbance in excess of 5 feet within areas that are mapped as younger alluvial gravel (Qa) and beach and dune sands (Qs) shall be monitored on a full-time basis during initial ground disturbance. The Qualified Paleontologist shall spot check the excavation on an intermittent basis and recommend whether the depth of required monitoring should be revised based on his/her observations. If the Qualified Paleontologist determines full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, then the Qualified Paleontologist may recommend that monitoring be reduced to periodic spot-checking or cease entirely. Paleontological resources monitoring shall be performed by a qualified paleontological monitor (meeting the standards of the SVP, 2010) under the direction of the Qualified Paleontologist. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to recover the fossil specimens. Any significant fossils collected during project-related excavations shall be prepared to the point of identification and curated into an accredited repository with retrievable storage. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The Qualified Paleontologist shall prepare a Paleontological Resources Monitoring Report detailing the locations of monitoring and any discoveries. The report shall be submitted to the City within 60 days after completion of the monitoring program, or treatment for significant discoveries should treatment extend beyond the cessation of monitoring.

**CUL-13: Inadvertent Discovery of Fossils.** If construction or other proposed project personnel discover any potential fossils during construction, regardless of the depth of work or location, then work at the discovery location shall cease in a 50-foot radius of the discovery until the Qualified Paleontologist has assessed the discovery and made recommendations as to the appropriate treatment. If the find is deemed significant, it shall be salvaged following the standards of the SVP (2010) and curated with a certified repository.

### **Significance Determination**

Less than Significant with Mitigation

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## **Human Remains**

**Impact 3.5-3: The proposed project could disturb human remains during construction, including those interred outside of formal cemeteries. This would be a Class I impact, Significant and Unavoidable.**

### **Construction**

WRF, Lift Station, Conveyance Pipelines, Injection and Monitoring Wells, Decommissioning of the WWTP

The proposed and preferred project sites and vicinity overlap with known locations of human remains. Ground disturbance associated with the proposed project has the potential to disturb human remains, including those interred outside of formal cemeteries. That would be a potentially significant impact. Implementation of **Mitigation Measures CUL-1 through and CUL-9 and CUL-14** would reduce impacts to the degree feasible, however, even after mitigation the impact would remain significant and unavoidable.

### **Operation**

WRF, Lift Station, Conveyance Pipelines, Injection and Monitoring Wells, Decommissioning of the WWTP

Although there is unlikely to be ground disturbance associated with the operation of the proposed project facilities, there is potential ground disturbance could occur during maintenance or repair of those facilities. If ground disturbance occurred within areas that have not been previously disturbed, then there is the potential to impact human remains. Implementation of **Mitigation Measures CUL-14** would reduce impacts to less than significant.

### **Mitigation Measures**

Implement CUL-1 through CUL-9

**CUL-14. Inadvertent Discovery of Human Remains:** If human remains are encountered, then the City shall halt work in the vicinity (within 100 feet) of the discovery and contact the County Coroner in accordance with PRC section 5097.98 and Health and Safety Code section 7050.5. If the County Coroner determines the remains are Native American, then the Coroner will notify the California Native American Heritage Commission in accordance with Health and Safety Code subdivision 7050.5(c), and PRC section 5097.98. The California Native American Heritage Commission will designate a Most Likely Descendent for the remains per PRC section 5097.98. Until the landowner has conferred with the Most Likely Descendent, the contractor shall ensure the immediate vicinity where the discovery occurred is not disturbed by further activity, is adequately protected according to generally accepted cultural or archaeological standards or practices, and that further activities take into account the possibility of multiple burials. If human remains are encountered, the Qualified Archaeologist, in consultation with the Most Likely Descendant shall prepare a confidential report documenting all activities and it shall be submitted to the California Native American Heritage Commission within 90 days after completion of any treatment.

### **Significance Determination**

Significant and Unavoidable

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## 3.6 Geology, Soils, and Seismicity

This section addresses the potential impacts to geology and soils associated with the proposed project. A description of geologic conditions, a summary of applicable regulations related to geologic and seismic hazards, an evaluation of the potential impacts that may result from implementing the proposed project, and identification of mitigation measures to minimize potential effects is provided, if necessary.

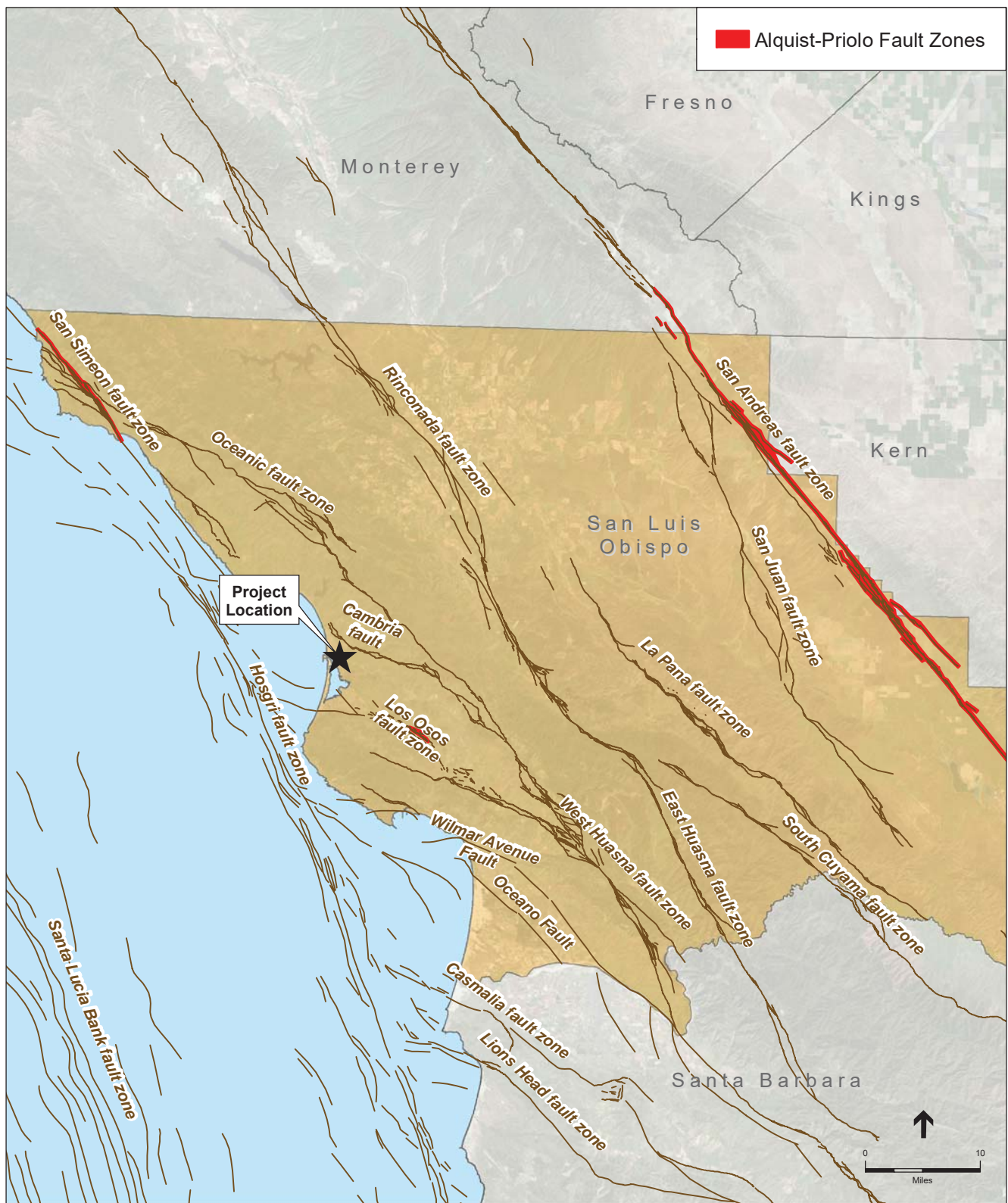
### 3.6.1 Environmental Setting

#### Geology

The proposed project is located within the Coast Ranges Geomorphic Province, which extends from the Transverse Ranges in southern California to the Klamath Mountains in northern California and into Oregon. Geomorphic Provinces are large regions that display common characteristic landforms and geologic structures, which are governed by tectonics. The Coast Ranges are northwest-trending mountain ranges (2,000 to 4,000, occasionally 6,000 feet elevation above sea level), and valleys composed of sedimentary, volcanic, and metamorphic formations comprised predominantly of Jurassic and Cretaceous age rocks with Tertiary to Quaternary age rocks commonly overlying the older formations along the flanks and foothills of those ranges. Recent sediments of alluvium and colluvium are found above the rock within intervening drainages, valleys, and coastal areas. The ranges and valleys trend northwest, subparallel to the San Andreas Fault (DOC, 2002; Yeh and Associates Inc., 2017).

Regional-scale geologic structure is characterized by a series of northwest trending faults that are mostly associated with compression and thrust occurring between the San Andreas fault along the eastern border of the County and the Hosgri fault zone located offshore, approximately 8 miles west of the City (see **Figure 3.6-1**). Local northwest trending faults include active and potentially active faults such as the Oceanic, Cambria, Los Osos, Wilmar Avenue and Oceano faults. The Cambria fault is mapped as trending northwest approximately 2,500 feet north of the project area (Yeh and Associates Inc., 2017).

The proposed project is located within the City and in unincorporated area of the County adjacent to the City boundaries (see Figure 2-1 in Chapter 2, *Project Description* of this Draft EIR). The bedrock geology within the proposed project area is characterized as the Cretaceous-Jurassic Age Mélange of the Franciscan Complex. The Mélange is a mixture of fragmented rock masses embedded in the sheared matrix of argillite and crushed metasandstone. The Mélange within the proposed project area is mostly concealed by residual soils, colluvium, landslide deposits and alluvium. Further, Jurassic age serpentanized ultramafic rocks are generally found in east-west trending outcrops in and around the City (Yeh and Associates Inc., 2017).



SOURCE: USGS; ESRI

Morro Bay Water Reclamation Facility Project . 150412

**Figure 3.6-1**  
Regional Faults

## Topography and Drainage

Elevations near the existing Wastewater Treatment Plant (WWTP), proposed lift station, conveyance pipelines and injection well areas in the City range from 14 feet above mean sea level (amsl) to 44 feet amsl. The existing WWTP, proposed lift station, and injection well areas are located close to where Morro Creek empties into the mouth of Morro Bay and the Pacific Ocean.

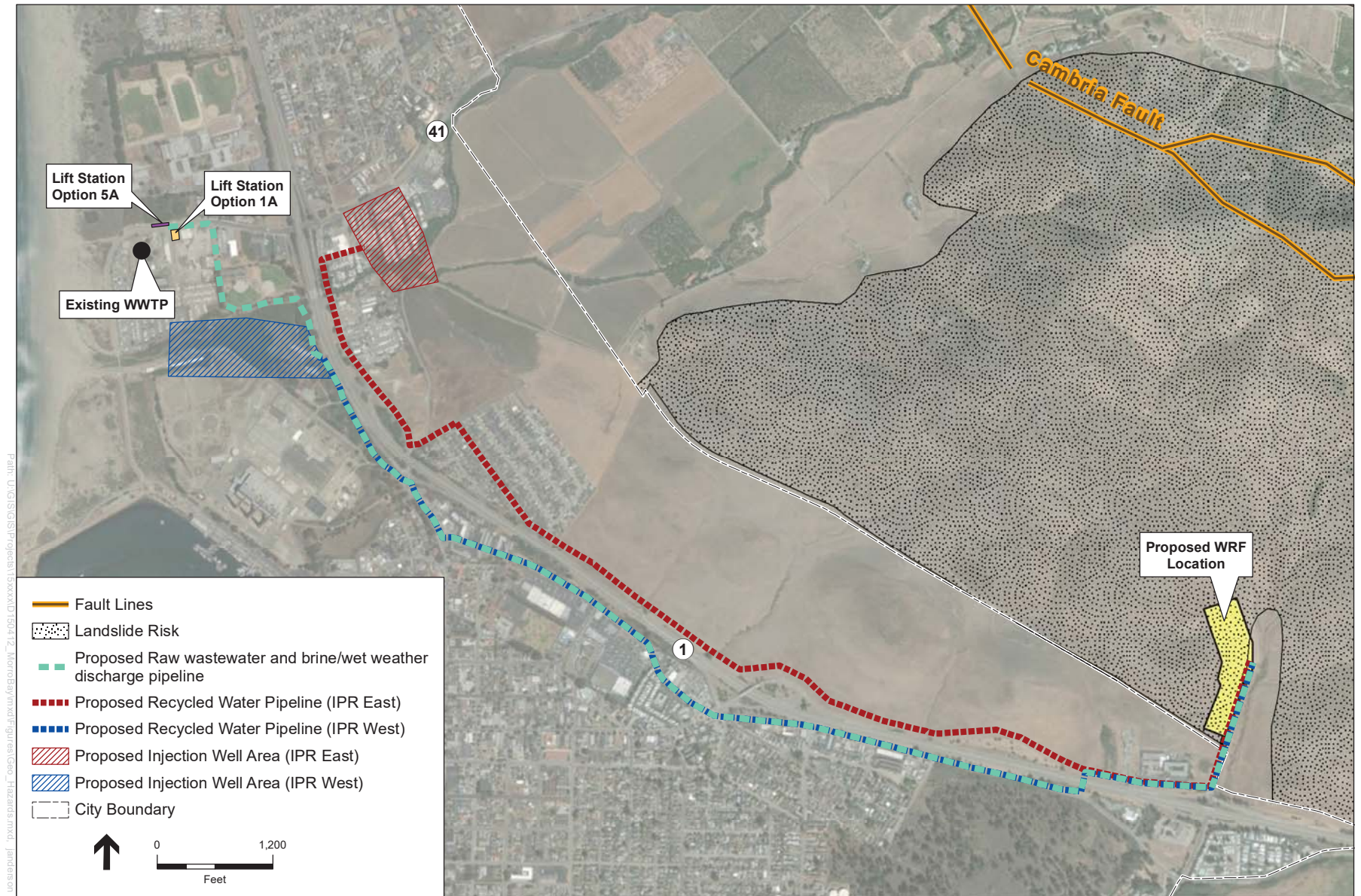
The proposed WRF site in an unincorporated portion of the County has elevations ranging from about 85 feet to 180 feet amsl. The proposed WRF area is 1.5 miles inland from the Embarcadero of the City and 2 miles inland from the Morro Bay Estuary. The proposed WRF site lies within the coastal valley, adjacent to an unnamed drainage surrounded by low lying ridges. The channel generally trends from north to south, and empties into Chorro Creek south of Highway 1. The drainage is ephemeral and contains recent alluvial deposits and colluvium. The valley floor is gently sloping and is bordered on the north, east, and west by rolling hills and ridges (Yeh and Associates Inc., 2017).

## Seismic and Geologic Hazards

### ***Surface Fault Rupture***

Seismically-induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude and nature of fault rupture can vary for different faults, or even along different strands of the same fault. Ground rupture is considered more likely along active faults. The proposed project area is located approximately 2,500 feet south of the Cambria fault system, which is not considered active (i.e., a fault along which displacement has occurred within the past 11,000 years). The California Geologic Survey (CGS) classifies the Cambria Fault as "potentially active;" however, recent mapping indicates that the age of the fault may be older than Quaternary age, and, therefore, inactive. Other potentially active faults that are near the project area are the Los Osos Fault and Hosgri Fault (Figure 3.6-1), located approximately 8 miles southwest and 9 miles southwest of the project area, respectively. Additional faulting associated with the lesser Morro Bay and Cayucos faults (grouped with the Cambria fault system) are located more than one-mile northeast of the site (Yeh and Associates, Inc., 2017) (see **Figure 3.6-2**). The proposed project is not within a designated Alquist-Priolo Fault Zone. An Alquist-Priolo Fault zone refers to regulatory zones around active faults that have been identified by the California Department of Conservation in order to prevent the construction of buildings used for human occupancy on the surface trace of active faults (DOC, 2018).





SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

**Figure 3.6-2**  
Geologic Hazards



### ***Groundshaking***

The proposed project is located in a seismically active region. According to the Department of Conservation's (DOC) Earthquake Shaking Potential for California Map (DOC, 2008), the proposed project is within an area subject to high frequency shaking potential. High frequency shaking areas are near major, active faults that will, on average, experience stronger earthquake shaking more frequently. Ground shaking intensity varies depending on the overall earthquake magnitude, distance to the fault, focus of earthquake energy, and type of geologic materials underlying an area. The Modified Mercalli Intensity (MMI) scale is commonly used to express earthquake effects due to ground shaking because it expresses ground shaking relative to actual physical effects observed by people during a seismic event. MMI values range from I (earthquake not felt) through a scale of increasing intensities to XII (nearly total damage).

With a high probability for producing a major earthquake in the near future, the San Andreas and the offshore Hosgri fault present the most likely sources of groundshaking to the City. Other faults that have the potential to generate strong ground motion include the active Los Osos fault, and the potentially active Wilmar Avenue, Rinconada, Pecho (offshore) and Santa Lucia Bank (offshore) faults (Figure 3.6-1). In addition to the mapped faults, there is also a potential for strong ground motion associated with earthquakes on hypothesized buried thrust faults beneath the coastal area (County of San Luis Obispo, 1999; Yeh and Associates, Inc., 2017).

### ***Liquefaction, Settlement and Lateral Spreading***

Soil liquefaction is a phenomenon whereby unconsolidated saturated soils lose cohesion and behave closer to a fluid state as a result of severe vibratory motion. The relatively rapid loss of soil shear strength during strong earthquake shaking can result in ground failure. Secondary ground failures associated with liquefaction include lateral spreading or flowing of stream banks or fills, sand boils, and subsidence. Areas characterized by water-saturated, cohesionless, and granular soils are most susceptible to liquefaction and usually at depths of less than 50 feet, especially in areas with a shallow water table.

Additional factors known to influence liquefaction potential include soil type, relative density, grain size, confining pressure, and the intensity and duration of the seismic ground shaking. Liquefaction is most prevalent in loose to medium dense, silty, sandy, and gravelly soils below the groundwater table. The higher elevations of the City are underlain by older alluvium, old dune sand, Franciscan Formation, and volcanic bedrock, and have a moderate to null potential to be underlain by liquefiable sediments (County of San Luis Obispo, 1999). The proposed WRF site is not located within a State and County Hazard Zone for Liquefaction (City of Morro Bay, 1988; County of San Luis Obispo, 1999; 2018; Yeh and Associates, Inc., 2017). With the exception of the area along the drainage adjacent to the proposed WRF site, the WRF site is within an area as having a low potential to be underlain by soils susceptible to liquefaction. Liquefaction can occur in saturated, young, and loose to medium dense granular soil or sensitive clay subjected to ground motions, depending on the strength of the earthquake. The WRF site is predominantly underlain by stiff to very stiff fine-grained clay overlying bedrock of the Franciscan Mélange. Those conditions are not considered vulnerable to liquefaction (Yeh and Associates, Inc., 2017).



The areas of the City that have a high potential to be underlain by potentially liquefiable sediments are those areas underlain by beach and sand dune deposits and younger alluvium. A majority of the City is underlain by those alluvial, estuarine, beach and sand dune deposits. High groundwater levels can be expected in the Embarcadero area and other beach front areas. Floodplain areas along Chorro, Little Morro and Morro Creeks are also underlain by younger alluvium. The existing WWTP, proposed lift station, and proposed well areas are located within the Seismic Hazard Zone for liquefaction, and, therefore, are susceptible to liquefaction (City of Morro Bay, 1988; County of San Luis Obispo, 1999).

### ***Landslides***

Landslides are the down-slope displacement of rock, soils and debris. The susceptibility of land (slope) failure is dependent on slope and geological formations and influenced by levels of rainfall, excavation, or seismic activities. Steep slopes and downslope creep of surface materials characterize landslide-susceptible areas. Landslides are not to be confused with minor slope failures (slumps), which are usually limited to the topsoil zone and can occur on slopes composed of almost any geologic material. Landslides can cause damage to structures both above and below the slide mass. Structures above the slide area are typically damaged by undermining of foundations. Areas below a slide mass can be damaged by being overridden and crushed by the failed slope material. A landslide complex is visible on an east-facing hillside north of the project site. Surficial landslides were observed during the Preliminary Geotechnical and Geologic Hazards Report (Preliminary Geotechnical Report) at the WRF site (Yeh and Associates, Inc., 2017) (see **Appendix E**). The proposed WRF area is located in an undeveloped area with hillsides and varying topography. The proposed WRF site is within a State designated Seismic Hazard Zone for Earthquake Induced-Landslides (City of Morro Bay, 1988; County of San Luis Obispo, 1999; Yeh and Associates, Inc., 2017).

### ***Soils***

The subsurface conditions within the proposed WRF area generally consist of mixed surficial sediments of colluvium and residual soil overlying Franciscan Mélange and Serpentinite bedrock. No artificial fill was encountered during the subsurface exploration of the WRF site although the surface has been disturbed by agricultural operations in some areas, including the northern portion of the WRF site and the Ranch Road that provides access from the south (Yeh and Associates, Inc., 2017).

Surficial deposits are comprised of colluvium and residual soil predominantly made up of hard clay with varying amounts of sand and gravel and generally ranged in thickness from 3 to 5 feet along the hillside areas of the project area and thickened to about 20 feet adjacent to the eastern drainage channel adjacent to the proposed WRF site. In some area Franciscan Mélange was weathered to residual soil that consisted of hard clay. The underlying bedrock predominately consisted of intensely to moderately weathered, sheared and fractured soft claystone and moderately hard greywacke (Yeh and Associates, Inc., 2017).

## ***Subsidence***

Subsidence of the ground surface can occur under static conditions but can also be accelerated and accentuated by earthquakes and tectonic activity (i.e., dynamic conditions). Subsidence of loose, unconsolidated soils generally occurs slowly, but can cause significant structural damage. Overdraft conditions within groundwater basins in various areas throughout California have resulted in lowered groundwater levels, a static condition which can contribute to subsidence of the ground surface. As water levels decline in the subsurface, dewatering and compaction of aquifer materials, predominantly fine-grained materials such as clay, can cause the overlying ground surface to subside. According to the County of San Luis Obispo General Plan, there are several oil field operations in the southern coastal areas and eastern part of the County; however, there are no known reports of subsidence in these areas. Further, no subsidence was documented in the City of Morro Bay (County of San Luis Obispo, 1999).

However, more recent assessments of subsidence in California have been prepared within the last few years including the *Full Report of Findings of Land Subsidence from Groundwater Use in California* (LSCE et. al, 2014), which document subsidence within the County. The population of the County has grown substantially in the recent years and land has been converted from dry farming and grazing to irrigated agriculture and urban development. Groundwater has been relied upon to make up for shortages of surface water within the County and the most severe cases of land subsidence has been documented in the neighboring cities of San Luis Obispo, Paso Robles, and Cambria areas (LSCE et. al, 2014).

The proposed WRF site is underlain by shallow thicknesses of unsaturated alluvium and colluvium over bedrock. The subsurface conditions encountered during the Preliminary Geotechnical Report are not considered prone to subsidence from the removal of groundwater and there are no known or documented subsidence cases in the immediate area due to the extraction of fluids from the ground (Yeh and Associates, Inc., 2017).

Hydroconsolidation is the potential for soil to consolidate or collapse due to wetting. The proposed WRP site is predominantly underlain by very stiff to hard clay. Clay near the ground surface was desiccated, fissured and is considered susceptible to collapse. According to the Preliminary Geotechnical Report conducted for the proposed project, the upper several feet of soils at the site are not considered suitable for supporting proposed improvements without modification (Yeh and Associates, Inc., 2017).

## ***Erosion***

Soil erosion is the detachment and movement of soil materials through natural processes or human activities. Natural processes include water, landslide, fire, flood, and wind. Man-made causes could include irresponsible grading and other construction practices, use of off-road vehicles, and other indiscriminate disruptions of soil. Severe erosion can be a problem anywhere in the County, especially when precipitation and/or wind combine with uncovered soil (County of San Luis Obispo, 1999).

### ***Expansive Soils***

Expansive soils contain significant amounts of clay particles that have the ability to give up water (shrink) or take on water (swell). When these soils swell, the change in volume can exert significant pressures on loads that are placed on them, such as loads resulting from building and structure foundations or underground utilities, and can result in structural distress and/or damage. Often, grading, site preparations, and backfill operations associated with subsurface structures can eliminate the potential for expansion. Linear extensibility and plasticity are used to describe the shrink-swell potential of soils. If linear extensibility is greater than 3 percent (classified as Moderate potential), shrinking and swelling can cause damage to buildings, roads, and other structures (NRCS, 2014).

Near-surface samples of soil from the proposed WRF site consists of sandy lean clay, sandy fat clay, decomposed greywacke, and clayey sand. The soils are characterized as having moderate shrink-swell potential (moderately expansive) (Yeh and Associates, Inc., 2017). The predominate soils within the area where the existing WWTP, proposed lift station and well sites consist of unconsolidated sand and fill materials from prior development. Those coastal soils are not typically expansive (County of San Luis Obispo, 1999).

## **3.6.2 Regulatory Framework**

### **Federal**

#### ***Earthquake Hazards Reduction Act***

The U.S. Congress passed the Earthquake Hazards Reduction Act in 1977, which created the National Earthquake Hazards Reduction Program (NEHRP). The purpose of the NEHRP is to “reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program.” The principle behind NEHRP is that earthquake-related losses can be reduced through improved design and construction methods and practices, land use controls and redevelopment, prediction techniques and early-warning systems, coordinated emergency preparedness plans, and public education and involvement programs. There are four federal agencies that can contribute to earthquake mitigation efforts; they have been designated as NEHRP agencies and are as follows: the Federal Emergency Management Agency (FEMA), the National Institute of Standards and Technology (NIST), the National Science Foundation (NSF), and the U.S. Geological Survey (USGS).

#### ***Federal Occupational Safety and Health Administration Regulations***

The Occupational Safety and Health Administration’s (OSHA) Excavation and Trenching standard, Title 29 of the Code of Federal Regulations (CFR), Part 1926.650, covers requirements for excavation and trenching operations. OSHA requires that all excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area.

## State

### ***Seismic Hazards Mapping Act***

The Seismic Hazards Mapping Act of 1990 (Public Resources Code, Chapter 7.8, Section 2690-2699.6) was adopted to reduce the threat to public safety and to minimize the loss of life and property by identifying and mitigating ground failure caused by strong earthquakes, namely liquefaction and slope failure. The Seismic Hazards Mapping Act requires the State Geologist to delineate seismic hazard zones, also known as “zones of required investigation”, where regional (that is, not site-specific) information suggests that the probability of a hazard requiring mitigation is adequate to warrant a site-specific investigation. The fact that a site lies outside a zone of required investigation does not necessarily mean that the site is free from seismic or other geologic hazards. Where a project—defined by the act as any structures for human occupancy or any subdivision of land that contemplates the eventual construction of structures for human occupancy—is within a zone of required investigation, lead agencies must apply minimum criteria for project approval. The most basic criteria for project approval are that the owner/developer adequately demonstrates seismic hazards at the site have been evaluated in a geotechnical investigation, that appropriate mitigation measures have been proposed, and that the lead agency has independently reviewed the adequacy of the hazard evaluation and proposed mitigation measures. Both the geotechnical report and the independent review must be performed by a certified engineering geologist or registered civil engineer. The WRF project area is characterized as having a low potential for liquefaction, while the proposed lift station, wells, and pipelines would be located within Seismic Hazard Zones for liquefaction. Further, the proposed WRF is located in a Seismic Hazard Zone for earthquake induced landslides.

### **California Geologic Survey, Guidelines for Evaluating and Mitigating Seismic Hazards in California**

The proposed project would be required to comply with the *CGS Guidelines for Evaluating and Mitigating Seismic Hazards* (Special Publication 117A) (CGS, 2008) which provides guidance for evaluating and mitigating seismic hazards as required by the Public Resources Code Section 2695(a). Special Publication 117A provides new tools for the screening and evaluation of slope stability and liquefaction hazards, and new and improved attenuation relations for the estimation of future ground motions.

### ***California Building Code***

The California Building Code (CBC), which is codified in Title 24 of the California Code of Regulations, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, egress facilities, and general building stability. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all building and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The 2016 edition of the CBC is based on the 2015 International Building Code (IBC) published by the International Code Council. The code is updated triennially, and the 2016 edition of the CBC was published by the California Building Standards Commission on July 1, 2016, and took effect in January 1, 2017. The 2016 CBC contains California amendments based on the *American Society of Civil Engineers Minimum Design Standard ASCE/SEI 7-16*, Minimum Design Loads for Buildings and Other Structures, provides requirements for general structural design and includes means for determining earthquake loads<sup>[1]</sup> as well as other loads (such as wind loads) for inclusion into building codes. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake. However, it is reasonable to expect that a structure designed in accordance with the seismic requirements of the CBC should not collapse in a major earthquake.

### ***California Occupational Safety and Health Administration Regulations***

Occupational safety standards exist in federal and State laws to minimize worker safety risks from both physical and chemical hazards in the work place. In California, the California Division of Occupational Safety and Health (Cal/OSHA) and the federal OSHA are the agencies responsible for ensuring worker safety in the workplace. The OSHA Excavation and Trenching standard (29 CFR 1926.650), covers requirements for excavation and trenching operations, which are among the most hazardous construction activities. Cal/OSHA is the implementing agency for both state and federal OSHA standards.

### ***National Pollutant Discharge Elimination System Construction General Permit***

Construction associated with the proposed program may disturb more than one acre of land surface affecting the quality of stormwater discharges into waters of the U.S. If ground disturbance is greater than one acre of land, the proposed project would therefore be subject to the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (Order 2009-0009-DWQ, NPDES No. CAS000002). The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines.

The Construction General Permit requires that construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the receiving waters risk during periods of soil exposure (e.g., grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The receiving waters risk level reflects the risk to the

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<sup>[1]</sup> A load is the overall force to which a structure is subjected in supporting a weight or mass, or in resisting externally applied forces. Excess load or overloading may cause structural failure.

receiving waters from the sediment discharge. Depending on the risk level, the construction of proposed projects could be subject to the following requirements:

- Effluent standards
- Good site management “housekeeping”
- Non-stormwater management
- Erosion and sediment controls
- Run-on and runoff controls
- Inspection, maintenance, and repair
- Monitoring and reporting requirements

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific best management practices designed to prevent sediment and pollutants from contacting stormwater from moving offsite into receiving waters. Routine inspection of all best management practices is required under the provisions of the Construction General Permit.

The SWPPP must be prepared before the construction begins. The SWPPP must contain a site map(s) that delineates the construction work area, existing and proposed buildings, parcel boundaries, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the program area. The SWPPP must list best management practices and the placement of those best management practices that the project proponent would use to protect stormwater runoff. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of best management practices, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Examples of typical construction best management practices include scheduling or limiting certain activities to dry periods, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing and fueling. The Construction General Permit also sets post-construction standards (i.e., implementation of best management practices to reduce pollutants in stormwater discharges from the site following construction).

## **Local**

### ***County of San Luis Obispo General Plan***

The proposed WRF site would be located within an unincorporated portion of the County. The Safety Element of the County General Plan describes potential geologic hazards to the County’s citizens. Geologic hazards addressed within the County General Plan include fault rupture, groundshaking, liquefaction and seismic settlement, slope instability and landslides, and coastal bluff erosion (County of San Luis Obispo, 1999).

### ***Estero Area Plan and Geologic Study Area (GSA)***

The proposed WRF site is located within the Estero Area Plan and the Geologic Study Area (GSA) combining designation. The project site is located outside of the Urban Reserve Line (URL), which is coterminous with the boundary between the City and County. The GSA designation when applied to lands outside the URL signifies that the area is subject to high

landslide risk potential. The Estero Area Plan provides additional policy guidance and design standards unique to the plan area.

### ***City of Morro Bay General Plan***

The proposed lift station, the majority of pipeline infrastructure, and wells sites would be located within the City. Further, demolition of the existing WWTP would occur within the City. The Safety Element of the City of Morro Bay General Plan describes potential hazards to the community's citizens. Geologic hazards addressed within the City of Morro Bay General Plan include groundshaking, liquefaction, tsunamis, landslides, and coastal erosion (City of Morro Bay, 1988).

## **3.6.3 Impacts and Mitigation Measure**

### **Significance Criteria**

Appendix G of the CEQA Guidelines recommends significance criteria for the evaluation of impacts related to geology, soils, and seismicity in the project area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to geology, soils, and seismicity if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault
  - Strong seismic ground shaking
  - Seismic-related ground failure, including liquefaction
  - Landslides
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on-site or offsite landslide, lateral spreading, subsidence (i.e., settlement), liquefaction, or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

The updated CBC no longer cites the 1997 UBC Table 18-1-B for identifying expansive soils. The checklist in Appendix G of the CEQA Guidelines still refers to this out-of-date table. This Draft EIR uses the updated CBC section as defined in 24 CCR 1803.5.3 of the California Building Code (2013).

## Methodology

Geologic and seismic information for the proposed project area was derived from various sources and compiled in this chapter to develop a comprehensive understanding of the potential constraints and hazards associated with construction and operation of the proposed project. Information sources include geologic and soils maps and the *Preliminary Geotechnical and Geologic Hazards Report* prepared by Yeh and Associates, Inc. (included as **Appendix E** of this Draft EIR), Department of Conservation, California Geologic Survey (CGS), the County of San Luis Obispo and the City of Morro Bay, all of which reflect the most up-to-date understanding of the regional geology and seismicity.

### ***American Water Works Association (AWWA) Standards for Proposed Pipelines***

Pipelines are constructed to various industry standards. The AWWA is a worldwide nonprofit scientific and educational association that, among its many activities, establishes recommended standards for the construction and operation of public water supply systems, including standards for pipe and water treatment facility materials and sizing, installation, and facility operations. While the AWWA's recommended standards are not enforceable code requirements, they nevertheless can dictate how pipelines for water conveyance are designed and constructed. As part of the proposed project, the construction contractors would incorporate AWWA standards into the design and construction of the proposed pipelines.

### ***Seismic Considerations***

In California, an earthquake can cause injury or property damage by: (1) rupturing the ground surface, (2) violently shaking the ground, (3) causing the underlying ground to fail due to liquefaction, or (4) causing enough ground motion to initiate slope failures or landslides, any of which could damage or destroy structures. The checklist items in Appendix G of the *CEQA Guidelines*, which provide the basis for most of the significance criteria above, reflect the potential for large earthquakes to occur in California and recommend analysis of the susceptibility of the project sites to seismic hazards and the potential for the proposed project to exacerbate the effects of earthquake-induced ground motion at the project sites and surrounding areas. The significance criteria do not require elimination of the potential for structural damage from seismic hazards. Rather, the criteria require an evaluation of whether significant seismic hazards could be minimized through engineering design solutions that would reduce the associated risk of loss, injury, or death.

State and local code requirements ensure buildings and other structures are designed and constructed to withstand major earthquakes, thereby reducing the risk of collapse and the associated risks to human health and safety and private property. The code requirements have been developed through years of study of earthquake response and the observed performance of structures during significant local earthquakes and others around the world. The proposed project would be required to comply with the CBC and the *CGS Guidelines for Evaluating and Mitigating Seismic Hazards* (Special Publication 117A) which provides guidance for evaluating and mitigating seismic hazards as required by the Public Resources Code Section 2695(a).



## Impact Analysis

### ***Earthquakes***

**Impact 3.6-1: The geologic conditions at the proposed project sites include potential for seismic-induced ground shaking, liquefaction, and landslides that could damage structures or cause injury to employees at manned facilities. However, implementation of engineering design criteria as specified by required geotechnical investigations would reduce the risk of loss, injury, or death. This impact would be Class II, Less than Significant with Mitigation.**

### **Fault Rupture and Seismic Ground Shaking**

#### **All Facilities**

None of the proposed project facilities would be located within an Alquist-Priolo Fault Zone, as shown on Figure 3.6-1 and are, thus, not located adjacent to an active fault that would be susceptible to fault rupture. However, the entire proposed project area lies within a region that is seismically active. In the event of an earthquake in California, some seismic ground shaking would likely be experienced in the proposed project area sometime during the operational life of the proposed WRF, conveyance pipelines, lift station and injection and monitoring wells. As discussed above, multiple “potentially active” faults are located near the proposed project area, such as the Cambria Fault; however, the closest “active fault” to the proposed project area is the Los Osos fault, approximately 8 miles southwest. Nonetheless, ground shaking could result in structural damage to new facilities, which in turn could affect operation of related systems. Most of the proposed project’s facilities are non-habitable; however, full time employees would be on-site at the proposed WRF and may need to access the various facilities for maintenance or manual control purposes. Therefore, structural and mechanical failure of proposed project facilities onset by seismic ground shaking could occur and would potentially threaten the safety of on-site workers. This would be a potentially significant impact.

The City has prepared a Preliminary Geotechnical Investigation for the proposed WRF site (see Appendix E). During the design process for the proposed WRF and all other facilities, site-specific geotechnical investigations would be implemented to determine the geologic conditions and associated design requirements needed to ensure the new facilities would withstand ground shaking. The California Professional Engineers Act (Building and Professions Code Sections 6700-6799), and the Codes of Professional Conduct, as administered by the California Board of Professional Engineers and Land Surveyors, provides the basis for regulating and enforcing engineering practice in California. Geotechnical studies are essential for facility and pipeline design because it is the information that informs the structural design of the foundation and determines whether the geologic materials underlying the proposed facilities are capable of supporting the proposed uses without risk of detrimental effects from potential hazards associated with problematic soils, liquefaction, or excessive seismic shaking.

Based on field observation and laboratory testing, the geotechnical engineer can assess whether the soils are adequate to support the structure under static (non-earthquake) or earthquake conditions. If corrective work is necessary to remedy the problem soils or otherwise unstable ground condition, then the geotechnical engineer would recommend approaches to correct the condition. Geotechnical engineering recommendations are typically standard engineering practices that have been proven

elsewhere to increase the geotechnical performance of an underlying soil or geologic material. All facility designs would comply with the CBC and any County building code amendments. Adherence to the CBC standards would ensure the strongest structure feasible at the proposed locations, with no increased risk to human life. Therefore, with implementation of **Mitigation Measure GEO-1**, which requires the preparation of site-specific geotechnical investigations and incorporation of structural recommendations into facility designs, potential impacts associated with ground shaking would be reduced to less than significant levels.

## **Liquefaction**

### **WRF**

The proposed WRF site is not located within a State and County Hazard Zone for Liquefaction (City of Morro Bay, 1988; County of San Luis Obispo, 1999; Yeh and Associates, Inc., 2017). Although the drainage adjacent to the proposed WRF site have soils that may be susceptible to liquefaction, the area to be developed for the proposed WRF has a low potential to be underlain by soils susceptible to liquefaction. Liquefaction can occur in saturated, young, and loose to medium dense granular soil or sensitive clay subjected to ground motions, depending on the strength of the earthquake. The proposed WRF site is predominantly underlain by stiff to very stiff fine-grained clay overlying bedrock of the Franciscan Mélange. Those conditions are not considered vulnerable to liquefaction (Yeh and Associates, Inc., 2017). The Preliminary Geotechnical Report determined that no special recommendations would be needed to address liquefaction at the WRF site. Impacts would be considered less than significant.

### **Lift Station, Conveyance Pipelines, Injection and Monitoring Wells, and Decommissioning of Current WWTP**

All other existing and proposed facilities would be located within a Seismic Hazard Zone for liquefaction and are areas designated as having moderate to high liquefaction potential (City of Morro Bay, 1988). Thus, in the event of a large earthquake with a high acceleration of seismic shaking, the potential for liquefaction exists. As a result, structural damage could occur to the lift station, conveyance pipelines, and injection and monitoring wells. This would be a potentially significant impact. There would be no impact to the WWTP once it is deconstructed and decommissioned.

As discussed above, **Mitigation Measure GEO-1** would require project components to undergo a design level geotechnical investigation and be designed to resist damage from seismic shaking. All geotechnical recommendations provided by the proposed project geotechnical engineer would be incorporated into proposed project designs in areas where liquefiable soils are identified, if applicable. Solutions to rectify liquefaction are modern engineering approaches used throughout California and are considered standard industry practice. Methods to correct liquefiable soils include removal and replacement of problematic soils, the use of pile foundations, and drainage columns to reduce saturated conditions. The geotechnical investigation and corrective actions for potential liquefiable soils, where needed, would be based on the CGS Special Publication 117A (see Seismic Hazards Mapping Act discussion in Section 3.6.2 of this chapter). Implementation of **Mitigation Measures GEO-1** would reduce potential impacts related to liquefaction to less than significant levels.

## Landslides

### WRF

According to the proposed project's Preliminary Geotechnical and Geologic Hazards Report, there is no evidence of landslides in the area to be developed for the proposed WRF. However, small superficial landslides have occurred just northwest of the proposed WRF site (Yeh and Associates, Inc., 2017), and the proposed WRF site is located within a State-designated Seismic Hazard Zone for Earthquake Induced-Landslides (City of Morro Bay, 1988; County of San Luis Obispo, 1999; Yeh and Associates, Inc., 2017). Therefore, there is potential for seismically-induced landslides to occur within and around the proposed WRF site. As a result, structural damage could occur to the proposed WRF. This would be a potentially significant impact.

As discussed above, implementation of **Mitigation Measure GEO-1** would require proposed project components undergo a final geotechnical investigation and be designed to resist damage from seismic shaking including seismically-induced landslides. All geotechnical recommendations provided by the proposed project geotechnical engineer would be incorporated into proposed project designs in areas where high landslide susceptibility is identified. Solutions to rectify potential landslide hazards are modern engineering approaches used throughout California and are considered standard industry practice. Design measures could include grading, terraced slopes, and retaining walls, if necessary to meet minimum safety factor standards. Implementation of Mitigation Measure GEO-1 would control the design and location of buildings and structures in order to safeguard the public and reduce potential impacts related to landslides to less than significant.

### Lift Station, Conveyance Pipelines, Injection and Monitoring Wells, and Decommissioning of Current WWTP

All other proposed project facilities are not located within a State-designated Seismic Hazard Zone for Earthquake Induced-Landslides (City of Morro Bay, 1988; County of San Luis Obispo, 1999). Therefore, construction and operation of the proposed facilities would not result in the exposure of structures or people to substantial adverse effects involving landslides. No impact would occur.

## Mitigation Measures

**GEO-1: Geotechnical Investigation.** A geotechnical investigation shall be prepared by a certified engineer for all facilities involving substantial ground disturbance or excavation. The investigation shall assess geologic and seismic hazards, including but not limited to, subsidence, liquefaction, landslide, expansive soil potential and collapsible soil potential of each facility site. Structural mitigation recommendations provided in the geotechnical investigation shall be incorporated into the design of the facility prior to construction. The contents of the geotechnical investigation shall vary depending on the jurisdiction and risks associated with each facility's location.

## Significance Determination

Less than Significant with Mitigation

## **Soil Erosion or Topsoil Loss**

**Impact 3.6-2: Construction of proposed project facilities would result in ground disturbance and exposure of soils to erosion. Implementation of best management practices during construction and site restoration post- construction would minimize the potential for soil erosion or loss of top soil. This impact would be Class II, Less than Significant with Mitigation.**

### **Construction**

#### **All Facilities**

Construction of the proposed project would include ground disturbing activities such as excavation and grading that could expose soils and result in soil erosion during rain or high wind events. For example, newly graded surfaces and slopes at the proposed WRF site, lift station site, and injection wellfields would be vulnerable to erosion (Yeh and Associates Inc., 2017).

As explained in Chapter 3.3 Air Quality, the proposed project would be required by the SLOAPCD to implement standard fugitive dust control measures, which include watering of construction sites and stockpile areas, stabilization of disturbed soil areas, and timely implementation of revegetation and landscape plans. Such measures would also serve to prevent and/or manage wind erosion and subsequent topsoil loss during construction.

To prevent erosion associated with runoff from the construction area for each proposed project component, the City would be required to prepare and implement a SWPPP in accordance with the requirements of the statewide Construction General Permit (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ (See Chapter 3.9 Hydrology and Water Quality for additional discussion). The SWPPP would identify best management practices to control erosion, sedimentation, and hazardous materials potentially released from construction sites into surface waters. Compliance with the Construction General Permit, required SWPPP, and identified best management practices would ensure soil erosion and loss of topsoil impacts would be reduced to less than significant. No mitigation is required.

### **Operation**

Once the proposed project's facilities are constructed, activities that increase the likelihood of top soil loss and soil erosion such as excavation and grading would not take place; therefore, operational impacts regarding significant soil erosion or top soil loss are not expected to occur as described further below.

### **WRF**

The proposed WRF would be located on existing rangeland that is entirely pervious. The proposed WRF would introduce pervious surfaces that themselves would not be subject to erosion. The proposed WRF facilities would change drainage patterns at the site that could potentially cause erosion offsite if not designed appropriately. However, in accordance with the NPDES General Construction Permit, post-construction best management practices would be required to ensure the final conditions do not leave the proposed WRF site susceptible to erosion. The proposed WRF design would be required to include drainage control features that would minimize the potential for erosion to occur. Therefore, compliance with existing regulatory

requirements for the design and operation of the WRF would ensure proposed project operation would have a less than significant impact related to soil erosion or topsoil loss. No mitigation is required.

#### **List Station, Conveyance Pipelines, Injection and Monitoring Wells**

The proposed lift station and groundwater wells would introduce small footprints of impervious surfaces that themselves would not be subject to erosion. For the conveyance pipelines, after construction is complete, the trenches would be backfilled with soils that could be subject to erosion at the surface. This would be a potentially significant impact.

To prevent erosion from occurring after the construction of pipelines is complete, the area of disturbance would be restored to pre-construction conditions. Such restoration would minimize potential impacts associated with erosion. In addition, post-construction best management practices would be implemented as necessary in accordance with the NPDES General Construction Permit, to ensure erosion is controlled during project operation. Implementation of **Mitigation Measure GEO-2** would require post-construction restoration. Impacts would be considered less than significant after implementation of Mitigation Measure GEO-2.

#### **Decommissioning of Current WWTP**

Decommissioning the current WWTP would reduce the amount of impervious surfaces at the site potentially exposing soils to erosion. However, the existing WWTP site is relatively flat and not very susceptible to erosion. Upon completion of demolition work at the WWTP and upgrades to facilities which are to remain, the WWTP site would be graded and surfaced with a thin layer of gravel, which would control erosion. Impacts to soil erosion and loss of topsoil would be less than significant. No mitigation is required.

#### **Mitigation Measures**

**GEO-2: Post-Construction Site Restoration.** After construction of project pipelines, disturbed areas shall be managed to control erosion, including without limitation: repaving areas within roadways, restoring vegetated areas, and regrading surfaces to minimize changes in drainage patterns.

#### **Significance Determination**

Less than Significant with Mitigation

### ***Geologic Instability***

**Impact 3.6-3: The geologic conditions at various proposed project sites include potential for liquefaction, landslides, lateral spreading, and collapsible soils. However, implementation of engineering design criteria as specified by required geotechnical investigations would reduce the potential for the proposed project to result in unstable soils. This impact would be Class II, Less than Significant with Mitigation.**

Geologic hazards including landslides, liquefaction, lateral spreading, settlement, and slope failure can be caused by unstable soils. Subsidence of the ground surface can occur under static conditions (i.e., due to consolidation settlement from overlying load) or long-term water or mineral extraction. The extraction of fluid resources from subsurface sedimentary layers (i.e., water or oil) can result in subsidence from the removal of supporting layers in the geologic formation. Settlement of loose, unconsolidated soils generally occurs slowly, but can cause significant structural damage if structures are not properly designed.

#### **WRF**

The proposed WRF site is underlain by shallow thicknesses of unsaturated alluvium and colluvium over bedrock. The subsurface conditions are not considered prone to subsidence from the removal of groundwater, and there are no known or documented subsidence cases in the immediate area due to the extraction of fluids from the ground. The potential for subsidence to occur at the WRF site due to dewatering is considered very low (Yeh and Associates, Inc., 2017).

In addition, as described above under Impact 3.6-1, the conditions at the WRF site are not considered vulnerable to liquefaction (Yeh and Associates, Inc., 2017). The Preliminary Geotechnical Report also concluded that the proposed WRF site conditions would not be considered vulnerable to lateral spreading. However, there is potential for landslides. The Preliminary Geotechnical Report explained that the upper several feet of soils at the site are not considered suitable for supporting proposed improvements without modification (Yeh and Associates, Inc., 2017). Therefore, impacts related to landslides are potentially significant.

As discussed above, implementation of Mitigation Measure GEO-1 would require proposed project components would undergo a final geotechnical investigation and be designed to resist damage from landslides. All geotechnical recommendations provided by the proposed project geotechnical engineer would be incorporated into proposed project designs in areas where high landslide susceptibility is identified. Solutions to rectify potential landslide hazards are modern engineering approaches used throughout California and are considered standard industry practice. Design measures could include grading, terraced slopes, and retaining walls, if necessary to meet minimum safety factor standards. Implementation of Mitigation Measure GEO-1 would control the design and location of buildings and structures in order to safeguard the public and reduce potential impacts related to landslides to less than significant.

### **Lift Station, Conveyance Pipelines, Injection and Monitoring Wells, and Decommissioning of Current WWTP**

According to the County General Plan, there are several oil field operations in the southern coastal areas and eastern part of the County; however, there are no known reports of subsidence in those areas. Further, no subsidence has been documented in the City (County of San Luis Obispo, 1999). Recent reports by the State of California have identified land subsidence in the County with the most severe cases of land subsidence documented in the neighboring cities of San Luis Obispo, Paso Robles, and Cambria areas, due to groundwater pumping to support irrigated agriculture and urban development (LSCE et. al, 2014). The proposed lift station, conveyance pipelines, and decommissioning of the WWTP site would not affect groundwater levels and would not induce subsidence. The use of the recycled water produced at the proposed WRF for groundwater replenishment at the proposed injection wells would directly affect groundwater levels. However, extraction of the replenished groundwater would occur at existing production wells and only after the recycled water is injected and retained in the aquifer for a minimum time period as determined by the SWRCB Division of Drinking Water. The impact of the proposed project to groundwater levels is further described in Chapter 3.9, Hydrology and Water Quality. The proposed project would not result in a net lowering of groundwater levels and as such would not have the potential to induce subsidence.

The lift station, conveyance pipelines, injection and monitoring wells, and current WWTP site are subject to liquefaction as discussed under Impact 3.6-1, and could result in collapsible soils. Because these areas are subject to liquefaction, there is also a potential for lateral spreading. No on- or off-site landslides would occur within these areas because the sites are relatively flat. Due to the characteristics of the soils and geology, the proposed project could be exposed to liquefaction, collapsible soils and lateral spreading and result in damage from unstable soils if not designed appropriately. This is a potentially significant impact.

As discussed previously, implementation of Mitigation Measure GEO-1 would require that project components would undergo a final geotechnical investigation and be designed to resist damage from geologic hazards, such as liquefaction, collapsible soils, and lateral spreading. All geotechnical recommendations provided by the proposed project geotechnical engineer would be incorporated into proposed project designs. Implementation of Mitigation Measure GEO-1 would control the design and location of buildings and structures in order to safeguard the public and reduce potential impacts related to liquefaction, collapsible soils, and lateral spreading to less than significant.

### **Mitigation Measure**

Implementation of Mitigation Measure GEO-1 is required.

### **Significance Determination**

Less than Significant with Mitigation

### **Expansive Soils**

**Impact 3.6-4: The proposed project facilities could be located on expansive soils, which could create risks to life or structures. However, implementation of engineering design criteria as specified by required geotechnical investigations would reduce the risk of loss or injury. This impact would be Class II, Less than Significant with Mitigation.**

#### **WRF**

When expansive soils swell, the change in volume can exert significant pressures on loads that are placed on them, such as loads resulting from structure foundations or underground utilities, and can result in structural distress and/or damage. Near-surface samples of soil from the proposed WRF site consists of sandy lean clay, sandy fat clay, decomposed greywacke, and clayey sand. The soils are characterized as having moderate shrink-swell potential (moderately expansive) (Yeh and Associates, Inc., 2017). The presence of expansive soils could decrease the structural stability of the proposed WRF facilities, which could result in structural or operational failure of proposed facilities and/or threaten the health and safety of on-site workers. This is a potentially significant impact.

As discussed previously, impacts associated with geologic site conditions are mitigated through engineering design criteria that ensure structures are built to withstand hazards such as expansive soils. Preparation of a site-specific geotechnical investigation would provide the appropriate geotechnical requirements to include in facility design criteria. Implementation of Mitigation Measure GEO-1 would require preparation of site-specific geotechnical investigations that would include corrective actions for potential expansive soils. In addition, the proposed project would be subject to the CBC which controls the design and location of facilities in order to safeguard the public. With implementation of Mitigation Measure GEO-1, impacts related to expansive soils would be less than significant.

#### **Lift Station, Conveyance Pipelines, Injection and Monitoring Wells, and Decommissioning of Current WWTP**

The soils within the areas where the proposed lift station, conveyance pipelines, wells, and existing WWTP sites would be located consist of unconsolidated sands, clays and fill materials from prior development. Sandy soils and fill are not typically expansive; however, clay soils exhibit expansive properties and may also underlay areas of fill materials. If project components are located on expansive soils, the structural stability of proposed facilities could decrease, resulting in structural or operational failure. This is a potentially significant impact.

As described above, impacts associated with geologic site conditions are mitigated through engineering design criteria that ensure structures are built to withstand hazards such as expansive soils. Preparation of a site-specific geotechnical investigation would provide the appropriate geotechnical requirements to include in facility design criteria. Implementation of Mitigation Measure GEO-1 would require preparation of site-specific geotechnical investigations that would include corrective actions for potential expansive soils. In addition, the proposed project would be subject to the CBC which controls the design and location of facilities in order to safeguard the public. With implementation of Mitigation Measure GEO-1, impacts related to expansive soils would be less than significant.



### **Mitigation Measures**

Implementation of Mitigation Measure GEO-1 is required.

### **Significance Determination**

Less than Significant with Mitigation

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### ***Wastewater Disposal Systems***

**Impact 3.6-5: The proposed project would not include septic tanks and would not result in impacts regarding soils incapable of supporting those alternative systems. There would be no impact.**

### **All Facilities**

The proposed project facilities would not require the use of septic tanks or alternative reclaimed water disposal systems. During construction of the proposed project components, portable toilet facilities would be provided if necessary, and waste would be collected by a certified waste hauler and appropriately disposed of for treatment. There would be no impact related to soils being incapable of adequately supporting septic tanks or alternative reclaimed water disposal systems.

### **Mitigation Measure**

None required.

### **Significance Determination**

No Impact

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## 3.7 Greenhouse Gas Emissions and Energy

This section describes and evaluates issues related to greenhouse gas (GHG) emissions and energy use in the context of the proposed project. Discussed is an overview of climate change; the various GHGs that have been identified as drivers of climate change; environmental and regulatory setting pertinent to GHG emissions and energy use, including those relevant at federal, state, and local levels; the criteria used for determining the significance of environmental impacts; and potential impacts associated with the construction, operation and implementation of the proposed project.

### 3.7.1 Environmental Setting

#### Greenhouse Gases

##### *Climate Change*

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation and storms. Historical records indicate global climate changes have occurred in the past due to natural phenomena; however, current data increasingly indicate the current global conditions differ from past climate changes in rate and magnitude. Global climate change attributable to anthropogenic (human) GHG emissions is currently one of the most important and widely debated scientific, economic and political issues in the United States and the world. The extent to which increased concentrations of GHGs have caused or will cause climate change and the appropriate actions to limit and/or respond to climate change are the subject of significant and rapidly evolving regulatory efforts at the federal and state levels of government.

GHGs are compounds in the Earth's atmosphere, which play a critical role in determining temperature near the Earth's surface. More specifically, those gases allow high-frequency shortwave solar radiation to enter the Earth's atmosphere, but retain some of the low frequency infrared energy, which is radiated back from the Earth towards space, resulting in a warming of the atmosphere. Not all GHGs possess the same ability to induce climate change; as a result, GHG contributions are commonly quantified in the units of equivalent mass of carbon dioxide (CO<sub>2</sub>e). Mass emissions are calculated by converting pollutant specific emissions to CO<sub>2</sub>e emissions by applying the proper global warming potential (GWP) value.<sup>1</sup> GWP is the measure of the amount of energy one ton of a gas will absorb over a given period of time, relative to the emissions of one ton of carbon dioxide (CO<sub>2</sub>). The larger the GWP, the more a given gas warms the Earth compared to CO<sub>2</sub> over that time period. Those GWP ratios are provided by the Intergovernmental Panel on Climate Change (IPCC) in its Fourth Assessment Report (AR4) (IPCC, 2007). By applying the GWP ratios, project-related CO<sub>2</sub>e emissions can be tabulated in metric tons (MT) per year. Typically, the GWP ratio corresponding to the warming potential of CO<sub>2</sub> over a 100-year period is used as a reference point for GHG emissions. The CO<sub>2</sub>e values are

<sup>1</sup> GWPs and associated CO<sub>2</sub>e values were developed by the Intergovernmental Panel on Climate Change (IPCC), and published in its Second Assessment Report (SAR) in, 1996. Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's SAR. The IPCC updated the GWP values based on the latest science in its Fourth Assessment Report (AR4). The California Air Resources Board (CARB) has begun reporting GHG emission inventories for California using the GWP values from the IPCC AR4.

calculated for construction years as well as existing and project build-out conditions in order to generate a net change in GHG emissions for construction and operation. Compounds that are regulated as GHGs are discussed below.

- **Carbon Dioxide (CO<sub>2</sub>):** CO<sub>2</sub> is the most abundant anthropogenic GHG in the atmosphere and is primarily generated from fossil fuel combustion from stationary and mobile sources. CO<sub>2</sub> is the reference gas (GWP of 1) for determining the GWPs of other GHGs.
- **Methane (CH<sub>4</sub>):** CH<sub>4</sub> is emitted from biogenic sources (i.e., resulting from the activity of living organisms), incomplete combustion in forest fires, anaerobic decomposition of organic matter in landfills, manure management, and leaks in natural gas pipelines. The GWP of CH<sub>4</sub> is 21 in the IPCC SAR and 25 in the IPCC AR4.
- **Nitrous Oxide (N<sub>2</sub>O):** N<sub>2</sub>O produced by human-related sources including agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of N<sub>2</sub>O is 310 in the IPCC SAR and 298 in the IPCC AR4.
- **Hydrofluorocarbons (HFCs):** HFCs are fluorinated compounds consisting of hydrogen, carbon, and fluorine. They are typically used as refrigerants in both stationary refrigeration and mobile air conditioning systems. The GWPs of HFCs range from 140 for HFC-152a to 11,700 for HFC-23 in the IPCC SAR and 124 for HFC-152a to 14,800 for HFC-23 in the IPCC AR4.
- **Perfluorocarbons (PFCs):** PFCs are fluorinated compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semiconductor manufacturing. The GWPs of PFCs range from 6,500 to 9,200 in the IPCC SAR and 7,390 to 17,700 in the IPCC AR4.
- **Sulfur Hexafluoride (SF<sub>6</sub>):** SF<sub>6</sub> is a fluorinated compound consisting of sulfur and fluoride. It is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. SF<sub>6</sub> has a GWP of 23,900 in the IPCC SAR and 22,800 in the IPCC AR4.

### ***Effects of Global Climate Change***

The scientific community's understanding of the fundamental processes responsible for global climate change has improved over the past decade, and its predictive capabilities are advancing. However, there remain significant scientific uncertainties in, for example, predictions of local effects of climate change, occurrence, frequency, and magnitude of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the Earth's climate system and inability to accurately model it, the uncertainty surrounding climate change may never be completely eliminated. Nonetheless, the IPCC's *Fifth Assessment Report, Summary for Policy Makers* states, "it is *extremely likely* that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in greenhouse gas concentrations and other anthropogenic forc[es *sic*] together" (IPCC, 2013). A report from the National Academy of Sciences concluded, 97 to 98 percent of the climate researchers most actively publishing in the field support the tenets of the IPCC in that climate change is very likely caused by human (*i.e.*, anthropogenic) activity (Anderegg et al, 2010).

According to the California Air Resources Board (CARB), the potential impacts in California due to global climate change may include: loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, more drought years, increased erosion of California's coastlines and sea water intrusion into the Sacramento and San Joaquin Deltas and associated levee systems and increased pest infestation (CalEPA, 2006). Below is a summary of some of the potential effects that could be experienced in California as a result of global warming and climate change.

### **Air Quality**

Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect and, therefore, its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, then the potential for large wildfires could increase, which, in turn, would exacerbate air quality. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (CalEPA, 2013). However, if higher temperatures are accompanied by wetter, rather than drier conditions, then the rains would temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires.

In 2009, the California Natural Resources Agency (CNRA) published the *California Climate Adaptation Strategy* as a response to the Governor's Executive Order S-13-2008 (CNRA, 2009). The CNRA report lists specific recommendations for state and local agencies to best adapt to the anticipated risks posed by a changing climate. In accordance with the *California Climate Adaptation Strategy*, the California Energy Commission (CEC) was directed to develop a website on climate change scenarios and impacts that would be beneficial for local decision makers (CNRA, 2009). The website, known as Cal-Adapt, became operational in 2011.<sup>2</sup> The information provided on the Cal-Adapt website represents a projection of potential future climate scenarios. The data are comprised of the average values (*i.e.*, temperature, sea-level rise, snowpack) from a variety of scenarios and models and are meant to illustrate how the climate may change based on a variety of different potential social and economic factors. According to the Cal-Adapt website, the portion of the City in which some of the proposed project site are located could result in an average increase in temperature of approximately 7 to 8 percent (about 3.7 to 4.7°F) by 2070–2099, compared to the 1961–1990 period (CEC, 2018).

### **Water Supply**

Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. Studies have found that, "Considerable uncertainty about precise impacts of climate change on California hydrology and water resources will remain until we have more precise and consistent information about how precipitation patterns, timing, and intensity will change" (PacInst, 2003). For example, some studies identify little change in total annual precipitation in projections for California while others show significantly more precipitation (PacInst, 2003). Warmer, wetter winters would increase the amount of runoff available for groundwater recharge; however, that additional runoff would occur at a time when some basins

<sup>2</sup> The Cal-Adapt website address is: <http://cal-adapt.org>.

are either being recharged at their maximum capacity or are already full. Conversely, reductions in spring runoff and higher evapotranspiration because of higher temperatures could reduce the amount of water available for recharge (CNRA, 2014).

The California Department of Water Resources report on climate change and effects on the State Water Project (SWP), the Central Valley Project, and the Sacramento-San Joaquin Delta, concludes “climate change will likely have a significant effect on California’s future water resources...[and] future water demand.” It also reports “much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain.” It also reports that the relationship between climate change and its potential effect on water demand is not well understood, but “[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future.” Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows (CDWR, 2006). In its *Fifth Assessment Report*, the IPCC states “Changes in the global water cycle in response to the warming over the 21st century will not be uniform. The contrast in precipitation between wet and dry regions and between wet and dry seasons will increase, although there may be regional exceptions” (IPCC, 2013).

### **Hydrology and Sea Level Rise**

As discussed above, climate changes could potentially affect: the amount of snowfall, rainfall and snow pack, the intensity and frequency of storms, flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events), sea level rise and coastal flooding, coastal erosion and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes: expansion of seawater as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California’s water supply. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

### **Agriculture**

California has a \$30 Billion agricultural industry that produces half the country’s fruits and vegetables. Higher CO<sub>2</sub> levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, then water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thus affect their quality (CCCC, 2006).

## Ecosystems and Wildlife

Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists expect that the average global surface temperature could rise by 2-11.5°F (1.1-6.4°C) by 2100, with significant regional variation (NRC, 2010). Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Sea level could rise as much as 2 feet along most of the United States coastline. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events, (2) geographic range, (3) species' composition within communities and (4) ecosystem processes such as carbon cycling and storage (Parmesan & Galbraith, 2004).

## Greenhouse Gas Emission Inventories

### State of California

CARB compiles GHG inventories for the State of California. Based on the 2015 GHG inventory data (*i.e.*, the latest year for which data is available from CARB) prepared by CARB in 2017, California emitted 440.4 million metric tons of CO<sub>2</sub>e (MMTCO<sub>2</sub>e), including emissions resulting from imported electrical power (CARB, 2017b). Between 1990 and 2015, the population of California grew by approximately 9.3 million (from 29.8 to 39.1 million) (USCB, 2009, CDF, 2014). That represents an increase of approximately 31 percent from 1990 population levels. In addition, the California economy, measured as gross state product, grew from \$773 Billion in 1990 to \$2.49 Trillion in 2015 representing an increase of approximately 222 percent (just over three times the 1990 gross state product) (CDF, 2018). Despite the population and economic growth, California's net GHG emissions only grew by approximately 2.2 percent. According to CARB, the declining trend coupled with the state's GHG reduction programs (such as the Renewables Portfolio Standard, Low Carbon Fuel Standard, vehicle efficiency standards, and declining caps under the Cap and Trade Program) demonstrate California is on track to meet the 2020 GHG reduction target codified in California Health and Safety Code (HSC), Division 25.5, also known as The Global Warming Solutions Act of 2006 (AB 32) (CARB, 2016a). **Table 3.7-1, *State of California Greenhouse Gas Emissions***, identifies and quantifies statewide anthropogenic GHG emissions and sinks (e.g., carbon sequestration due to forest growth) in 1990 and 2015. As shown in the table, the transportation sector is the largest contributor to statewide GHG emissions at approximately 37 percent in 2015.

**TABLE 3.7-1  
STATE OF CALIFORNIA GREENHOUSE GAS EMISSIONS**

Category	Total 1990 Emissions using IPCC SAR (MMTCO <sub>2</sub> e)	Percent of Total 1990 Emissions	Total 2015 Emissions using IPCC AR4 (MMTCO <sub>2</sub> e)	Percent of Total 2015 Emissions
Transportation	150.7	35%	164.6	37%
Electric Power	110.6	26%	83.7	19%
Commercial	14.4	3%	12.8	3%
Residential	29.7	7%	23.2	5%
Industrial	103.0	24%	91.7	21%
Recycling and Waste <sup>a</sup>	–	–	8.7	2%
High GWP/Non-Specified <sup>b</sup>	1.3	<1%	19.1	4%
Agriculture/Forestry	23.6	6%	34.6	8%
Forestry Sinks	-6.7		-- <sup>c</sup>	--
<b>Net Total (IPCC SAR)</b>	<b>426.6</b>	<b>100%</b>	--	--
<b>Net Total (IPCC AR4) <sup>d</sup></b>	<b>431</b>	<b>100%</b>	<b>440.4</b>	<b>100%</b>

<sup>a</sup> Included in other categories for the 1990 emissions inventory.

<sup>b</sup> High GWP gases include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6). High GWP gases are not specifically called out in the 1990 emissions inventory.

<sup>c</sup> Revised methodology under development (not reported for 2012).

<sup>d</sup> CARB revised the State's 1990 level GHG emissions using GWPs from the IPCC AR4.

Sources: California Air Resources Board, Staff Report – California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit, (2007); California Air Resources Board, "California Greenhouse Gas 2000-2015 Inventory by Scoping Plan Category – Summary," <http://www.arb.ca.gov/cc/inventory/data/data.htm>. Accessed January 2018.

## San Luis Obispo County

A 2006 baseline GHG inventory for the County was prepared as part of the San Luis Obispo County's update of the Conservation and Open Space Element of the General Plan. The inventory identifies the major sources of GHG emissions within the county, including the unincorporated areas of the County, and from County government operations. **Table 3.7-2** summarizes the 2006 Unincorporated County inventory. As shown in the table, the unincorporated area of the County emitted 917,700 MT CO<sub>2</sub>e in 2006. On-road vehicles were the greatest contributor to the county's baseline emissions followed by commercial/industrial energy use and residential energy use. The inventory also includes a separate assessment of GHG emissions from County activities. In 2006, GHG Emissions from County operations totaled 16,870 MT CO<sub>2</sub>e (County of San Luis Obispo, 2011).



**TABLE 3.7-2  
UNINCORPORATED SAN LUIS OBISPO COUNTY GHG EMISSIONS IN 2006 (MT CO<sub>2</sub>E)**

<b>Sector</b>	<b>2006 GHG Emissions</b>	<b>Percentage of Total</b>
<b>Unincorporated San Luis Obispo County</b>		
Residential	136,360	15%
Commercial/Industrial	215,970	24%
Transportation	365,260	40%
Waste	30,540	3%
Other – Crops	22,630	2%
Other – Livestock	83,420	9%
Other – Off Road Equipment	63,280	7%
Other – Aircraft	240	<0.1%
<b>TOTAL</b>	<b>917,710</b>	<b>100%</b>
<b>San Luis Obispo County Operations</b>		
Buildings	4,970	30%
Vehicle Fleet	3,360	20%
Employee Commute	7,800	46%
Street Lights	60	0.4%
Water/Sewage	410	2%
Waste	270	2%
Other	<10	<0.1%
<b>TOTAL</b>	<b>16,870</b>	<b>100%</b>

SOURCE: County of San Luis Obispo, 2011.

### City of Morro Bay

According to the 2005 GHG Emissions Inventory for the City, in 2005, the Morro Bay community emitted approximately 55,677 MT CO<sub>2</sub>e, as a result of activities that took place within the transportation, residential energy use, commercial and industrial energy use, off-road vehicles and equipment, solid waste, and wastewater sectors. Of those emissions, the City government operations generated approximately 1,955 MT CO<sub>2</sub>e representing approximately four percent of Morro Bay's total community-wide GHG emissions. Twenty-three percent of those emissions resulted from the City's wastewater facilities while employee commutes, vehicle fleet, and building and facility energy use accounted for 21, 18 and 17 percent, respectively (City of Morro Bay, 2014).

### Energy

Forms of energy generated or obtained within California include fossil fuels, hydroelectric, nuclear, and renewable resources such as biomass, geothermal, solar and wind. The primary uses of energy in California are as electricity, natural gas and transportation fuels.

As the most populated state in the nation with the largest economy, California's total energy demand is second only to Texas. Although California is a leader in many energy-intensive

industries, the state has one of the lowest per capita total energy consumption levels in the country. California's extensive efforts to increase energy efficiency, along with the implementation of alternative technologies, has restrained growth in energy demand. California is also rich in energy resources. The state has an abundant supply of crude oil and is a top producer of conventional hydroelectric power. California also leads the nation in electricity generation from solar, geothermal, and biomass resources.

Transportation dominates California's energy consumption profile. More motor vehicles are registered in California than in any other state, and commute times in California are among the longest in the country. The state also accounts for one-fifth of the nation's jet fuel consumption. California leads the nation in agricultural and manufacturing gross domestic product (GDP), and the industrial sector is the state's second-largest energy consumer. However, due to its relatively mild climate, per capita energy use in California's residential sector is lower than that of every other state except Hawaii. In 2014 to 2015, 37 to 39.3 percent of California's overall energy use was for transportation, 23.9 percent for industrial, 19.1 percent for commercial and 17.7 percent was consumed by residential uses (USEIA, 2017; CEC, 2017).

### ***Electricity***

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate for on-site distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands.

Energy capacity, or electrical power, is generally measured in watts (W) while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 W, the energy required to keep the bulb on for 1 hour would be 100 Wh. If ten 100 W bulbs were on for 1 hour, the energy required would be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts (MW), which is one million watts, while energy usage is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), which is one billion watt-hours.

The production of electricity requires the consumption or conversion of energy resources including water, wind, oil, gas, coal, solar, geothermal, and nuclear sources. Of the electricity generated in-state, 53.8 percent is generated by natural gas-fired power plants, 14 percent from large hydroelectric dams, 23.9 percent from renewable sources other than hydroelectricity, 8.2 percent from nuclear and only 0.1 percent from coal-fired power plants (USEIA, 2017). The electricity generated and used in California is distributed via a network of high voltage transmission lines commonly referred to as the power grid.

Electricity is provided to the preferred and proposed project sites by the Pacific Gas and Electric Company (PG&E). PG&E provides electricity service to approximately 13 million people

throughout a 70,000 square mile service area in Northern and Central California. PG&E's service area extends from Eureka to Bakersfield (north to south), and from the Sierra Nevada to the Pacific Ocean (east to west). PG&E produces and purchases energy from a mix of conventional and renewable generating sources, which travel through its electric transmission and distribution systems to reach customers. Nearly 70 percent of the electricity provided by PG&E comes from sources that emit no greenhouse gases. Overall, PG&E's electricity creates only one-third as many greenhouse gas emissions per kilowatt-hour compared to the industry average. **Table 3.7-3** shows the electric power mix PG&E delivered to its retail customers in 2016.

**TABLE 3.7-3  
PG&E's 2016 ELECTRIC POWER MIX**

<b>Power Source</b>	<b>Percent of Total Power Mix Delivered</b>
Nuclear	24
Natural Gas	17
Large Hydroelectric	12
Coal	0
Unspecified Sources	14
Eligible Renewables	33
SOURCE: PG&E, 2016a.	

Based on energy statements from PG&E, during 2015-2016, the existing wastewater treatment plant used an average of approximately 3,000 kW hr per day (PG&E, 2016b).

### ***Natural Gas***

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the State, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network, and, therefore, resource availability is typically not an issue. Natural gas provides almost one-third of the state's total energy requirements and is used in electricity generation, space heating, cooking, water heating, industrial processes, and as a transportation fuel. Natural gas is measured in terms of cubic feet (cf).

Natural gas is provided to the preferred and proposed project sites by the Southern California Gas Company (SoCalGas). SoCalGas is the principal distributor of natural gas in Southern California, serving residential, commercial, and industrial markets. SoCalGas serves approximately 21.6 million customers in more than 500 communities encompassing approximately 20,000 square miles throughout Central and Southern California, from the City of Visalia to the Mexican border (SoCalGas, 2018).

SoCalGas receives gas supplies from several sedimentary basins in the western United States and Canada, including supply basins located in New Mexico (San Juan Basin), West Texas (Permian Basin), the Rocky Mountains, and Western Canada as well as local California supplies (CGEU,

2016). The traditional, southwestern United States sources of natural gas will continue to supply most of SoCalGas' natural gas demand. The Rocky Mountain supply is available but is used as an alternative supplementary supply source, and the use of Canadian sources provide only a small share of SoCalGas supplies due to the high cost of transport (CGUE, 2016). Gas supply available to SoCalGas from California sources averaged 122 million cf per day in 2015 (the most recent year for which data are available) (CGEU, 2016). Also, the annual natural gas sale to customers in 2016 was approximately 304,290 million kilo British thermal units (kBtu) (Sempra, 2017).

### **Transportation Energy**

According to the CEC, transportation accounts for nearly 37 percent of California's total energy consumption in 2014 (CEC, 2017). In 2016, California consumed 15.5 billion gallons of gasoline and 3.7 billion gallons of diesel fuel (CEC, 2016). Petroleum-based fuels currently account for more than 90 percent of California's transportation fuel use (CEC, 2016a). However, the state is now working on developing flexible strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and greenhouse gases (GHGs) from the transportation sector, and reduce vehicle miles traveled (VMT). Accordingly, gasoline consumption in California has declined. The CEC predicts the demand for gasoline will continue to decline over the next 10 years, and there will be an increase in the use of alternative fuels (CEC, 2015a). According to fuel sales data from the CEC, fuel consumption in the County was approximately 142 million gallons of gasoline and 23 million gallons of diesel fuel in 2016 (CEC, 2016).

## **3.7.2 Regulatory Framework**

### **Federal**

The United States Environmental Protection Agency (USEPA) is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. Those programs focus on energy efficiency, renewable energy, methane and other non-CO<sub>2</sub> gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. Those programs (*e.g.*, the ENERGY STAR labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

In *Massachusetts v. Environmental Protection Agency* (Docket No. 05–1120), the U.S. Supreme Court held in April of 2007 the USEPA has statutory authority under Section 202 of the federal Clean Air Act (CAA) to regulate GHGs. The court did not hold the USEPA was required to regulate GHG emissions; however, it indicated the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare. On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA. The USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>) on December 7, 2009. The Endangerment Finding is required before USEPA can regulate GHG emissions under Section 202(a)(1) of the

CAA consistently with the United States Supreme Court decision. The USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. Those findings do not, by themselves, impose any requirements on industry or other entities. However, those actions were a prerequisite for implementing GHG emissions standards for vehicles.

President George W. Bush signed Executive Order 13432 on May 14, 2007, directing the USEPA, along with the Departments of Transportation, Energy, and Agriculture, to initiate a regulatory process that responds to the Supreme Court's decision. Executive Order 13432 was codified into law by the 2009 Omnibus Appropriations Law signed on February 17, 2009. The order sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, sustainable buildings, electronics stewardship, fleets, and water conservation. In addition, the order requires more widespread use of Environmental Management Systems as the framework in which to manage and continually improve these sustainable practices. That Executive Order requires federal agencies to lead by example in advancing the nation's energy security and environmental performance by achieving the following goals:

- **Energy Efficiency:** Reduce energy intensity 30 percent by 2015, compared to an FY 2003 baseline.
- **Greenhouse Gases:** Reduce greenhouse gas emissions through reduction of energy intensity 30 percent by 2015, compared to an FY 2003 baseline.
- **Renewable Power:** At least 50 percent of current renewable energy purchases must come from new renewable sources (in service after January 1, 1999).
- **Building Performance:** Construct or renovate buildings in accordance with sustainability strategies, including resource conservation, reduction, and use; siting; and indoor environmental quality.
- **Water Conservation:** Reduce water consumption intensity 16 percent by 2015, compared to an FY 2007 baseline.
- **Vehicles:** Increase purchase of alternative fuel, hybrid, and plug-in hybrid vehicles when commercially available.
- **Petroleum Conservation:** Reduce petroleum consumption in fleet vehicles by 2 percent annually through 2015, compared to an FY 2005 baseline.
- **Alternative Fuel:** Increase use of alternative fuel consumption by at least 10 percent annually, compared to an FY 2005 baseline.
- **Pollution Prevention:** Reduce use of chemicals and toxic materials and purchase lower risk chemicals and toxic materials.
- **Procurement:** Expand purchases of environmentally sound goods and services, including bio-based products.
- **Electronics Management:** Annually, 95 percent of electronic products purchased must meet Electronic Product Environmental Assessment Tool standards where applicable; enable ENERGY STAR® features on 100 percent of computers and monitors; and reuse, donate, sell, or recycle 100 percent of electronic products using environmentally sound management practices.

On May 19, 2009, President Obama announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy standards and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO<sub>2</sub> per mile by model year 2016, based on USEPA calculation methods. Those standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO<sub>2</sub> per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle (USEPA, 2012). In 2017, the USEPA recommended no change to the GHG standards for light-duty vehicles for model years 2022-2025. The USEPA intends to reconsider the final determination by April 1, 2018.

On June 23, 2014, the U.S. Supreme Court held USEPA may not treat GHG emissions as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or Title V permit. The Court also held PSD permits that are otherwise required (based on emissions of other pollutants) may continue to require limitations on GHG emissions based on the application of Best Available Control Technology (BACT). In accordance with the Supreme Court decision, on April 10, 2015, the D.C. Circuit issued an amended judgment in *Coalition for Responsible Regulation, Inc. v. U.S. Environmental Protection Agency*, which vacated the PSD and Title V regulations under review in that case to the extent they require a stationary source to obtain a PSD or Title V permit solely because the source emits or has the potential to emit GHGs above the applicable major source thresholds. The D.C. Circuit also directed USEPA to consider whether any further revisions to its regulations are appropriate, and if so, to undertake to make such revisions. In response to the Supreme Court decision and the D.C. Circuit's amended judgment, the USEPA intends to conduct future rulemaking action to make appropriate revisions to the PSD and operating permit rules (USEPA, 2017b).

## **State**

A variety of statewide rules and regulations mandate the quantification and, if emissions exceed established thresholds, the reduction of GHGs. CEQA requires lead agencies to evaluate project-related GHG emissions and the potential for projects to contribute to climate change and to provide appropriate mitigation in cases where the lead agency determines a project would result in a significant addition of GHGs to the atmosphere.

### **California Air Resources Board**

CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards [CAAQS]), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray,

aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

In 2004, CARB adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. That measure generally does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given location with certain exemptions for equipment in which idling is a necessary function such as concrete trucks. While this measure primarily targets diesel particulate matter emissions, it has co-benefits of minimizing GHG emissions from unnecessary truck idling.

In 2008, CARB approved the Truck and Bus regulation to reduce particulate matter and nitrogen oxide emissions from existing diesel vehicles operating in California (13 CCR, Section 2025, subsection (h)). CARB has also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by the CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. While those regulations primarily target reductions in criteria air pollutant emission, they have co-benefits of minimizing GHG emissions due to improved engine efficiencies.

### ***California Greenhouse Gas Reduction Targets***

The Governor announced on June 1, 2005, through Executive Order S-3-05 (OOG, 2005), the following GHG emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels;
- By 2020, California shall reduce GHG emissions to 1990 levels; and
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

In accordance with Executive Order S-3-05, the Secretary of CalEPA is required to coordinate efforts of various agencies, which comprise the California Climate Action Team (CAT), in order to collectively and efficiently reduce GHGs. Those agencies include CARB, the Secretary of the Business, Transportation and Housing Agency, Department of Food and Agriculture, the Resources Agency, the California Energy Commission, and the Public Utilities Commission. The CAT provides periodic reports to the Governor and Legislature on the state of GHG reductions in the state as well as strategies for mitigating and adapting to climate change. The first CAT Report to the Governor and the Legislature, in 2006, contained recommendations and strategies to help meet the targets in Executive Order S-3-05. The 2010 CAT Report, finalized in December 2010, expands on the policies in the 2006 assessment (CalEPA, 2010). The new information detailed in the CAT Report includes development of revised climate and sea-level projections using new information and tools that became available and an evaluation of climate change within the context of broader social changes, such as land-use changes and demographic shifts.

On April 29, 2015, Governor Brown issued Executive Order B-30-15. Therein, the Governor directed the following:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

In response to the 2030 GHG reduction target, CARB prepared and adopted the 2017 Climate Change Scoping Plan in December 2017 (CARB, 2018). The 2017 Scoping Plan outlines the strategies the State will implement to achieve the 2030 GHG reduction target, which build on the Cap-and-Trade Regulation, the Low Carbon Fuel Standard (LCFS), improved vehicle, truck and freight movement emissions standards, increasing renewable energy, and strategies to reduce methane emissions from agricultural and other wastes by using it to meet our energy needs. The 2017 Scoping Plan also comprehensively addresses GHG emissions from natural and working lands of California, including the agriculture and forestry sectors. The 2017 Scoping Plan considered a number of different alternatives to achieve the 2030 GHG reduction goal. The “Scoping Plan Scenario” was ultimately adopted and relies on the continuation of ongoing and statutorily required programs and continuation of the Cap-and-Trade Program. The Scoping Plan Scenario was modified from the January 2017 Proposed Scoping Plan to reflect AB 398, including removal of the 20 percent GHG reduction measure for refineries (CARB, 2017d).

CARB states the Scoping Plan Scenario “is the best choice to achieve the State’s climate and clean air goals” (CARB, 2017d). Under the Scoping Plan Scenario, the majority of the reductions would result from continuation of the Cap-and-Trade regulation. Additional reductions are achieved from electricity sector standards (*i.e.*, utility providers to supply 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the LCFS, implementing the short-lived GHG strategy (e.g., hydrofluorocarbons), and implementing the mobile source strategy and sustainable freight action plan. The alternatives are designed to consider various combinations of these programs as well as consideration of a carbon tax in the event the Cap-and-Trade regulation is not continued. However, in July 2017, the California Legislature voted to extend the Cap-and-Trade regulation to 2030.

### ***California Health and Safety Code, Division 25.5 – California Global Warming Solutions Act of 2006***

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub> and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020. In



2016, the California State Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 and AB 197 amend HSC Division 25.5 and establish a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and includes provisions to ensure the benefits of state climate policies reach into disadvantaged communities.

A specific requirement of AB 32 was to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (HSC section 38561 (h)). CARB developed an AB 32 Scoping Plan that contains strategies to achieve the 2020 emissions cap (CARB, 2009). The initial Scoping Plan was approved in 2008, and contained a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives (CARB, 2009). The First Update to the Scoping Plan was approved by CARB in May 2014 and built upon the initial Scoping Plan with new strategies and recommendations (CARB, 2014). As discussed above, CARB adopted the Second Update to the Scoping Plan, more commonly referred to as the 2017 Climate Change Scoping Plan, at a public meeting held in December 2017, which outlines the strategy to achieve the 2030 statewide GHG reduction goal.

As required by HSC Division 25.5, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was originally set at 427 MMTCO<sub>2e</sub> using the GWP values from the IPCC SAR. CARB also projected the state's 2020 GHG emissions under no-action-taken (NAT) conditions – that is, emissions that would occur without any plans, policies, or regulations to reduce GHG emissions. CARB originally used an average of the state's GHG emissions from 2002 through 2004 and projected the 2020 levels at approximately 596 MMTCO<sub>2e</sub> (using GWP values from the IPCC SAR). Therefore, under the original projections, the state must reduce its 2020 NAT emissions by 28.4 percent in order to meet the 1990 target of 427 MMTCO<sub>2e</sub>.

In 2014, CARB revised the target using the GWP values from the IPCC AR4 and determined that the 1990 GHG emissions inventory and 2020 GHG emissions limit is 431 MMTCO<sub>2e</sub>. CARB also updated the State's 2020 NAT emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions required by regulation that were recently adopted for motor vehicles and renewable energy. CARB's projected statewide 2020 emissions estimate using the GWP values from the IPCC AR4 is 509.4 MMTCO<sub>2e</sub>.

Therefore, the emission reductions necessary to achieve the 2020 emissions target of 431 MMTCO<sub>2e</sub> would be 78.4 MMTCO<sub>2e</sub>, or a reduction of GHG emissions by approximately 15.4 percent. In the 2017 Climate Change Scoping Plan Update, CARB provides the estimated projected statewide 2030 emissions and the level of reductions necessary to achieve the 2030 target of 40 percent below 1990 levels. CARB's projected statewide 2030 emissions takes into account 2020 GHG reduction policies and programs. A summary of the GHG emissions

reductions required under HSC Division 25.5 is provided in **Table 3.7-4, *Estimated Greenhouse Gas Emissions Reductions Required by HSC Division 25.5***.

**TABLE 3.7-4  
ESTIMATED GREENHOUSE GAS EMISSIONS REDUCTIONS REQUIRED BY HSC DIVISION 25.5**

<b>Emissions Scenario</b>	<b>GHG Emissions (MMTCO<sub>2</sub>e)</b>
<b>2008 Scoping Plan (IPCC SAR)</b>	
2020 NAT Forecast (CARB 2008 Scoping Plan Estimate)	596
2020 Emissions Target Set by HSC Division 25.5 (i.e., 1990 Level)	427
Reduction below NAT Necessary to Achieve 1990 Levels by 2020	169 (28.4%) <sup>a</sup>
<b>2011 Scoping Plan (GHG Estimates Updated in 2014 to Reflect IPCC AR4 GWPs)</b>	
2020 NAT Forecast (CARB 2011 Scoping Plan Estimate)	509.4
2020 Emissions Target Set by HSC Division 25.5 (i.e., 1990 Level)	431
Reduction Necessary to Achieve 1990 Levels by 2020	78.4 (15.4%) <sup>b</sup>
<b>Draft 2017 Scoping Plan Update</b>	
2030 NAT Forecast ("Reference Scenario" which includes 2020 GHG reduction policies and programs)	389
2030 Emissions Target Set by HSC Division 25.5 (i.e., 40% below 1990 Level)	260
Reduction Necessary to Achieve 40% below 1990 Level by 2030	129 (33.2%) <sup>c</sup>

<sup>a</sup> 596 – 427 = 169 / 596 = 28.4%

<sup>b</sup> 509.4 – 431 = 78.4 / 509.4 = 15.4%

<sup>c</sup> 389 – 260 = 129 / 389 = 33.2%

SOURCE: California Air Resources Board, Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (FED), Attachment D, August 19, 2011; California Air Resources Board, 2020 No-action-taken (NAT) Emissions Projection, 2014 Edition. Available: <http://www.arb.ca.gov/cc/inventory/data/bau.htm>. Accessed January 2018; California Air Resources Board, The 2017 Climate Change Scoping Plan Update, (January 2018). Available: <https://www.arb.ca.gov/cc/scopingplan/revised2017spu.pdf>. Accessed January 2018.

In its Climate Change Scoping Plan, CARB has acknowledged land use-driven emissions are highly complex: “While it is possible to illustrate the [GHG] inventory many different ways, no chart or graph can fully display how diverse economic sectors fit together. California’s economy is a web of activity where seemingly independent sectors and subsectors operate interdependently and often synergistically” (CARB, 2009). GHG emissions and reductions in the land use sector are complicated to assess given emissions are influenced by reduction measures separate from the land use sector, such as the LCFS, vehicle emissions standards, and entities regulated under the Cap-and-Trade program including refineries and utility providers. Those measures will impact other sectors of the economy and will also impact existing development in addition to new land use development.

In its report, *California Environmental Quality Act Guidelines Update Proposed Thresholds of Significance*, the Bay Area Air Quality Management District (BAAQMD) evaluated the reduction in land use emissions needed in order to be consistent with AB 32 (BAAQMD, 2010). CARB included the following sectors for land use emissions: Transportation (on-road passenger vehicles; on-road heavy-duty), electric power (electricity; cogeneration), commercial and

residential (residential fuel use; commercial fuel use) and recycling and waste (domestic wastewater treatment). Table 1 of the BAAQMD document present the results of this analysis, which shows that a 26.2 percent reduction from statewide land-use driven GHG emissions would be necessary to meet the AB 32 goal of returning to the 1990 emission levels by 2020, which is lower than the statewide reduction of 28.4 percent required based on the original 2008 Climate Change Scoping Plan projections.

### ***Transportation Sector***

In response to the transportation sector accounting for a large percentage of California's CO<sub>2</sub> emissions, AB 1493 (HSC Section 42823 and 43018.5), enacted on July 22, 2002, required CARB to set GHG emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is non-commercial personal transportation manufactured in and after 2009. In setting these standards, CARB must consider cost effectiveness, technological feasibility, economic impacts, and provide maximum flexibility to manufacturers. The federal CAA ordinarily preempts state regulation of motor vehicle emission standards; however, California is allowed to set its own standards with a federal CAA waiver from the USEPA. In June 2009, the USEPA granted California the waiver.

However, as discussed previously, the USEPA and United States Department of Transportation (USDOT) adopted federal standards for model year 2012 through 2016 light-duty vehicles. In addition, the USEPA and USDOT have adopted GHG emission standards for model year 2017 through 2025 vehicles. Those standards are slightly different from the State's model year 2017 through 2025 standards, but the State of California has agreed not to contest these standards, in part due to the fact that while the national standard would achieve slightly less reductions in California, it would achieve greater reductions nationally and is stringent enough to meet state GHG emission reduction goals. In 2012, CARB adopted regulations that allow manufacturers to comply with the 2017 through 2025 national standards to meet state law.

In January 2007, Governor Brown enacted Executive Order S-01-07, which mandates the following: (1) establish a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 and (2) adopt a LCFS for transportation fuels in California. CARB identified the LCFS as one of the nine discrete early actions in the Climate Change Scoping Plan. The LCFS regulations were approved by CARB in 2009 and established a reduction in the carbon intensity of transportation fuels by 10 percent by 2020 with implementation beginning on January 1, 2011. In September 2015, CARB approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In April 2017, the LCFS was brought before the Court of Appeal challenging the analysis of potential nitrogen dioxide impacts from biodiesel fuels. The Court directed CARB to conduct an analysis of nitrogen dioxide impacts from biodiesel fuels and froze the carbon intensity targets for diesel and biodiesel fuel provisions at 2017 levels until CARB has completed this analysis, which CARB has indicated is expected to occur in 2018. The 2017 Climate Change Scoping Plan calls for increasing the LCFS from 10 percent to 18 percent by 2030.

### ***Land Use Transportation Planning***

SB 375 (Chapter 728, Statutes of 2008), which establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions, was adopted by the State on September 30, 2008. Under SB 375, CARB is required, in consultation with the state's Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. In February 2011, CARB adopted the final GHG emissions reduction targets for the State's Metropolitan Planning Organizations, including the San Luis Obispo Council of Governments, which is the Metropolitan Planning Organization for the region in which the project is located (CARB, 2008). Of note, the proposed reduction targets explicitly exclude emission reductions expected from the AB 1493 and the low carbon fuel standard regulations.

Under SB 375, the reduction target must be incorporated within that region's Regional Transportation Plan (RTP), which is used for long-term transportation planning, in a Sustainable Communities Strategy (SCS). Certain transportation planning and programming activities would then need to be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plan) are not required to be consistent with either the RTP or SCS.

### ***Energy Sector and CEQA Guidelines Appendix F***

The CEC first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically (typically every three years) to allow for the consideration and inclusion of new energy efficiency technologies and methods. Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design, (2) Energy efficiency, (3) Water efficiency and conservation, (4) Material conservation and resource efficiency and (5) Environmental air quality" (CBSC, 2010). As of January 1, 2011, the CALGreen Code is mandatory for all new buildings constructed in the state. The CALGreen Code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The CALGreen Code was most recently updated in 2016 to include new mandatory measures for residential and nonresidential uses; the new measures took effect on January 1, 2017 (CBSC, 2016).

The State has adopted regulations to increase the proportion of electricity from renewable sources. In November 2008, Governor Schwarzenegger signed Executive Order S-14-08 (OOG, 2015), which expands the State's Renewables Portfolio Standard to 33 percent renewable power by 2020. On April 12, 2011, Governor Jerry Brown signed SB X1-2 to increase California's

Renewables Portfolio Standard to 33 percent by 2020. SB 350 (Chapter 547, Statutes of 2015) further increased the Renewables Portfolio Standard to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027.

SB 97, enacted in 2007, directed the State Office of Planning and Research (OPR) to develop California Environmental Quality Act (CEQA) Guidelines (*CEQA Guidelines*) “for the mitigation of GHG emissions or the effects of GHG emissions.” In December 2009, OPR adopted amendments to the *CEQA Guidelines*, Appendix G Environmental Checklist, which created a new resource section for GHG emissions and indicated criteria that may be used to establish significance of GHG emissions. Appendix F of the *CEQA Guidelines* states, in order to ensure energy implications are considered in project decisions, the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the project. Appendix F of the *CEQA Guidelines* further states a project’s energy consumption and proposed conservation measures may be addressed, as relevant and applicable, in the Project Description, Environmental Setting, and Impact Analysis portions of technical sections, as well as through mitigation measures and alternatives. In accordance with Appendix F of the CEQA Guidelines, relevant information that addresses the energy implications of the Project is provided in this section.

### **Cap-and-Trade Program**

The Climate Change Scoping Plan identifies a Cap-and-Trade Program as a key strategy CARB will employ to help California meet its GHG reduction targets for 2020 and 2030, and ultimately achieve an 80 percent reduction from 1990 levels by 2050. Pursuant to its authority under HSC Division 25.5, CARB designed and adopted a California Cap-and-Trade Program to reduce GHG emissions from major sources (deemed “covered entities”) by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32’s emission-reduction mandate of returning to 1990 levels of emissions by 2020 and 40 percent below 1990 levels by 2030 (17 CCR Sections 95800 to 96023). Under Cap-and-Trade program, an overall limit is established for GHG emissions from capped sectors (e.g., electricity generation, petroleum refining, cement production, and large industrial facilities that emit more than 25,000 MT CO<sub>2</sub>e per year) and declines over time, and facilities subject to the cap can trade permits to emit GHGs. The statewide cap for GHG emissions from the capped sectors commenced in 2013 and declines over time, achieving GHG emission reductions throughout the Program’s duration (17 CCR Sections 95811-95812). On July 17, 2017 the California legislature passed Assembly Bill 398, extending the Cap-and-Trade program through 2030.

The Cap-and-Trade Regulation provides a firm cap, ensuring the 2020 statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade Program is it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis.

If California’s direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California’s direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. In other words,

the Cap-and-Trade Program functions similarly to an insurance policy for meeting California's GHG emissions reduction mandates.

### ***AB 341 – Solid Waste Diversion***

The Commercial Recycling Requirements mandate businesses (including public entities) that generate 4 cubic yards or more of commercial solid waste per week and multi-family residential with five units or more arrange for recycling services. Businesses can take one or any combination of the following in order to reuse, recycle, compost, or otherwise divert solid waste from disposal. Additionally, AB 341 mandates 75 percent of the solid waste generated be reduced, recycled, or composted by 2020.

## **Local**

### ***City of Morro Bay Final Climate Action Plan***

The City of Morro Bay Climate Action Plan (CAP) is a long-range plan to reduce GHG emissions from City government operations and community activities within Morro Bay and prepare for the anticipated effects of climate change. The CAP also aims to help achieve multiple community goals such as lowering energy costs, reducing air pollution, supporting local economic development, and improving public health and quality of life (City of Morro Bay, 2014). Specifically, this CAP is designed to:

- Benchmark Morro Bay's 2005 baseline GHG emissions and 2020 projected emissions relative to the statewide emissions target established under AB 32 of 1990 levels by 2020 (approximately 15 percent below 2005 levels by the year 2020).
- Provide a roadmap for achieving the City's GHG emissions reduction target of 15 percent below 2005 levels by the year 2020 and help the City prepare for anticipated climate change impacts.
- Serve as a qualified and comprehensive plan for addressing the cumulative impacts of GHG emissions within the City.
- Support tiering and streamlining the analysis of GHG emissions for future projects within Morro Bay pursuant to *CEQA Guidelines* sections 15152 and 15183.5.

The following measures from the CAP would apply to the proposed project:

**Measure O-1: Construction Vehicles and Equipment.** Reduce GHG emissions from construction vehicles and equipment by requiring various actions as appropriate to the construction project.

#### **Implementation Actions**

**O-1.1:** Require three percent of construction vehicles and equipment to be electrically-powered or use alternative fuels such as compressed natural gas.

**O-1.2:** Limit heavy-duty vehicle and equipment idling time to a period of three minutes or less, exceeding CARB's standard of a five-minute limit.

**Measure O-2: Off-Road Equipment Upgrades, Retrofits, and Replacements.** Continue to work with the APCD and promote existing programs that fund vehicle and equipment upgrades,

retrofits, and replacement through the Carl Moyer heavy-duty vehicle and equipment program or other funding mechanisms.

#### **Implementation Actions**

**O-2.1:** Conduct additional outreach and promotional activities targeting specific groups (*e.g.*, agricultural operations, construction companies, homeowners, etc.).

**O-2.2:** Direct community members to existing program websites (*e.g.*, APCD, Carl Moyer Grant page).

**C-3: Renewable Energy Systems on City Property.** Pursue small-scale on-site solar energy systems at City government facilities.

#### **Implementation Actions**

**C-3.1:** Identify funding sources and opportunities for small-scale on-site solar photovoltaic (PV) systems at City government facilities.

**C-3.2:** Install small-scale on-site solar PV systems at select City government facilities.

### ***County of San Luis Obispo EnergyWise Plan***

The EnergyWise Plan (EWP) for San Luis Obispo County was prepared as a requirement of the Conservation and Open Space Element (COSE) of the General Plan and is intended to facilitate the goals of the COSE. This Plan builds upon the goals and strategies of the COSE to reduce local GHG emissions. It identifies how the County will achieve the GHG emissions reduction target of 15 percent below baseline levels by the year 2020 in addition to other energy efficiency, water conservation, and air quality goals identified in the COSE. This Plan also assists with the County's participation in the regional effort to implement land use and transportation measures to reduce regional greenhouse gas emissions from the transportation sector by 2035 (County of San Luis Obispo, 2011).

Consistent with COSE Policy E-2.1, the EWP requires new or renovated County facilities, such as the proposed project to meet or exceed CALGreen's Tier 1 or the intent of the LEED Silver requirements. The EWP lists the following actions in support of this measure:

- Continue to require Utility Coordinator review of new facilities for opportunities to meet or exceed energy efficiency requirements.
- Orient and design new facilities to maximize natural lighting and climate regulation.
- "Right-size" new facilities to meet anticipated uses.
- Pre-wire new facilities to accommodate solar PV and/or electric car charging stations.

The EWP was updated in 2016 with a summary of the progress toward implementing measures in the 2011 EWP and outlines the overall trends in energy use and emissions since the baseline year of the EWP inventory (2006). The EWP Update includes 12 more specific reduction goals, six for government operations and six for community-wide activity (County of San Luis Obispo, 2016). The six goals for government operations are listed below:

**Goal G1:** Reduce energy use in existing County facilities 20% by 2020.

**Goal G2:** Increase the use of renewable energy sources in County facilities to account for 10% of total energy used.

**Goal G3:** Reduce the amount of waste generated at County facilities and increase the County's waste diversion rate to 80% by 2020.

**Goal G4:** Reduce water use in County facilities 20% by 2020.

**Goal G5:** Reduce emissions from the County's vehicle fleet by using alternative fuels and decreasing vehicle miles traveled.

**Goal G6:** Provide additional opportunities for employees to utilize alternative transportation options and reduce commute lengths.

### 3.7.3 Impacts and Mitigation Measures

#### Significance Criteria

Appendix G of the *CEQA Guidelines* recommends the following significance criteria for the evaluation of impacts related to greenhouse gases and energy use. This Draft EIR assumes implementation of the proposed project would have a significant impact if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.
- Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation.
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In March 2012, the San Luis Obispo Air Pollution Control District (SLOAPCD) adopted CEQA thresholds for GHG emissions. Based on the adopted SLOAPCD guidance, the following three quantitative thresholds may be used to evaluate the level of significance of GHG emissions impacts for residential and commercial projects:

1. Qualified GHG Reductions Strategies - A project would have a significant impact if it is not consistent with a qualified GHG reduction strategy that meets the requirements of the State CEQA Guidelines. If a project is consistent with a qualified GHG reduction strategy, it would not have a significant impact; OR,
2. Bright-Line Threshold. A project would have a significant impact if it exceeds the "bright-line threshold" of 1,150 MT CO<sub>2</sub>e per year; OR,
3. Efficiency Threshold. A project would have a significant impact if the efficiency threshold exceeds 4.9 MT of CO<sub>2</sub>e per service population per year.

For stationary-source projects, such as the proposed project, the threshold is 10,000 MT CO<sub>2</sub>e per year. Stationary-source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require an APCD permit to operate.



The City Final CAP and the County EWP serve as the applicable qualified GHG reduction plans the proposed project would be required to comply with. Therefore, the proposed project's contribution to cumulative GHG impacts would be cumulatively considerable if it is inconsistent with either of these plans.

There are no quantitative thresholds to evaluate energy impacts.

## **Methodology**

This section describes the methodologies and assumptions used for identifying and analyzing the proposed project's emissions of GHGs and energy consumption. The evaluation of potential impacts to GHG emissions that may result from the construction and long-term operations of the proposed project is conducted as follows. Potential impacts resulting from the proposed project's potential energy usage, including electricity, natural gas, and transportation fuel are analyzed by assessing energy consumption during both construction and operation. Specific analysis methodologies are discussed below.

### ***Construction Emissions***

Construction-related GHG emissions for the proposed project were estimated using a similar methodology to that described for criteria air pollutants in Chapter 3.3, Air Quality, of this EIR. The proposed project's construction-related GHG emissions was estimated using the California Emissions Estimator Model (CalEEMod) (Version 2016.3.2), which calculates the emissions of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O associated with construction-related GHG sources such as off-road construction equipment, material delivery trucks, soil haul trucks, and construction worker vehicles. The GHG analysis incorporates similar assumptions as the air quality analysis for consistency. As recommended by the SLOAPCD, estimated total construction GHG emissions were amortized over a 25-year period and added to the proposed project's operational emissions estimates (SLOAPCD, 2012).

### ***Operational Emissions***

Direct sources of operational GHG emissions resulting from the proposed project include vehicle trips made by employees, maintenance vehicles, and delivery and hauling trucks, and diesel combustion for testing and maintenance of the proposed backup generators. Indirect sources include off-site emissions occurring as a result of the proposed project's operations such as generation of electricity that is used by the proposed project.

GHG emissions generated from the testing and maintenance of backup generators were estimated using CalEEMod. Per SLOAPCD Rule 431, estimates assume those generators would be operated for a maximum of 100 hours per year for testing and maintenance. CO<sub>2</sub> emissions from truck trips to and from the site for chemical deliveries and biosolids removal as well as employee commute trips were calculated using CalEEMod.

The indirect emissions that would be associated with the proposed project's electricity use were estimated using PG&E's power grid emission factor for year 2020 (*i.e.*, 290 pounds CO<sub>2</sub> per megawatt hour [MWh]; PG&E, 2015). N<sub>2</sub>O and CH<sub>4</sub> emission factors for electricity use were

obtained from the USEPA (USEPA, 2014). GHG emissions were estimated in CalEEMod for CO<sub>2</sub>, N<sub>2</sub>O, and CH<sub>4</sub>, and total CO<sub>2</sub>e associated with project power demand.

See **Appendix C** for all emission factors and assumptions used to estimate GHG emissions that would be associated with operations of the proposed project.

## Impact Analysis

**Impact 3.7-1: The proposed project would generate GHG emissions, either directly or indirectly, that would not have a significant impact on the environment. This impact would be Class III, less than significant.**

### Construction

The emissions of GHGs associated with construction of the proposed project were calculated for each year of construction activity using CalEEMod. Construction of the proposed project would generate GHG emissions associated with the use of heavy-duty off-road construction equipment and automobile and truck trips required to transport workers, materials, and debris to and from the project sites. Results of the GHG emission calculations are presented in **Table 3.7-5, Estimated Construction GHG Emissions**. It should be noted the GHG emissions shown in **Table 3.7-5** are based on construction equipment operating continuously throughout the work day. In reality, construction equipment tends to operate periodically or cyclically throughout the work day. Therefore, the GHG emissions shown reflect a conservative estimate.

**TABLE 3.7-5  
ESTIMATED CONSTRUCTION GHG EMISSIONS**

Year	GHG Emissions MT CO <sub>2</sub> e
2019	1,074.1
2020	2,003.5
2021	1,727.2
<b>Total</b>	<b>4,804.9</b>
<b>Amortized Emissions (25 years)</b>	<b>192.2</b>

SOURCE: Appendix C.

Although GHGs are generated during construction and are accordingly considered 1-time emissions, it is important to include them when assessing all of the long-term GHG emissions associated with a project. Therefore, as recommended by the SLOAPCD, the proposed project's total construction emissions are amortized over the project's 25-year lifetime in order to include these emissions as part of a project's annualized lifetime total emissions, so GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies. In accordance with that methodology, the estimated proposed project's construction GHG emissions have been amortized over a 25-year period and are included in the annualized operational GHG emissions.

## Operation

GHG emissions associated with operation of the proposed project were calculated to disclose operational emissions from the proposed project and were estimated using CalEEMod. Maximum annual GHG emissions resulting from backup generator, motor vehicles (*i.e.*, worker commute trips and delivery/haul truck trips), and energy (*i.e.*, electricity, natural gas) were calculated for the expected opening year (2021). **Table 3.7-6** below shows the project's operational emissions from both direct and indirect sources. The sum of those emissions and the amortized annual construction emissions is compared to the SLOAPCD's 10,000 MT CO<sub>2</sub>e per year threshold applicable to the proposed project.

**TABLE 3.7-6  
PROPOSED PROJECT GHG EMISSIONS**

Source	MT CO <sub>2</sub> e (per year)
Backup Generator – Testing and Maintenance <sup>a</sup>	140.9
Worker Commute Trips	29.0
Delivery & Haul Truck Trips	58.2
Electricity Generation (Indirect)	437.5
Construction Emissions (Amortized)	192.2
<b>Total</b>	<b>857.8</b>
SLOAPCD Significance Threshold	10,000
<b>Significant?</b>	<b>No</b>

<sup>a</sup> Assumes operation of the backup generators for a maximum of 100 hours per year for testing and maintenance per SLOAPCD Rule 431.

SOURCE: Appendix C

Indirect emissions from the generation of electricity that would be required to operate the proposed project was based on the proposed project's projected total operational demand of approximately 9,000 kWh/day. Existing energy use of 3,000 kWh/day was deducted from that and the GHG emissions associated with electricity generation presented in the table above represent the net increase in emissions over existing conditions. As shown, total proposed project emissions would be well below the SLOAPCD threshold of 10,000 MT CO<sub>2</sub>e per year. Therefore, the proposed project would not generate GHG emissions, either directly or indirectly, that would result in a significant impact on the environment. The proposed project's impact would be less than significant.

## Mitigation Measures

None required.

## Significance Determination

Less than Significant.

**Impact 3.7-2: The proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. This impact would be Class III, less than significant.**

### ***State Plans***

In support of HSC Division 25.5, the State has promulgated specific laws aimed at GHG reductions applicable to the proposed project. The primary focus of many of the statewide and regional mandates, plans, policies and regulations is to address worldwide climate change. Due to the complex physical, chemical, and atmospheric mechanisms involved in global climate change, there is no basis for concluding that the proposed project's annual GHG emissions would cause a measurable change in global GHG emissions necessary to influence global climate change. The GHG emissions of the proposed project alone would not likely cause a direct physical change in the environment. According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective" (CAPCOA, 2008). It is global GHG emissions in their aggregate that contribute to climate change, not any single source of GHG emissions alone.

**Table 3.7-7, *Consistency with Applicable Greenhouse Gas Reduction Strategies***, contains a list of GHG-reducing strategies as they relate to the proposed project. The analysis describes the consistency of the proposed project with these strategies that support the State's strategies in the Climate Change Scoping Plan to reduce GHG emissions. The Climate Change Scoping Plan relies on a broad array of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, incentives, voluntary actions, and market-based mechanisms such as the Cap-and-Trade program. As shown below, the proposed project would incorporate characteristics to reduce energy, conserve water, reduce waste generation, and reduce vehicle travel consistent with statewide strategies and regulations. As a result, the proposed project would not conflict with applicable Climate Change Scoping Plan strategies and regulations to reduce GHG emissions.

**TABLE 3.7-7  
CONSISTENCY WITH APPLICABLE GREENHOUSE GAS REDUCTION STRATEGIES**

Sector / Source	Category / Description	Consistency Analysis
<b>1. Energy</b>		
California Renewables Portfolio Standard	Increases the proportion of electricity from renewable sources to 33 percent renewable power by 2020.	<b>Consistent.</b> The Project would use electricity provided by PG&E, which is committed to achieving 33 percent renewables by 2020. They currently deliver 32.8 percent of their energy from renewable resources.
California Renewables Portfolio Standard and SB 350	Increases the proportion of electricity from renewable sources to 33 percent renewable power by 2020. SB 350 requires 50 percent by 2030. It also requires the State Energy Resources Conservation and Development Commission to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.	<b>Consistent.</b> The Project would use electricity provided by PG&E, which is committed to meet the 2030 performance standard. They currently deliver 32.8 percent of their energy from renewable resources.
CCR, Title 24	Energy Efficiency Standards for Residential and Nonresidential Buildings	<b>Consistent.</b> The Project would meet or exceed the applicable requirements of the CalGreen Code.
Assembly Bill 1109	The Lighting Efficiency And Toxics Reduction Act (AB1109) prohibits manufacturing specified general purpose lights that contain levels of hazardous substances prohibited by the European Union. AB 1109 also requires a reduction in average statewide electrical energy consumption by not less than 50 percent from the 2007 levels for indoor residential lighting and not less than 25 percent from the 2007 levels for indoor commercial and outdoor lighting by 2018	<b>Consistent.</b> As discussed above, the Project would meet or exceed the applicable requirements of the State of California Green Building Standards Code.
California Green Building Standards Code Requirements	All bathroom exhaust fans shall be ENERGY STAR compliant.	<b>Consistent.</b> The Project would utilize energy efficiency appliances and equipment and would meet or exceed the energy standards in ASHRAE 90.1-2010, Appendix G and the Title 24 Building Energy Efficiency Standards.
	HVAC Systems will be designed to meet ASHRAE standards.	<b>Consistent.</b> The Project would utilize energy efficiency appliances and equipment and would meet or exceed the energy standards in ASHRAE 90.1-2010, Appendix G and the Title 24 Building Energy Efficiency Standards.
	Energy commissioning shall be performed for buildings larger than 10,000 square feet.	<b>Consistent.</b> The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Air filtration systems are required to meet a minimum of MERV 8 or higher.	<b>Consistent.</b> The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Refrigerants used in newly installed HVAC systems shall not contain any CFCs.	<b>Consistent.</b> The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Parking spaces shall be designed for carpool or alternative fueled vehicles. Up to eight percent of total parking spaces will be designed for such vehicles.	<b>Consistent.</b> The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Long-term and short-term bike parking shall be provided for up to five percent of vehicle trips.	<b>Consistent.</b> The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Stormwater Pollution Prevention Plan (SWPPP) required.	<b>Consistent.</b> The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.

Sector / Source	Category / Description	Consistency Analysis
	Indoor water usage must be reduced by 20% compared to current California Building Code Standards for maximum flow.	<b>Consistent.</b> The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	All irrigation controllers must be installed with weather sensing or soil moisture sensors.	<b>Consistent.</b> The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Wastewater usage shall be reduced by 20 percent compared to current California Building Standards.	<b>Consistent.</b> The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Requires a minimum of 50 percent recycle or reuse of nonhazardous construction and demolition debris.	<b>Consistent.</b> The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Requires documentation of types of waste recycled, diverted or reused.	<b>Consistent.</b> The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Requires use of low VOC coatings consistent with AQMD Rule 1168.	<b>Consistent.</b> The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	100 percent of vegetation, rocks, soils from land clearing shall be recycled or stockpiled on-site.	<b>Consistent.</b> The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
<b>2. Mobile Sources</b>		
AB 1493 (Pavley Regulations)	Reduces GHG emissions in new passenger vehicles from model year 2012 through 2016 (Phase I) and model years 2017–2025 (Phase II). Also reduces gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020.	<b>Consistent.</b> The Project would be consistent with this regulation and would not conflict with implementation of the vehicle emissions standards.
Low Carbon Fuel Standard (Executive Order S-01-07)	Establishes protocols for measuring life-cycle carbon intensity of transportation fuels and helps to establish use of alternative fuels.	<b>Consistent.</b> The Project would be consistent with this regulation and would not conflict with implementation of the transportation fuel standards.
Advanced Clean Cars Program	In 2012, CARB adopted the Advanced Clean Cars (ACC) program to reduce criteria pollutants and GHG emissions for model year vehicles 2015 through 2025. ACC includes the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.	<b>Consistent.</b> The standards would apply to all vehicles used by employees associated with the Project.
SB 375	SB 375 establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. Under SB 375, CARB is required, in consultation with the state's Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035.	<b>Consistent.</b> The Project would be consistent with SLOCOG RTP/SCS goals and objectives under SB 375 to implement "smart growth." The Project would provide employment opportunities in close proximity to off-site residential where people can live and work and have access to convenient modes of transportation that provides options for reducing reliance on automobiles and minimizing associated air pollutant emissions. The Project would meet the applicable requirements of CALGreen Building Code.

Sector / Source	Category / Description	Consistency Analysis
<b>3. Water</b>		
CCR, Title 24	Title 24 includes water efficiency requirements for new residential and non-residential uses.	<b>Consistent.</b> See discussion under California Green Building Standards Code Requirements above.
Senate Bill X7-7	The Water Conservation Act of 2009 sets an overall goal of reducing per capita urban water use by 20 percent by December 31, 2020. Each urban retail water supplier shall develop water use targets to meet this goal.	<b>Consistent.</b> See discussion under California Green Building Standards Code Requirements above.
<b>4. Solid Waste</b>		
California Integrated Waste Management Act (IWMA) of 1989 and Assembly Bill (AB) 341	The IWMA mandated that state agencies develop and implement an integrated waste management plan which outlines the steps to be taken to divert at least 50 percent of their solid waste from disposal facilities. AB 341 directs CalRecycle to develop and adopt regulations for mandatory commercial recycling and sets a statewide goal for 75 percent disposal reduction by the year 2020.	<b>Consistent.</b> The Project would be served by a solid waste collection and recycling service that may include mixed waste processing, and that yields waste diversion results comparable to source separation and consistent with Citywide recycling targets.
<b>5. Other Sources</b>		
Climate Action Team	<p>Reduce diesel-fueled commercial motor vehicle idling.</p> <p>Achieve California's 50 percent waste diversion mandate (Integrated Waste Management Act of 1989) to reduce GHG emissions associated with virgin material extraction.</p> <p>Plant five million trees in urban areas by 2020 to effect climate change emission reductions.</p> <p>Implement efficient water management practices and incentives, as saving water saves energy and GHG emissions.</p> <p>Reduce GHG emissions from electricity by reducing energy demand. The California Energy Commission updates appliance energy efficiency standards that apply to electrical devices or equipment sold in California. Recent policies have established specific goals for updating the standards; new standards are currently in development.</p> <p>Apply strategies that integrate transportation and land-use decisions, including but not limited to promoting jobs/housing proximity, high-density residential/commercial development along transit corridors, and implementing intelligent transportation systems.</p> <p>Reduce energy use in private buildings.</p>	<p><b>Consistent.</b> The Project would be consistent with the CARB Air Toxics Control Measure to limit heavy duty diesel motor vehicle idling to no more than 5 minutes at any given time.</p> <p><b>Consistent.</b> The Project would meet this requirement as part of its compliance with the City's waste diversion requirements and the CALGreen Code. The Project would be served by a solid waste collection and recycling service that may include mixed waste processing, and that yields waste diversion results comparable to source separation and consistent with Countywide recycling targets.</p> <p><b>Consistent.</b> The Project would provide appropriate landscaping on the Project Site including vegetation and trees.</p> <p><b>Consistent.</b> The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.</p> <p><b>Consistent.</b> The Project would utilize energy efficiency appliances and equipment and would meet or exceed the energy standards in ASHRAE 90.1-2010 Appendix G, the Title 24 Building Energy Efficiency Standards, and the CALGreen Code.</p> <p><b>Consistent.</b> The Project would incorporate options to reduce vehicle trips and VMT and encourage alternative modes of transportation for employees.</p> <p><b>Consistent.</b> The Project would utilize energy efficiency appliances and equipment and would meet or exceed the energy standards in ASHRAE 90.1-2010 Appendix G, the Title 24 Building Energy Efficiency Standards, and the CALGreen Code..</p>

SOURCE: ESA, 2018.

Furthermore, in addition to the proposed project's consistency with applicable GHG reduction strategies, the proposed project would not conflict with the future anticipated statewide GHG reductions goals. CARB has outlined a number of potential strategies for achieving the 2030 reduction target of 40 percent below 1990 levels. These potential strategies include renewable resources for half of the State's electricity by 2030, increasing the fuel economy of vehicles and the number of zero-emission or hybrid vehicles, reducing the rate of growth in VMT, supporting high speed rail and other alternative transportation options, and use of high efficiency appliances, water heaters, and HVAC systems. The proposed project would benefit from statewide and utility-provider efforts towards increasing the portion of electricity provided from renewable resources. It would also benefit from statewide efforts towards increasing the fuel economy standards of vehicles. The proposed project would use energy-efficient appliances and equipment. While CARB is in the process of developing a framework for the 2030 reduction target in the Scoping Plan, the proposed project would support or not impede implementation of these potential reduction strategies to be identified by CARB. As discussed above, the proposed project would not exceed the SLOAPCD significance threshold of 10,000 MT CO<sub>2</sub>e per year and would therefore not conflict with State mandated GHG reduction strategies and impacts would be less than significant.

### **Local Plans**

Some of the proposed project's components, such as the lift station and injection wells, will be located within the City and subject to the City's Climate Action Plan. The preferred WRF site is located in an unincorporated area of the County and subject to the policies and measures in the County's EnergyWise Plan.

As discussed earlier, the City adopted a Climate Action Plan in 2014 which serves as a qualified GHG Reduction Strategy consistent with *State CEQA Guidelines*. The GHG reducing policy provisions contained in the Climate Action Plan were prepared with the purpose of complying with the requirements of AB 32 and achieving the goals of the AB 32 Scoping Plan. Therefore, the Climate Action Plan is consistent with statewide efforts established in ARB's Climate Change Scoping Plan to reduce statewide GHG emissions to 1990 levels by 2020. The Climate Action Plan identifies the City's wastewater facilities and employee commute as the largest generators of GHG emissions from City government operations. The government vehicle fleet and electricity and natural gas used at City buildings was also identified as an important source of GHG emissions. The Climate Action Plan outlines the following GHG reduction areas: 1) City Government Operations, 2) Energy, 3) Transportation and Land Use, 4) Off-Road, 5) Solid Waste, 6) Tree Planting, and 7) Adaption. The proposed project would be consistent with the City's Climate Action Plan if it includes provisions to further the emissions reduction goals in the Plan or not interfere with the attainment of the emission reduction goals in the Plan.

The Project's consistency with the City's Climate Action Plan goals, actions, and strategies is described below:

**C-1:** City Government Energy Efficiency Retrofits and Upgrades. The proposed project would be consistent with this goal. The newer facility will be more energy efficient than the older facility which will help reduce government energy usage. The proposed project would meet or exceed the applicable requirements of the CalGreen Code.



**C-2: City Government Energy Efficient Public Realm Lighting.** The proposed project would be consistent with this goal. The newer facility will utilize higher efficiency lamp technologies that are not utilized in the older facility. The proposed project would meet or exceed the applicable requirements of the CalGreen Code.

**C-4: Zero- and Low- Emission City Fleet Vehicles.** The proposed project would be consistent with this goal. It would not interfere with the City's ability to replace City vehicles with low- or zero- emission vehicles by 2020. Emissions would be less than those identified above for the project if the City were to use low- or zero-emission vehicles to serve the project site. The proposed project would not conflict with the Advanced Clean Car standards.

**C-5: City Government Tree Planting Program.** The proposed project would be consistent with this goal. Landscaping at the preferred WRF site would utilize appropriate vegetation and trees.

**E-5. Small-Scale On-Sight Solar PV Incentive Program.** The proposed project would include a solar farm at the preferred WRF site, which would help meet the goal to include renewable energy systems in facilities. Therefore, the proposed project would be consistent with this measure.

**O-1. Construction Vehicles and Equipment:** The proposed project would be consistent with this measure through compliance that three percent of construction vehicles or equipment utilized at the project site would be powered by electricity or alternative fuels. The proposed project would also limit heavy-duty vehicle and equipment idling times to a period of three minutes or less, exceeding CARB's standard of a five-minute limit. The proposed project would be served by a solid waste collection and recycling service that may include mixed waste processing, and that yields waste diversion results comparable to source separation and consistent with Citywide recycling targets.

**S-1. Solid Waste Diversion.** The proposed project would be consistent with this goal. The proposed project will divert 75 percent of its solid waste in efforts to meet the City's goals.

**A-3. Water Management.** The proposed project would be consistent with this measure. The proposed project would address wastewater management issues by replacing the current wastewater treatment facility. The proposed project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.

**A-4. Infrastructure.** The proposed project is consistent with this measure as it assesses the potential impact of climate change (*i.e.* flooding) on the upgrade to the wastewater infrastructure system (proposed project). Additionally, threats for proposed project climate change impacts on the local wastewater facility are analyzed in this section. The proposed project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.

The County has adopted an EnergyWise Plan (EWP). The EWP 2016 Update serves as a qualified GHG Reduction Strategy consistent with *State CEQA Guidelines*. The GHG reducing policy provisions contained in the EWP were prepared with the purpose of complying with the requirements of AB 32 and achieving the goals of the AB 32 Scoping Plan. Therefore, the EWP is consistent with statewide efforts established in ARB's Climate Change Scoping Plan to reduce statewide GHG emissions to 1990 levels by 2020. The EWP outlines the following GHG reduction areas: 1) Government Operations and 2) Community-Wide. The proposed project

would be consistent with the EWP if it includes provisions to further the emissions reduction goals or not interfere with the attainment of the emission reduction goals in the EWP.

The proposed project's consistency with the County's EWP goals, actions, and strategies is described below:

**G1.** Reduce energy use in existing County facilities by 20% by 2020. The proposed project is consistent with this measure. The newer facility will be more energy efficient than the older facility which will help reduce government energy usage. The proposed project would meet or exceed the applicable requirements of the CalGreen Code.

**G2.** Increase the use of renewable energy sources in County facilities to account for 10% of total energy used. The proposed project would include a solar farm at the WRF site which would help meet the goal to include renewable energy systems in government facilities. Therefore, the proposed project would be consistent with this measure.

**G3.** Reduce the amount of waste generated at County facilities and increase the County's waste diversion rate to 80% by 2020. The proposed project would be consistent with this goal. The proposed project will divert 80 percent of its solid waste in efforts to meet the County's goals.

**G4.** Reduce water use in County facilities by 20% by 2020. The proposed project would be consistent with this measure. The proposed project would meet this requirement as part of its compliance with the County's requirements and the CALGreen Code.

**G5.** Reduce emissions from the County's vehicle fleet by using alternative fuels and decreasing vehicle miles traveled. The proposed project would be consistent with this goal. It would not interfere with the County's ability to replace County vehicles with low- or zero-emission vehicles by 2020. Emissions would be less than those identified above for the project if the County were to use low- or zero-emission vehicles to serve the project site. The proposed project would not conflict with the Advanced Clean Car standards.

**G6.** Provide additional opportunities for employees to utilize alternative transportation options and reduce commute lengths. The proposed project would not interfere with the ability of employees to utilize alternative modes of transportation.

**C3.** Reduce methane emissions from disposed waste by achieving as close to zero waste as possible through increased diversion rates, methane capture and recovery, and other strategies. The proposed project would be consistent with this goal. The proposed project will divert 80 percent of its solid waste in efforts to meet the County's goals, which will reduce amount of trash going to landfills and thus the amount of methane gas produced.

**C4.** Reduce emission from potable water use by 20% from per capita baseline levels by 2020 by prioritizing water conservation before development of new water resources. The proposed project would be consistent with this measure. The proposed project would meet this requirement as part of its compliance with the County's requirements and the CALGreen Code.

**C5.** Reduce transportation emissions through improvements in vehicle fuel efficiency, expansion of non-auto modes of travel, and implementation of smart growth land use policies. The proposed project will not interfere with the efforts of the County to provide education and information on alternative fuel vehicles.

As discussed above, both plans contain measures and policies that promote energy conservation, encourage renewable energy sources at government facilities, reduce waste generated, and reduce emissions from commute and maintenance vehicles by using cleaner alternative fuels. The proposed project would be consistent with these measures. Therefore, the proposed project would not conflict with GHG reduction goals set forth in the City of Morro Bay CAP or the County's EWP and impacts would be less than significant.

The proposed project would meet the mandatory measures of the CALGreen Code as amended by the City by incorporating strategies such as low-flow toilets, low-flow faucets, low-flow showers, and other energy and resource conservation measures. The heating, ventilation, and air conditioning (HVAC) system would be sized and designed in compliance with the CALGreen Code to maximize energy efficiency caused by heat loss and heat gain. Therefore, the proposed project would be consistent with the City's Building Code and impacts would be less than significant.

In summary, the GHG emissions analysis provided above and the proposed project's consistency with applicable regulatory plans and policies to reduce GHG emissions demonstrates the proposed project would substantially comply with or exceed the GHG reduction actions and strategies outlined in CARB's Climate Change Scoping Plan, the County's EnergyWise Plan, the City's Climate Action Plan, and CALGreen Building Code. The Project's consistency with these applicable regulatory plans and policies to reduce GHG emissions would minimize the proposed project's GHG emissions and GHG impacts would be less than significant.

### **Mitigation Measures**

None required.

### **Significance Determination**

Less than Significant

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**Impact 3.7-3: The proposed project would not lead to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation, which would conflict with applicable energy efficiency policies or standards. This impact would be Class III, less than significant.**

As discussed above, the proposed project would consume energy during construction and operational activities. Sources of energy for these activities would include electricity usage, natural gas consumption, and transportation fuels such as diesel and gasoline.

### **Construction**

During the proposed project construction, energy would be consumed in the form of limited electricity associated with the conveyance of water used for dust control and, on a limited basis, powering lights, electronic equipment, or other construction activities necessitating electrical power. As discussed below, construction activities, including the construction of new buildings and facilities, typically do not involve the consumption of natural gas. Proposed project

construction would also consume energy in the form of petroleum-based fuels associated with the use of off-road construction vehicles and equipment on the proposed and preferred project sites, construction worker travel to and from those sites, and delivery and haul truck trips (e.g., hauling of demolition material to off-site reuse and disposal facilities).

### **Electricity**

During construction of the proposed project, electricity would be consumed to supply and convey water for dust control and, on a limited basis, may be used to power lighting, electronic equipment, and other construction activities necessitating electrical power. It is unknown at this time how much electricity would be required for proposed project construction. However, the electricity demand at any given time would vary throughout the construction period based on the construction activities being performed and would cease upon completion of construction. If electric equipment is utilized, when not in use, it would be powered off so as to avoid unnecessary energy consumption. Electricity would not be used wastefully during construction, nor would it be used excessively. A less than significant impact would result from electricity usage during construction.

### **Natural Gas**

Construction activities typically do not involve the consumption of natural gas. Accordingly, natural gas would not be supplied to support proposed project construction activities; thus, there would generally be no routine demand for natural gas generated by construction. No impact would occur resulting from natural gas usage during construction.

### **Transportation Energy**

The petroleum-based fuel use summary provided above in **Table 3.7-8, Summary of Transportation Energy Use During Proposed Project Construction**, represents the amount of transportation energy that could potentially be consumed during proposed project construction. As shown, on- and off-road vehicles would consume an estimated 27,322 gallons of gasoline and approximately 4,293,020 gallons of diesel fuel throughout the proposed project's construction. Proposed project construction would last for up to approximately three years; therefore, the annual average fuel consumption would be approximately 9,107 gallons of gasoline and approximately 1,431,007 gallons of diesel fuel per year of construction. For comparison purposes, the annual average fuel usage during proposed project construction would represent approximately 0.006 percent of the 2016 annual on-road gasoline-related energy consumption and 6.2 percent of the 2016 annual diesel fuel-related energy consumption in the County. The majority of the diesel use during construction is from the large number of vendor and haul trips, which were all estimated to be 30 miles one way and represent a worst-case scenario. Vendor and haul trips are likely to be less than those estimated in number and trip length, which would reduce the amount of diesel fuel consumed. Therefore, these numbers do not represent an excessive, nor wasteful, or inefficient consumption of energy during proposed project construction. Additionally, proposed project construction would not conflict with any applicable energy efficiency policies or standards. Impacts would be considered less than significant.

**TABLE 3.7-8  
SUMMARY OF TRANSPORTATION ENERGY USE DURING PROPOSED PROJECT CONSTRUCTION**

Energy Type	Total Quantity	Annual Average Quantity During Construction
<b>Gasoline</b>		
On-Road Construction Equipment	27,322 gallons	9,107 gallons
Off-Road Construction Equipment	0 gallons	0 gallons
<b>Total Gasoline</b>	<b>27,322 gallons</b>	<b>9,107 gallons</b>
<b>Diesel</b>		
On-Road Construction Equipment	4,095,970 gallons	1,365,323 gallons
Off-Road Construction Equipment	197,050 gallons	65,683 gallons
<b>Total Diesel</b>	<b>4,293,020 gallons</b>	<b>1,431,007 gallons</b>

SOURCE: ESA, 2018.

## Operation

During operation of the proposed project, energy would be consumed for multiple electronics, equipment, and machinery for water reclamation. Energy would also be consumed during proposed project operations related to water usage, solid waste disposal, haul and vendor truck trips, and vehicle trips. As shown in **Table 3.7-9, Summary of Annual Energy Use During Project Operation**, the Project's net new electricity demand would be approximately 6.050 kWh of electricity per day or 2,129,600 kWh per year, 2,352 gallons of gasoline per year, and 30,159 gallons of diesel fuel per year.

## Electricity

As shown in Table 3.7-9, the total projected energy use for the proposed project would be approximately 9,000 kWh/day, or a net increase of 6,000 kWh/day over existing electrical usage. Although the proposed project would triple the energy demand when compared to current energy use at the existing WWTP, this long-term demand would not be considered wasteful as the proposed project would help the City meet a requirement to produce tertiary disinfected wastewater in accordance with the 22 CCR requirements. The proposed project includes advanced treatment processes, which are generally energy intensive, but would produce and beneficially reuse advanced treated recycled water to meet or exceed all wastewater treatment requirements of the State Water Resources Control Board and augment the City's water supply. In addition, consistent with the policies and measures in the City's Climate Action Plan and the County's EWP, an 800 kW solar farm would be installed at the WRF which would offset some of the proposed project's energy usage. Assuming 5 hours of full sunlight per day for electricity generation, the solar farm would generate approximately 1.2 to 1.3 MWh annually, which would meet approximately 35 to 40 percent of the proposed project's energy needs from the grid.

**TABLE 3.7-9  
SUMMARY OF ANNUAL ENERGY USE DURING PROPOSED PROJECT OPERATION <sup>a</sup>**

Energy Type	Quantity
<b>Electricity <sup>b</sup></b>	
Proposed Project	
Water Reclamation Facility	8,000 kWh/day
Lift Station	600 KWh/day
Injection Wells	450 kWh/day
Total Project Electricity	9,050 kWh/day
Existing WTF Electricity Usage	3,000 kWh/day
<b>Total Net Electricity</b>	<b>6,050 kWh/day</b>
<b>Transportation</b>	
Proposed Project	
Gasoline – worker trips	2,352 gallons/year
Diesel – haul and vendor truck trips	10,629 gallons/year
Diesel – 2 emergency generators	19,530 gallons/year
<b>Total Transportation – Gasoline</b>	<b>2,352 gallons/year</b>
<b>Total Transportation – Diesel</b>	<b>30,159 gallons/year</b>

kWh = kilowatt-hours

cf = cubic feet

<sup>a</sup> Detailed calculations are provided in Appendix C of this Technical Report.

SOURCE: ESA, 2018.

As the proposed project is consistent with the City’s CAP and the County’s EnergyWise Plan, operational energy demands of the proposed project would not be considered excessive or wasteful. Moreover, operation of the proposed project would not lead to wasteful, inefficient, or unnecessary consumption of energy, or the wasteful use of energy resources. Impacts to electricity use during proposed project operations would be less than significant.

### **Natural Gas**

The proposed project would use very little natural gas. Any natural gas used would be in compliance with 2016 Title 24 standards and applicable 2016 CALGreen requirements. Impacts to natural gas would be less than significant.

### **Transportation Energy**

During operation, proposed project-related traffic would result in the consumption of petroleum-based fuels related to vehicular travel to and from the preferred and proposed project sites. Vendor and haul trucks would deliver chemicals and maintenance supplies and remove biosolids and screening and grit. Additionally, workers would commute to and from the sites. Diesel and gasoline usage from those trips are presented in Table 3.8-8. Diesel and gasoline usage during proposed project operation would not be excessive and would accommodate required worker and vendor/haul truck trips

The proposed project also includes two diesel powered standby power generators – one 1,750 kW generator at the proposed WRF and a second 1,000 kW generator at the proposed lift station, to provide an alternate source of electrical power in the event of a power failure. While the standby power generators are intended to be used only during emergencies, they will need to be operated routinely for testing and maintenance purposes. Standby power generators would be subject to SLOAPCD's Rules and regulations, which limit testing and maintenance of the engines to a maximum of 100 hours each per year. Conservatively assuming 100 hours per year of non-emergency use at 100 percent load, diesel usage for the two proposed generators would be 19,530 gallons per year. Operation of the generators would not result in excessive or wasteful use of diesel fuel. The standby generators are essential for the operational reliability of the facilities and would undergo regular testing and maintenance consistent with the standards of National Fire Protection Association (NFPA) 110, which specify installation, maintenance, operation, and testing requirements as they pertain to the performance of the emergency or standby power supply systems. As the proposed generator use would be consistent with SLOAPCD requirements and the NFPA standards.

For comparison purposes, the annual average fuel usage during proposed project operation would represent approximately 0.002 percent of the 2016 annual on-road gasoline-related energy consumption and 0.131 percent of the 2016 annual diesel fuel-related energy consumption in San Luis Obispo County. That slight increase in transportation fuel use under the proposed project would not be considered excessive or wasteful. This impact would be less than significant.

### **Summary of Energy Requirements and Energy Use Efficiencies**

Appendix F of the *CEQA Guidelines* recommends quantification of the proposed project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the proposed project's life cycle including construction, operation, maintenance, or removal. If appropriate, then the energy intensiveness of materials may be discussed. The proposed project's energy requirements were calculated based on current usage and predicted project usage based on project scale. Proposed project VMT data were calculated based on CAPCOA guidelines. The calculations also took into account energy efficiency measures such as Title 24, CalGreen and, vehicle fuel economy standards. **Table 3.7-8** and **Table 3.7-9** provide a summary of proposed project construction and operational energy usage, respectively. During proposed project construction activities, a total of 4,320, 342 gallons of transportation fuel (gasoline and diesel). During proposed project operations, a total of 2,129,600 kWh per year of electricity, and 32,511 gallons of transportation fuel would be consumed on an annual basis.

Energy consumption during project construction and operations would be relatively negligible and not excessive or wasteful. The proposed projects energy requirements are within PG&E's existing and planned electricity capacity and supplies would be sufficient to support the project's demand. Transportation fuels (gasoline and diesel) are produced from crude oil which is imported from various regions around the world. Based on current proven reserves, crude oil production would be sufficient to meet over 50 years of consumption (BP, 2017). The proposed project would also comply with CAFE fuel economy standards, which would result in more efficient use of transportation fuels (lower consumption). Proposed project-related vehicle trips would also comply with Pavley and Low Carbon Fuel Standards, which are designed to reduce

vehicle GHG emissions but would also result in fuel savings in addition to CAFÉ standards. Therefore, proposed project construction and operation activities would have a negligible effect on the transportation fuel supply. As the proposed project would not lead to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during proposed project construction or operation, or conflict with applicable energy efficiency policies or standards impacts would be less than significant.

### **Mitigation Measures**

None required.

### **Significance Determination**

Less than Significant

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## 3.8 Hazards and Hazardous Materials

This section addresses the potential impacts of the proposed project related to hazards and hazardous materials. The section includes a description of the environmental setting to establish baseline conditions for hazards and hazardous materials, including proximity of project components to sensitive receptors such as schools; a summary of the regulations related to hazards and hazardous materials; and an evaluation of the proposed project's potential effects due to hazards and hazardous materials.

### 3.8.1 Environmental Setting

#### Hazardous Materials at the Existing WWTP

The City of Morro Bay (City) conducted surveys for asbestos-containing materials (ACM) and lead-based paint (LBP) in preparation for the proposed demolition of the existing WWTP (WCSC, 2010a; 2010b). Based on the investigation of the WWTP for asbestos and sampling of suspect materials, 4 out of the 34 samples were identified as ACM. The ACM consisted of floor tile located in the administrative building, tar located around the roof penetrations and patches on all of the buildings and in the transite panels located in the fume hood in the administrative building (WCSC, 2010a). The ACM was found to be in good condition and is recommended to be removed by an asbestos abatement contractor licensed by the State prior to demolition, renovation, or any activity which could disrupt the ACM. Additionally, based on the survey and testing of paint samples for LBP, two painted surfaces were identified that exceeded the U.S. Environmental Protection Agency (EPA) and the California Department of Public Health (CDPH) threshold of 5,000 parts per million (ppm) lead (WCSC, 2010b). The LBP was detected on the blue painted metal door in the Administrative Building and the yellow painted hoist located outside the Upper Headworks Building. Although the majority of the painted surfaces were below the EPA and CDPH thresholds, 15 out of the 34 samples still showed some level of lead, which when disturbed trigger compliance with EPA and California Occupational Safety and Health Administration (Cal OSHA) regulations.

#### Naturally Occurring Asbestos

According to the San Luis Obispo Air Pollution Control District's (SLOAPCD) Naturally Occurring Asbestos (NOA) Zones map, the majority of the City of Morro Bay is located in an area that is known to contain NOAs (SLOAPCD, 2018). The proposed project would result in grading activities and, therefore, naturally occurring asbestos may be encountered. Under the State Air Resources Board Air Toxics Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prior to any construction or grading activities, the City must comply with all applicable requirements outlined in the Asbestos ATCM, which include preparation of an Asbestos Dust Mitigation Plan and/or an Asbestos Health and Safety Program.

## Hazardous Materials Sites

A database search of hazardous materials sites located in or within approximately 0.25-mile of the proposed project components, including the pipeline alignments and indirect potable reuse (IPR) well areas, was performed using the State Water Resources Control Board's (SWRCB) database, Geotracker, and the Department of Toxic Substances Control's (DTSC) database, Envirostor. The databases show the location of "open" cases, which are sites that are undergoing or still require further action, and "closed" cases, which indicates site closure has been completed. Site closure is achieved when remaining contamination meets a risk or cleanup threshold determined not to pose a threat to human health or the environment (USEPA, 2017). The results of the database search are included in Appendix F of this Draft EIR.

Based on the results of the database searches, within 0.25 miles of the proposed project components, there are 13 Leaking Underground Storage Tank (LUST) sites designated as completed; one DTSC inspection site at the Morro Bay Power Plant; and one completed cleanup program site (SWRCB, 2017; DTSC, 2017a). There are currently no open active cases within 0.25-mile of the proposed project components.

## Airports

The City does not have a local airport or private airstrip within its boundaries and, as such, is not included in an airport land use compatibility plan. The closest airport to the City is the San Luis County (County) Regional Airport, located approximately 14.5 miles to the southeast. The closest private airport to the City is the Oak Country Ranch Airport, located approximately 12.5 miles to the north.

## Wildfires

All of California is subject to some degree of fire hazard, but specific features make some areas more hazardous. The California Department of Forestry and Fire Protection (CAL FIRE) establishes fire hazard severity zones throughout the state that are determined, based on factors that influence fire likelihood and fire behavior. Many factors are considered including fire history, existing and potential fuel (Natural vegetation), flame length, blowing embers, terrain, and typical weather (CAL FIRE, 2007).

Wildland fire protection in California is the responsibility of either the State, or the local government. State responsibility area (SRA) is a legal term defining the area where the State has financial responsibility for wildland fire protection. Local responsibility areas (LRAs) include incorporated cities, cultivated agriculture lands, and portions of the desert. LRA fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to local government (CAL FIRE, 2007). As shown on Very High Fire Hazard Severity Zones Map for the County of San Luis Obispo, the entire proposed project area encompasses both an LRA and a SRA, both of which do not include very high fire hazard severity zones (CAL FIRE, 2009). Furthermore, the County's Local Hazard Mitigation Plan states that the City does not contain the type of vegetation that present a fire risk, and combined with the cool coastal temperatures and lack of connectivity with other fire hazard areas, the risk of wildfires is relatively low (County of San Luis Obispo, 2014).

## **Nuclear Energy Emergencies from the Diablo Canyon Nuclear Power Plant**

The Diablo Canyon Nuclear Power Plant is the only active electricity-generating nuclear power plant in the State, located near Avila Beach in the County. The City is located approximately 10 miles north of the Diablo Canyon Nuclear Power Plant within Protective Zone (PAZ) 9 (County of San Luis Obispo, 2014). According to the County/Cities' Nuclear Power Plant Emergency Response Plan, PAZ 9 is designated as a "balance of state emergency planning zones – State primary oversight" zone, where the City is located outside of the federal 10-mile radius oversight area for plume exposure. While the City is located outside of the plume exposure zones, it is still within the 50-mile radius limit for the ingestion pathway emergency planning zones, where appropriate protocols have been established in the event of a nuclear emergency at the Diablo Canyon Nuclear Power Plant (County of San Luis Obispo, 2014).

## **Hazards and Hazardous Materials Sensitive Receptors – Schools and Day Care Centers**

The City includes six schools within its boundaries; two of those schools are located in or within 0.25-mile of the proposed project area. The closest school to the Morro Bay Cayucos Wastewater Treatment Plant (WWTP), the two potential locations for the lift station, and the two potential locations for the IPR wells sites is Morro Bay High School, located at 235 Atascadero Road. Morro Bay High School is located approximately 0.1-mile to the north of the existing WWTP, proposed lift station potential locations, and proposed IPR West wellfield, and is approximately 0.5-mile west of the proposed IPR East wellfield. The closest school to the middle portion of the proposed raw wastewater and brine/wet weather discharge pipeline is Family Partnership Charter School, located at 1130 Napa Avenue, approximately 0.2-mile to the west of the proposed western pipeline alignment.

There are five daycare centers within the City; one daycare is located within a 0.25-mile of the proposed project components, including the pipeline alignments and IPR wellfield areas. The Morro Bay United Methodist Center is located at 1130 Napa Ave Street, approximately 0.2-miles to the west of the middle portion of the of the proposed raw wastewater and brine/wet weather discharge pipeline.

### **3.8.2 Regulatory Framework**

#### **Federal**

##### ***Resource Conservation and Recovery Act***

The Resource Conservation and Recovery Act (RCRA) (42 U.S.C §6901-6987) was enacted in 1976 and gave the U.S Environmental Protection Agency (USEPA) the authority to control hazardous waste from "cradle-to grave," which includes the generation, transportation, treatment, storage and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled USEPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. The Federal Hazardous and Solid Waste Amendments (HSWA) were added to RCRA in 1984 and focused on waste minimization and phasing out land disposal of

hazardous waste as well as corrective action for releases. Some of the other mandates of this law include increased USEPA enforcement authority, more stringent hazardous waste management standards, and a comprehensive underground storage tank program.

### ***Comprehensive Environmental Response, Compensation, and Liability Act and Superfund Amendments and Reauthorization Act of 1986***

The Comprehensive Environmental Response, Compensation, and Liability Act, also known as CERCLA, created the federal Superfund program that provides for the response and cleanup of hazardous substances that may endanger public health or the environment. The Superfund Amendments and Reauthorization Act (SARA; 42 USC section 9601 *et seq.*) amended CERCLA in 1986 to increase state involvement and required Superfund actions to consider state environmental laws and regulations. SARA also established a regulatory program for the Emergency Planning and Community Right-to-Know Act. The applicable part of SARA for the proposed project is Title III, otherwise known as the Emergency Planning and Community Right-To-Know Act of 1986. Title III requires states to establish a process for developing local chemical emergency preparedness programs and to receive and disseminate information on hazardous substances present at facilities in local communities. The law provides primarily for planning, reporting, and notification concerning hazardous substances. Key provisions require notification when extremely hazardous substances are present above their threshold planning quantities, immediate notification to the local emergency planning committee and the state emergency response commission when a hazardous material is released in excess of its reportable quantity, and that material safety data sheets for all hazardous materials or a list of all hazardous materials be submitted to the state and local emergency planning agencies and local fire department. Contractors during construction activities and the project applicant during operations would be required to prepare Hazardous Materials Business Plans, as required under the state Hazardous Materials Release Response Plans and Inventory Act, described below, which would make the proposed action consistent with CERCLA as amended by SARA.

### ***Toxic Substance Control Act***

The Toxic Substances Control Act of 1976 (TSCA; 15 U.S.C §2605) provides the USEPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. TSCA addresses the production, importation, use, and disposal of specific chemicals, including polychlorinated biphenyls (PCBs). Under TSCA, the USEPA has the ability to track the 83,000 industrial chemicals currently produced or imported in the United States and can ban the manufacture and import of those chemicals that pose an unreasonable risk. The Frank R. Lautenberg Chemical Safety for the 21<sup>st</sup> Century Act was signed into law on June 22, 2016, which amended the TSCA, which includes mandatory requirements for USEPA to evaluate existing chemicals with clear and enforceable deadlines and increased public transparency for chemical information.



### ***Hazardous Materials Transportation Act and Hazardous Materials Transportation Uniform Safety Act***

The Hazardous Materials Transportation Act of 1975 (HMTA; 49 U.S.C §5101-5127) allowed the Secretary of Transportation to designate as hazardous material any “particular quantity or form” of a material that “may pose an unreasonable risk to health and safety or property.” The HMTA is enforced by compliance orders, civil penalties and injunctive relief.

The Hazardous Materials Transportation Uniform Safety Act was passed in 1990 and amended the HMTA to clarify conflicting federal state and local regulations. The Act required the Secretary of Transportation to promulgate regulations for the safe transport of hazardous material in intrastate, interstate and foreign commerce. The Secretary also retains authority to designate materials as hazardous when they pose unreasonable risks to health, safety or property.

### ***Occupational Safety and Health Administration Worker Safety Requirements***

The federal Occupational Safety and Health Administration (OSHA) is the federal agency responsible for ensuring worker safety. The federal regulations for worker safety are contained in Title 29 of the Code of Federal Regulations (CFR), as authorized in the Occupational Safety and Health Act of 1970. These regulations provide standards for safe workplaces and work practices, including those relating to hazardous materials handling. Specifically, 29 CFR section 1910.120 is titled “Hazardous waste operations and emergency response” and covers clean-up operations involving hazardous substances, operations involving hazardous substances, and emergency response operations for releases or substantial threats of releases of hazardous substances. Subpart H of OSHA Occupational Safety and Health Standards covers procedures relating to working with various hazardous materials including compressed gases flammable liquids. This subpart also describes protection and protective gear pertaining to hazardous waste operations and emergency response.

### ***Code of Federal Regulations – Title 40, Part 503***

Title 40 of the Code of Federal Regulations Part 503 (40 CFR Part 503) established Standards for the Use or Disposal of Sewage Sludge. Known as the Part 503 Rule, or Part 503, these regulations govern the use and disposal of sewage sludge, also referred to as biosolids. As required by the Clean Water Act Amendments of 1987, the EPA was required to develop Part 503 to protect public health and the environment from any reasonably anticipated adverse effects of certain pollutants that might be present in biosolids. Biosolids are defined by the EPA as a “primarily organic solid product produced by wastewater treatment processes than can be beneficially recycled”. Biosolids can be beneficially reused as fertilizer for crops (land application) or disposed either in a surface landfill or biosolids incinerator. Part 503 classifies biosolids by pathogen concentration levels as Class A, Class B, or sub-Class B biosolids.

- Class A Biosolids are biosolids in which the pathogens are reduced below current detectable levels. Biosolids that are to be given away or used by the general public must meet Class A biosolids criteria.
- Class B Biosolids are biosolids in which the pathogens and vectors are reduced to levels that are unlikely to pose a threat to public health and the environment under specific use

conditions. Class B biosolids cannot be sold or given away in bags or other containers or applied to lawns or home gardens.

- Sub-Class B biosolids do not meet adequate pathogen reduction requirements.

Biosolids are considered non-hazardous as long as listed substances are not present in amounts deemed hazardous in Title 22 of the California Code of Regulations (CCR), Chapter 11, Article 5, which defines hazardous waste. Biosolids to be produced by the proposed project would be considered non-hazardous.

## **Asbestos Hazard Emergency Response Act**

The Asbestos Hazard Emergency Response Act, known as AHERA, as enacted by Congress, requires the EPA to establish regulations requiring local educational agencies to inspect school buildings for asbestos-containing building materials, prepare asbestos management plans, and perform asbestos response actions to prevent or reduce asbestos hazards. In addition, the AHERA also requires the EPA to conduct a study to determine the extent of danger to human health posed by asbestos in public and commercial buildings and the means to respond to any such danger.

## **National Emission Standards for Hazardous Air Pollutants 40 CFR 61 Subpart M**

Title 40 of the Code of Federal Regulations Part 61, Subpart M (40 CFR Part 61, Subpart M), National Emission Standards for Hazardous Air Pollutants, established standards for the demolition and/or renovation of structures containing asbestos building materials as well as for the disposal of ACM. If utility pipelines would be removed or relocated, or buildings would be removed or renovated, the Project may be subject to the requirements stipulated in NESHA. These requirements include but are not limited to: 1) Notification requirements to the SLOAPCD; 2) asbestos survey conducted by a Certified Asbestos Inspector; and 3) applicable removal and disposal requirements of ACMs.

## **State**

### ***Unified Hazardous Waste and Hazardous Materials Management Regulatory Program***

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Health and Safety Code section 25404 *et seq.*) consolidates and coordinates the activities of six separate hazardous materials programs under one agency, a Certified Unified Program Agency (CUPA). The intent has been to simplify the hazardous materials regulatory environment and provide a single point of contact for businesses to address inspection, permitting, billing, and enforcement issues. The following elements are consolidated under the Unified Program:

- Hazardous Waste Generator and On-site Hazardous Waste Treatment Programs (a.k.a. Tiered Permitting)
- Aboveground Petroleum Storage Tanks
- Hazardous Materials Release Response Plans and Inventory Program (a.k.a. Hazardous Materials Disclosure or “Community-Right-To-Know”)

- California Accidental Release Prevention Program
- Underground Storage Tanks (UST) Program
- Uniform Fire Code Plans and Inventory Requirements

The San Luis Obispo County Department of Environmental Health Hazardous Materials Program is designated as the CUPA for San Luis Obispo County, including the City of Morro Bay, where the proposed project is located.

### ***Department of Toxic Substance Control***

Under the California Hazardous Waste Control Act, California Health and Safety Code (Division 20, Chapter 6.5, section 25100, *et seq.*), the Cal/EPA, DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste in California. Under RCRA, individual states may implement their own hazardous waste programs in lieu of RCRA, as long as the EPA has determined the state program is at least as stringent as Federal RCRA requirements. California's hazardous waste program has been federally approved. Thus, in California, DTSC enforces hazardous waste regulatory requirements. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

DTSC is also the administering agency for the California Hazardous Substance Account Act, California Health and Safety Code, Division 20, Chapter 6.8, Sections 25300 *et seq.*, also known as the State Superfund law, providing for the investigation and remediation of hazardous substances pursuant to State law. DTSC maintains a Hazardous Waste and Substances Site List for site cleanup, which is included on the Cortese List. Government Code Section 65962.5 requires the CalEPA to update the Cortese List at least annually. DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List.

### ***California Accidental Release Prevention Program***

California has developed an emergency response plan to coordinate emergency services provided by Federal, State, and local government and private agencies. Responding to hazardous materials incidents is one part of this plan. The plan is administered by the State Emergency Management Agency (EMA), which coordinates the responses of other agencies, including the California Environmental Protection Agency, California Highway Patrol, the Department of Fish and Game, the Regional Water Quality Control Board, and the local fire department. The City's Bay Fire Department provides first response capabilities, if needed, for hazardous materials emergencies within the proposed project area.

EMA is also the State administering agency for the California Accidental Release Prevention Program (CalARP) and California's Hazardous Materials Release, Response and Inventory Law (California's Business Plan Law). State and Federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and in the event that such materials are accidentally released, to prevent or to mitigate injury to human health or the environment. These laws require hazardous materials users to prepare written plans, such as Hazard Communication Plans and Hazardous Materials Management Plans. Laws and regulations require hazardous materials users to store these materials appropriately and to train employees to manage them safely. Primary responsibility for enforcement of these laws has generally been delegated to local agencies.

### ***California Health and Safety Code – Hazardous Materials Business Plans***

California Health and Safety Code section 25501 requires an owner or operator of a facility to complete and submit a Hazardous Material Business Plan (HMBP) if the facility handles a hazardous material or mixture containing a hazardous material that has a quantity at any one time during the reporting year equal to or greater than 55 gallons of liquids, 500 pounds of solids, or 200 cubic feet for a compressed gas. The intent of HMBPs is to provide basic information necessary for use by first responders in order to prevent or mitigate damage to the public health and safety and to the environment from a release or threatened release of a hazardous material, as well as satisfy federal and State Community Right-To-Know laws. A HMBP is a document containing detailed information on the inventory of hazardous materials at a facility; Emergency Response Plans (ERP) and procedures in the event of a reportable release or threatened release of a hazardous material; a Site Safety Plan with provisions for training for all new employees and annual training, including refresher courses, for all employees in safety procedures in the event of a release or threatened release of a hazardous material; a site map that contains north orientation, loading areas, internal roads, adjacent streets, storm and sewer drains, access and exit points, emergency shutoffs, evacuation staging areas, hazardous material handling and storage areas, and emergency response equipment.

### ***California Code of Regulations –Hazardous Waste Regulations***

Title 22, Division 4.5 of the CCR contains regulations pertaining to hazardous wastes. Pertinent chapters are described below.

- **Chapter 11** identifies a hazardous waste as a waste that exhibits the characteristics that may: (A) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed.
- **Chapter 12** includes standards applicable to hazardous waste generators, including pre-transport requirements, recordkeeping and reporting, and importing/exporting of hazardous wastes.
- **Chapter 13** includes regulatory requirements for the transport of hazardous wastes. Chapter 13 requires hazardous waste transporters to be registered with DTSC. To obtain registration status, transporters must complete and submit a Hazardous Waste Hauler Application Form and proof of ability to provide adequate response in damages for DTSC review. Registered

hazardous waste transporters are subject to random inspection by the Department of California Highway Patrol. Registered transporters must also report any changes in their operations to DTSC. Transporters must also receive an identification number from DTSC. This chapter also requires immediate action is taken to protect human health and the environment in the event of a hazardous waste discharge.

- **Chapter 31** covers pollution prevention and hazardous waste source reduction and management review. This requires hazardous waste generators to conduct a source reduction and evaluation review and plan for hazardous waste, as well as a hazardous waste management performance report. This plan and report format is designed to prevent hazardous waste generation and to report hazardous waste generation amounts, respectively.

Title 8, Division 1, Chapter 4, of the CCR contains regulations pertaining to hazardous building materials, including ACM (Sections 1529 and 5208) and LBP (1532.1).

- **Section 1529, Asbestos:** At least 10 working days prior to the issuance of the demolition permit or commencement of any asbestos stripping or removal work, such as site preparation that would break up, dislodge or similarly disturb ACM, the entity performing such work is required to provide written or electronic notification, an asbestos report for the site, and applicable fees to the designated Air Pollution Control District (SLOAPCD is the designated APCD for the project area). The asbestos report shall be prepared by an asbestos consultant licensed with the California State Licensing Board and certified by the Cal OSHA to conduct an asbestos inspection in compliance with the Asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP) requirements. The Asbestos NESHAP, as specified under Rule 40 CFR 61, Subpart M, (enforced locally by the SLOAPCD), under authority, per Regulation XI, Subpart M - Rule 361.145), requires the Asbestos Demolition or Renovation Operational Plan to include the facility information, project description, presence of asbestos, removal and demolition contractors, means of waste transportation offsite, contingency plan, and certified specialist who will be present onsite during removal of asbestos. Removal of all ACM or presumed ACM on the WWTP site shall be monitored by the certified asbestos consultant and shall be performed in accordance with all applicable laws, including 8 CCR section 1529, Asbestos, and OSHA and Cal OSHA standards. Notification of at least 10 days of any removal or demolition work and payment of the appropriate fee(s) is required by SLOAPCD.
- **Section 1532.1, Lead Based Paint:** Prior to the issuance of a grading permit or demolition permit, the entity performing the work is required to show proof that a Certified Lead Inspector/Assessor, as defined in 17 CCR section 35005, and in accordance with all applicable laws pertaining to the handling and disposal of lead-based paint, has been retained to perform demolition and removal of all existing on-site structures identified to contain lead-based materials. Lead-based materials exposure is regulated by Cal OSHA. Title 8 CCR section 1532.1 requires testing, monitoring, containment, and disposal of lead-based materials so that exposure levels do not exceed Cal OSHA standards.

### ***California Code of Regulations – Hazard Communication***

Title 8, Subchapter 7, Group 16, Article 109, Section 5194 of the CCR contains regulations pertaining to hazards communication. According to this Section, employers must develop, implement, and maintain at the workplace a written hazard communication program for their employees. The program should include a list of the hazardous chemicals known to be present using a product identifier that is referenced on the appropriate safety data sheet (the list may be compiled for the workplace as a whole or for individual work areas). The program must also

include the methods the employer will use to inform employees of the hazards of non-routine tasks, and the hazards associated with chemicals contained in unlabeled pipes in their work areas.

### ***California Code of Regulations – Fire Protection and Prevention***

Title 8, Division 1, Chapter 4, Subchapter 4, Article 36 of the CCR contains regulations pertaining to Fire Protection and Prevention during construction. Some of the pertinent sections are described below:

- **Section 1921: Water Supply.** A temporary or permanent water supply required to properly operate firefighting equipment shall be made available as soon as combustible materials accumulate.
- **Section 1933: Fire Control.** Suitable fire control devices such as a small hose or portable fire extinguisher shall be available at locations where flammable or combustible liquids are stored.
- **Section 1965: Use of Flammable Liquids.** Flammable liquids shall be kept in closed containers when not actually in use and leakage or spillage of flammable or combustible liquids shall be disposed of promptly and safely. These liquids shall not be used near open flames or sources of ignition within 50 feet.
- **Section 1936: Service and Refueling Areas.** Flammable liquids shall be stored in approved closed containers or tanks. Smoking or open flames shall not be permitted in areas used for fueling, servicing fuel systems for internal combustion engines, receiving or dispensing flammable liquids. Conspicuous and legible signs prohibiting smoking shall be posted within site of the person being served. The motors of all equipment being fueled shall be shut off during the fueling operation except for emergency generators, pumps, etc., where continuing operation is essential.
- **Section 1938: Construction Site, General.** Internal combustion engine powered equipment shall be located so that exhausts are well away from combustible materials.

### ***California Division of Occupational Safety and Health (Cal/OSHA)***

The Division of Occupational Safety and Health (Cal/OSHA; California Labor Code, section 6300 *et seq.*) protects and improves the health and safety of working men and women in California and the safety of passengers riding on elevators, amusement rides, and tramways – through the setting and enforcing standards; providing outreach, education, and assistance; and issuing permits, licenses, certifications, registrations, and approvals. Cal/OSHA has requirements specific to fire protection and prevention during construction. Employers must establish an effective fire prevention program and ensuring it is followed through all phases of construction work. Firefighting equipment must be freely accessible at all times, placed in a conspicuous location, and well-maintained. As soon as combustible materials accumulate, a water supply adequate to operate firefighting equipment must be made available.

## **Local**

### ***County Local Hazardous Materials Emergency Response Plan***

The County's Office of Emergency Services (OES) serves the residents of the County before, during, and after times of emergency by promoting effective coordination between agencies and encourages preparedness of the public and organizations involved in emergency response. The OES prepares a variety of emergency-related documents, such as disaster recovery information, evacuation assistance lists, and storm preparedness, as well as emergency response plans for specific natural disasters, such as tsunamis, dam and levee failure, and earthquakes. The OES has prepared the Hazardous Materials Emergency Response Plan specifically to establish the County's response organization, command authority, responsibilities, functions and interactions required to mitigate hazardous material incidents in order to protect life and property, and the environment during such an incident. This plan may also serve as the emergency response section of the County's Hazardous Materials Area Plan.

### ***County/Cities' Nuclear Power Plant Emergency Response Plan***

The County/Cities' Nuclear Power Plant Emergency Response Plan outlines the authorities, concepts, and operating procedures for responding to potential radiological emergency situations in San Luis Obispo County that may occur at the Diablo Canyon Nuclear Power Plant. The Plan's objectives are to facilitate the command and control of offsite radiological emergency operations and to enhance the County's preparedness in initiating protective actions for the general public in the event of radiation releases at the Diablo Canyon Nuclear Power Plant.

### ***City Multi-Hazard Emergency Response Plan***

The City, in coordination with the County OES, has prepared the Multi-Hazard Emergency Response Plan to establish the City's policies and concepts for responding to any and all emergencies which could affect the health, safety, and property of the public within the city. In regards to hazardous materials, the Multi-Emergency Response Plan states that the potential for a hazardous materials emergency exists primarily through transportation accidents of surface vehicles, where the probability of an incident occurring is low. The City's Fire Department is the designated primary agency responsible for the management of a hazardous materials emergency.

### ***City Local Hazard Mitigation Plan***

The City prepared and adopted the Local Hazard Mitigation Plan in 2006 to satisfy the federal requirements set forth by the Disaster Mitigation Act of 2000, which allows the City to be eligible for certain federal and state mitigation funds. The Local Hazard Mitigation Plan identifies natural and human-caused hazards that impact the city, assesses the vulnerability and risk posed by those hazards to community-wide human and structural assets, develops strategies for mitigation of those identified hazards, and presents future maintenance procedures for the plan. Specific to hazardous materials, the plan determines hazardous materials incidents as having a low probability of occurring in the city but a high severity of impacts if such an incident was to occur.

### 3.8.3 Impacts and Mitigation Measures

#### Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to hazards and hazardous materials in the project area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to hazards and hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of, or through foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would create a significant hazard to the public or the environment.
- Be located within an area covered by an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, and would result in a safety hazard for people residing or working in the project area.
- Be located within the vicinity of a private airstrip and would result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

#### Methodology

The evaluation of hazardous conditions and materials associated with construction and/or operation of the project is based on the site-specific hazardous building materials surveys, database searches conducted for the proposed project area, as well as a comparison of the proposed project's consistency with applicable regulations, programs, and plans related to hazardous materials. Compliance with applicable federal, state, and local health and safety laws and regulations by the project is assumed in this analysis, and local and state agencies would be expected to continue to enforce applicable requirements to the extent that they do so now.



## Impact Analysis

### ***Routine Use of Hazardous Materials***

**Impact 3.8-1: Construction and operation of the proposed project would include the routine transport, use, and disposal of hazardous materials. However, the proposed project would be required to comply with all applicable federal, state, and local regulations regarding the use and disposal of hazardous materials and wastes which would reduce the potential for impacts to human health, public safety, and the environment. This impact would be Class III, Less than Significant.**

### ***Construction***

#### **WRF, Conveyance Pipelines, Lift Station, Injection and Monitoring Wells**

Construction of the components of the proposed project (the WRF, the collection system consisting of a lift station and conveyance pipelines, and the distribution system comprised of injection and monitoring wells and the proposed recycled water pipeline) would involve drilling, trenching, excavation, grading, and other ground-disturbing activities. Those construction activities would require small amounts of routinely-used hazardous materials including but not limited to petroleum products (i.e. oil, gasoline, and diesel fuels), automotive fluids (i.e. antifreeze and hydraulic fluids), and other chemicals (i.e. adhesives, solvents, paints, thinners, and other chemicals). If incorrectly transported, handled, or disposed of, then those substances could pose a potential health risk to construction workers and to the general public. However, construction activities for the proposed project would be required to comply with all applicable federal, state, and local laws and regulations that pertain to avoiding and, if necessary, mitigating the accidental release of hazardous materials, including 8 CCR section 5194 that requires a hazards communication program identifying hazardous materials onsite and reducing the potential for a spill, and 29 CFR section 1910.120 that includes requirements for emergency response to releases or substantial threats of releases of hazardous substances. Construction contractors would be required to prepare and implement a HMBP to manage any hazardous materials they use. Further, all spent hazardous materials would be disposed of in accordance with DTSC and County regulations. Adherence to federal, state, and local regulations regarding the use and disposal of hazardous materials and wastes would reduce the potential for impacts to human health, public safety, and the environment to less than significant during construction of the proposed project.

In addition to the transport, usage, and disposal of hazardous materials during construction, the proposed project is also located within an area known to contain NOAs, which could be released into the air during ground disturbing activities. If the proper construction protocols are not implemented, the release of NOAs into the air could create a health hazard for construction workers as well as residents located nearby. However, prior to earthwork activities, a site-specific Health and Safety Plan would be developed per Cal/OSHA requirements. The Health and Safety Plan would include appropriate best management practices (BMPs) related to the treatment, handling, and disposal of NOAs. An NOA Construction and Grading Project Form would be prepared and submitted to the SLOAPCD prior to grading activities. All construction employees that have the potential to come into contact with contaminated building materials and soil/bedrock would be briefed on the safety plan, including required proper training and use of

personal protective equipment. During earthwork and demolition activities, procedures would be established to eliminate or minimize construction worker or general public exposure to heavy hydrocarbons and other potential contaminants in soil and groundwater. Procedures shall include efforts to control fugitive dust, appropriate laboratory analysis of soil for waste characterization, and segregation of contaminated soil from uncontaminated soil. The applicable regulations associated with excavation, removal, transportation, and disposal of contaminated soil would also be required to be followed (e.g., tarping of trucks and waste manifesting). Implementation of the Health and Safety Plan would ensure that impacts related to NOAs would be minimized during construction and impacts would be less than significant.

### **Decommissioning of Current WWTP**

The decommissioning of the existing WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure, such as the piping located four to five feet below grade. During the decommissioning of the existing WWTP, the existing onsite Household Hazardous Waste Facility would be relocated to another location; however, the relocation of this facility is not included as part of the proposed project and would undergo a separate environmental review process. As discussed in the Environmental Setting, the Asbestos Building Inspection and the Lead Building Inspection for the WWTP identified the presence of ACM and LBP within various materials at the WWTP facility, which could pose a risk to human health and the environment if removed and disposed of incorrectly. Compliance with 8 CCR sections 1529 and 1532.1 would require the retention of certified asbestos and lead contractors during demolition of the WWTP to implement the proper protocols for both ACM and LBP. Specifically, removal of all ACM or presumed ACM on the WWTP site shall be monitored by the certified asbestos consultant and shall be performed in accordance with all applicable laws, including 8 CCR section 1529, Asbestos, and OSHA and Cal OSHA standards. Notification of at least 10 days before any removal or demolition work and payment of the appropriate fee(s) is required by SLOAPCD. Additionally, prior to demolition activities, a site-specific Health and Safety Plan would be developed per Cal/OSHA requirements that would include appropriate BMPs related to the treatment, handling, and disposal of ACMs. During demolition activities, procedures would be followed to eliminate or minimize construction worker or general public exposure to potential ACMs within potential demolished materials. Potential BMPs could include, but are not limited to, containing and covering excavation debris piles and segregation of contaminated demolished materials from clean demolished materials to ensure proper disposal.

Adherence to the regulations would minimize the potential risk for ACM and LBPs to impact the general public and the environment to the fullest extent feasible. In addition, demolition and removal of all materials and debris would be performed in accordance with all applicable federal, state, and local regulations, plans, and programs to ensure the safety of the general public and to minimize impacts to the environment. All non-hazardous demolition material and debris would be hauled to and disposed at a nearby Class 3 landfill, such as Cold Canyon Landfill. All hazardous demolition materials and waste would be transported to a Class 1 or Class 2 landfill, such as Kettleman Hills Landfill. As such, with compliance with the applicable regulations, impacts would be less than significant level.

## **Operation**

### **WRF**

Operation of the WRF would be designed to provide tertiary treatment to wastewater generated within the City and produce recycled water in compliance with 22 CCR recycled water requirements for unrestricted use. The facility design includes primary treatment; biological treatment via sequence batch reactor (SBR) or membrane bioreactor (MBR); tertiary treatment; advanced water treatment including membrane filtration (if needed), reverse osmosis, ultraviolet (UV) radiation disinfection; and solids dewatering with off-site solids disposal or on-site reuse. These various treatment processes would involve a range of chemical additives depending on the technology. In addition, the WRF would include a clean in place (CIP) chemical storage facility for containment and handling of hazardous materials associated with the treatment process, including reverse osmosis membrane cleaning chemicals, disinfection chemicals, and other treatment-related chemicals. Chemicals such as sodium hypochlorite, citric acid, sodium bisulfite, and sulfuric acid would be stored in the CIP. In addition, the WRF would generate biosolids as a byproduct of treating wastewater; however, the biosolids produced by the WRF would not be considered to be hazardous materials as defined by 40 CFR Part 503. A third-party biosolids management firm would be contracted to haul the WRF biosolids offsite for compositing and land application, such as for the purpose of conditioning soil or fertilizing crops. Compositing and land application of the biosolids would not pose a risk to human health or the environment.

While the proposed treatment processes are not chemical intensive, regular deliveries of various chemicals would be required. As such, new chemicals would need to be routinely transported, used, and or disposed from the WRF facilities. If not done properly, transport of chemicals could result in spills. In accordance with Title 22 Division 4.5 Chapter 13 of the CCR, all hazardous waste transporters that would serve the proposed project during operation would be required to be registered with DTSC and provide proof of the ability to provide adequate response to leaks and damages for DTSC review. Additionally, the registered hazardous waste transporters would be required to implement all standard industry practices for securing and transporting of hazardous materials as well as for cleanup of any accidental spills or leaks. Once the hazardous materials have arrived onsite, all bulk chemical storage on the preferred WRF site would be located in chemical containment areas fitted to contain spills. If a spill incident were to occur, all spills would be conveyed to blind sumps for manual pumping and disposal by truck. Furthermore, the use of such hazardous materials would be required to comply with existing regulatory standards with respect to the storage and handling of hazardous materials including preparation of and compliance with a Hazardous Materials Business Plan (HMBP) as managed and overseen by the San Luis Obispo County Department of Environmental Health Services. These requirements include such safety measures as ensuring the use of appropriate storage vessels, secondary containment features, safety labeling, readily available spill absorbent materials, and training of site workers to respond to any accidental release. Adherence to these requirements and programs would ensure that impacts to the environment and public health due to routine transport, use, and disposal of hazardous materials during operation of the WRF would be less than significant.

### **Collection System – Lift Station and Conveyance Pipelines**

Once construction of the collection system is complete, operation of the conveyance pipelines would occur underground and would not include the use of hazardous materials. Operation of the lift station would include odor control measures, such as the addition of calcium ammonium nitrate, use of an onsite odor scrubbing system and installation of sealed hatches to reduce the release of odors may also be applied. Routine maintenance of the lift station would include deliveries of additional calcium ammonium nitrate and other similar chemicals, which if incorrectly transported, handled or disposed of could pose a potential health risk to employees and to the general public. However, compliance to all applicable federal, state, and local regulations and requirements, including those established by Cal OSHA, DTSC, and the County, during transport, handling, and disposal of these hazardous materials would minimize potential impacts to employees, the general public, and the environment. Thus, impacts associated with operation of the collection system would be less than significant.

### **Distribution System – Indirect Potable Reuse East or West and Recycled Water Pipeline**

Once constructed, the distribution system would convey recycled water from the advanced water treatment facility at the WRF via a new recycled water conveyance pipeline to injection and monitoring wells located either east of Highway 1 and south of Highway 41, near the Narrows (IPR East) or west of the Highway 1 and south of Highway 41 near the bike path adjacent to Lila Keiser Park (IPR West), as shown on Figures 2-9a and 2-9b. As an end use, the stored groundwater would be extracted, treated, and conveyed using existing City wells, water treatment plant, and conveyance facilities. Operation of the distribution system would not require the use of hazardous materials and thus would not have the potential for impacts to human health, public safety, and the environment. Since the end use of the stored groundwater would be treated at the City's existing water treatment plant, the treatment process of the stored groundwater would not require substantial new quantities of chemicals in addition to those already being utilized at the existing facility. Furthermore, compliance with all applicable hazardous materials regulations and programs would be required in order to ensure that all potential risks to human health, public safety, and the environment are minimized to the fullest extent possible. Therefore, impacts associated with the operation of the distribution system would be less than significant.

### **Decommissioning of Current WWTP**

Upon completion of demolition work and upgrades to facilities which are to remain, the WWTP site would be graded to fit the basic drainage pattern of the surrounding facility and would be surfaced with a thin layer of gravel. The WWTP site would remain vacant and undeveloped until the City's approves a new use of the site; however, at this time there is no substantial evidence that the City has any planned uses for the site in the foreseeable future. No hazardous materials would be stored or used on the site and thus there would be no potential for an accidental release of hazardous materials. Impacts would be less than significant.

### **Mitigation Measures**

None required.

## Significance Determination

Less than Significant.

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### *Proximity to Schools*

**Impact 3.8-2: Although portions of the proposed project are located adjacent to Morro Bay High School, adherence to the applicable hazardous materials regulations would reduce potential impacts regarding hazardous materials emissions within 0.25 mile of a school. This impact would be Class III, Less than Significant.**

### **WRF**

The closest school to the preferred WRF site is Family Partnership Charter School, at 1130 Napa Avenue, and the nearest daycare center is Morro Bay United Methodist Center, also at 1130 Napa Avenue, both of which are located approximately 1.6 miles to the northwest of the preferred site. Because of the distance from the closest school and daycare, construction and operation activities the preferred WRF site would not have the potential to release hazardous emissions or handle hazardous materials which could affect a nearby school or daycare. Impacts would be less than significant.

### **Collection System (Lift Station and Conveyance Pipelines) and Distribution System (Indirect Potable Reuse East or West and Recycled Water Pipeline)**

The closest school to the two potential locations for the lift station, and the two potential locations for the IPR wells sites is Morro Bay High School, located at 235 Atascadero Road. Morro Bay High School is located approximately 0.1-mile to the north of the two potential locations for the lift station, and west system option for the IPR injection and monitoring wells and is approximately 0.5-mile west of the east system option for the IPR injection and monitoring wells. The closest school to the middle portion of the proposed raw wastewater and brine/wet weather discharge pipeline is Family Partnership Charter School, located at 1130 Napa Avenue, approximately 0.2-mile to the west. Construction activities for the proposed project's collection and distribution systems would use limited quantities of hazardous materials such as gasoline and diesel fuel and would be required to comply with all applicable federal, state and local laws and regulations that pertain to the release of hazardous materials during construction. The proposed project would comply with 8 CCR Section 5194, which requires a hazards communication program identifying hazardous materials onsite and reducing the potential for a spill, and 29 CFR Section 1910.120 that includes requirements for emergency response to releases or substantial threats of releases of hazardous substances. Construction contractors would be required to prepare and implement a HMBP to manage any hazardous materials they use. Further, all spent hazardous materials would be disposed of in accordance with DTSC and County regulations.

In addition to the transport, usage, and disposal of hazardous materials during construction, the proposed project is also located within an area known to contain NOAs, which could be released into the air during ground disturbing activities. If the proper construction protocols are not implemented, release of NOAs into the air could create a health hazard for construction workers as well as residents located nearby. However, prior to earthwork activities, a site-specific Health

and Safety Plan would be developed per Cal/OSHA requirements. The Health and Safety Plan would include BMPs related to the treatment, handling, and disposal of NOAs. A NOA Construction and Grading Project Form would be prepared and submitted to the SLOAPCD prior to grading activities. All construction employees that have the potential to come into contact with contaminated building materials and soil/bedrock would be briefed on the safety plan, including required proper training and use of personal protective equipment. During earthwork and demolition activities, procedures would be established to eliminate or minimize construction worker or general public exposure to heavy hydrocarbons and other potential contaminants in soil and groundwater. Procedures shall include efforts to control fugitive dust, appropriate laboratory analysis of soil for waste characterization, and segregation of contaminated soil from uncontaminated soil. The applicable regulations associated with excavation, removal, transportation, and disposal of contaminated soil would also be required to be followed (e.g., tarping of trucks and waste manifesting). Implementation of the Health and Safety Plan would ensure that impacts related to NOAs would be minimized during. For these reasons, adherence to all hazardous materials regulations would reduce potential impacts regarding hazardous materials emissions within 0.25 mile of a school. Therefore, impacts during construction of the collection and distribution systems would be less than significant.

Once construction is completed, the majority of the collection and distribution system components would operate underground and would not require the use of hazardous materials. Thus, these components would not have the potential to generate hazardous materials emissions within 0.25-mile of a school. The lift station would require minimal amounts of hazardous materials, such as calcium ammonium nitrate, during operation for the odor control measures. However, compliance to all applicable federal, state, and local regulations and requirements would ensure the proper handling and use of these hazardous materials. Adherence to the applicable regulations and requirements would minimize the potential for operation of the lift station to impact the adjacent Morro Bay High School. Impacts would be less than significant.

### **Decommissioning of Current WWTP**

Morro Bay High School is located approximately 0.1-mile to the north of the existing WWTP site. The decommissioning of the existing WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure such as the piping located four to five feet below grade. According to the Asbestos Building Inspection and the Lead Building Inspection for the WWTP, presence of ACM and LBP have been identified within various materials at the WWTP facility, which could emit hazardous materials near the adjacent Morro Bay High School if removed and disposed of incorrectly. However, compliance with 8 CCR sections 1529 and 1532.1 would require the retention of certified asbestos and lead contractors during demolition of the WWTP to implement the proper protocols for both ACM and LBP. Specifically, removal of all ACM or presumed ACM on the WWTP site shall be monitored by the certified asbestos consultant and shall be performed in accordance with all applicable laws, including 8 CCR section 1529, Asbestos, and OSHA and Cal OSHA standards. Notification of at least 10 days of any removal or demolition work and payment of the appropriate fee(s) is required by SLOAPCD.

With adherence to the applicable regulations, the potential risk for asbestos and lead based materials to be emitted near Morro Bay High School would be minimized to the fullest extent feasible. In addition, demolition and removal of materials and debris would be performed in accordance with all applicable federal, state, and local regulations, plans, and programs to ensure the safety of the general public and to minimize impacts to the environment. As such, construction impacts would be less than significant level.

Upon completion of demolition work and upgrades to facilities which are to remain, the WWTP site would be graded to fit the basic drainage pattern of the surrounding facility and would be surfaced with a thin layer of gravel. The WWTP site would remain vacant and undeveloped until the City approves a new use of the site; however, at this time there is no substantial evidence that the City has any planned uses for the site in the foreseeable future. No hazardous materials would be stored or used on the site and thus there would be no potential for the emission of hazardous materials within 0.25-mile of a school. Impacts would be less than significant.

**Mitigation Measure**

None required.

**Significance Determination**

Less than Significant.

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**Cortese List**

**Impact 3.8-3: The proposed project components would not be located on sites that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment. This impact would be Class III, Less than Significant.**

There are 15 LUST cleanup and other hazardous materials sites in or within 0.25-mile the proposed project area. However, the majority of these sites have been remediated or withdrawn from their respective lists, indicating contamination no longer poses a risk to human health or the environment on the site. None of the proposed project components are located on or directly adjacent to a site that is listed as a hazardous material site pursuant to Government Code section 65962.5. Thus, implementation of the proposed project would not create a significant hazard to the public or environment due to being located on a designated hazardous materials site. Impacts would be less than significant.

**Mitigation Measure**

None required.

**Significance Determination**

Less than Significant.

### ***Airport Land Use Plan***

**Impact 3.8-4: The proposed project area is not within the boundaries of an airport land use plan. Construction and operation of the proposed project would not result in a safety hazard at a public airport. There would be no impact.**

The City does not have a local airport within its boundaries and, as such, is not include in an airport land use compatibility plan. The closest airport to the city is the County Regional Airport, located approximately 14.5 miles to the southeast. Therefore, construction and operation of the proposed project would not interfere with operation of an airport and thus would not result in a safety hazard for people residing or working in the project area. No impact would occur.

#### **Mitigation Measure**

None required.

#### **Significance Determination**

No Impact.

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### ***Private Airstrip***

**Impact 3.8-5: The City does not include a private airstrip within its boundaries. Construction and operation of the proposed project would not affect a private airstrip or create a safety hazard. There would be no impact.**

The closest private airport to the City is the Oak Country Ranch Airport, located approximately 12.5 miles to the north. Therefore, construction and operation of the proposed project would not have an effect on a private airstrip and would not result in a safety hazard for people residing or working in the project area. No impact would occur.

#### **Mitigation Measure**

None required.

#### **Significance Determination**

No Impact.

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## **Emergency Response**

**Impact 3.8-6: Construction of proposed project components within public rights-of-way could result in partial or full lane closures and/or blocked access to roadways, which could physically interfere with an emergency response or evacuation plan. However, implementation of a Traffic Control Plan would require construction contractors to notify emergency responders including the City's Fire Department, Police Department and ambulances of planned road closures and roadway blockages. This impact would be Class II, Less than Significant with Mitigation.**

### **WRF**

Access to the preferred WRF site would be provided via South Bay Boulevard off State Highway 1. Currently, there is a residential senior development adjacent to the preferred WRF site that would also use South Bay Boulevard on the east of State Highway 1 during an emergency or evacuation. Construction activities would occur solely within the boundaries of the preferred WRF site and would not result in roadway closures or blocked access. While large trucks hauling construction materials would travel at slower speeds, the presence of these types of trucks would not impair or interfere with an emergency or evacuation response. Operation of the WRF would primarily occur onsite and would generate approximately 4 maintenance vehicle trips a day, which would not impair or interfere with emergency or evacuation routes. Therefore, impacts would be less than significant.

### **Collection System (Lift Station and Conveyance Pipelines) and Distribution System (Indirect Potable Reuse East or West and Recycled Water Pipeline)**

Construction of the lift station would occur either at the Option 1A or Option 5A site and would not have the potential to block roadways or require lane closures. Construction of the collection and distribution systems would occur within public right-of-way (ROW), adjacent to roadways, and on City-owned property. Construction activities within the roadway ROW would require either partial or full lane closures and/or blocked access to roadways, which could physically interfere with an emergency response or evacuation plan. As explained in Section 3.14, *Traffic and Transportation*, **Mitigation Measure TRAF-1** would require construction contractors to notify emergency responders including the City's Fire Departments, Police Department and ambulances of planned road closures and roadway blockages as part of the Traffic Control Plan. With incorporation of Mitigation Measure TRAF-1, impacts related to interfering with emergency response or evacuation plans would be reduced to a less than significant level.

Once constructed, the majority of the collection and distribution system components would be installed belowground and would not interfere with roadways operations. The lift station would require minimal maintenance and would not interfere with normal roadway operations. Therefore, with incorporation of Mitigation Measure TRAF-1, construction and operation of the collection and distribution systems would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan requiring the use of these roadways.

### **Decommissioning of Current WWTP**

Access to the WWTP site would be provided via Atascadero Road off State Highway 1. The WWTP site is located in the curve of Atascadero Road, where there is the Morro Bay RV Park to

the west, trailer storage to the south, and the City Corporation Yard to the east, and Morro Bay High School to the north. While those other uses would also use Atascadero Road in case of emergency or evacuation, the amount of vehicles and trucks that would utilize that roadway would not be substantial. Demolition of the WWTP would occur solely within the boundaries of the WWTP site and would not require roadway closures or blocked access. While large trucks hauling demolition materials would travel at slower speeds, the presences of those types of trucks would not impair or interfere with an emergency or evacuation response. Once decommissioning of the WWTP site is complete, the site would be graded to fit the basic drainage pattern of the surrounding facility and would be surfaced with a thin layer of gravel and would not have the potential to interfere with an emergency or evacuation plan. Therefore, impacts during and after decommissioning the WWTP would be less than significant.

#### **Mitigation Measure**

Implementation of TRAF-1. (See Chapter 3.14, Traffic and Transportation)

#### **Significance Determination**

Less than Significant with Mitigation.

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#### **Wildfire**

**Impact 3.8-7: The proposed project would not be located in a very high fire hazard severity zone and as such, the potential for wildfires is considered low. All project components would be designed to comply with all applicable fire codes and fire protection requirements established by the CCR and the City's building codes, would not be constructed of highly flammable materials, and would contain water thereby reducing flammability. This impact would be Class III, Less than Significant.**

As shown on Very High Fire Hazard Severity Zones Map for the County, the entire proposed project area does not include very high fire hazard severity zones and the potential for wildfire in the city, including the proposed project area, is low. While the City and proposed project area has a low risk for wildfire, all construction activities would still be required to comply with all applicable fire protection and prevention regulations specified by the CCR and Cal/OSHA. That includes various measures such as easy accessibility of firefighting equipment, proper storage of combustible liquids, no smoking in service and refueling areas, and worker training for firefighter extinguisher use. Compliance with all applicable regulations and plans would further minimize the potential for construction activities to cause a wildland fire. Impacts during construction of the proposed project would be less than significant.

Once construction of the proposed project is complete, the collection system's conveyance pipelines and the distribution system's injection and monitoring wells and recycled water conveyance pipeline would operate underground, where they would have no potential to cause a wildland fire. While the majority of the aboveground facilities would be developed close to or within urban, developed areas with relatively low potential to cause wildfires, the WRF would be developed in an area that is currently rangeland that supports cattle grazing. Since the WRF

facility would include the use of hazardous and possibly flammable chemicals, the potential for wildfire could increase with operation of the WRF. However, all aboveground facilities included under the proposed project would be required to comply with all applicable fire codes and fire protection requirements established by the CCR and the City's building codes. In addition, all aboveground structures would not be constructed of highly flammable materials and would contain water within the facilities, thereby reducing flammability. As such, operation of the proposed project would not substantially increase the risk of wildland fires within the project area. Impacts would be less than significant.

**Mitigation Measure**

None required.

**Significance Determination**

Less than Significant

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## 3.9 Hydrology and Water Quality

This section describes local surface water and groundwater resources and discusses regional water quality issues. This section also evaluates the proposed project's potential impacts on water resources in the project area.

### 3.9.1 Environmental Setting

#### Regional Hydrology

The City of Morro Bay (City) lies on the narrow coastal shelf between the Pacific Ocean and the coastal hills. The climate in the City is characterized as coastal with mild to moderate temperatures year-round and little diurnal variation. The average annual rainfall in the region is approximately 16 inches per year and primarily occurs between the months of October and April (WRCC, 2018).

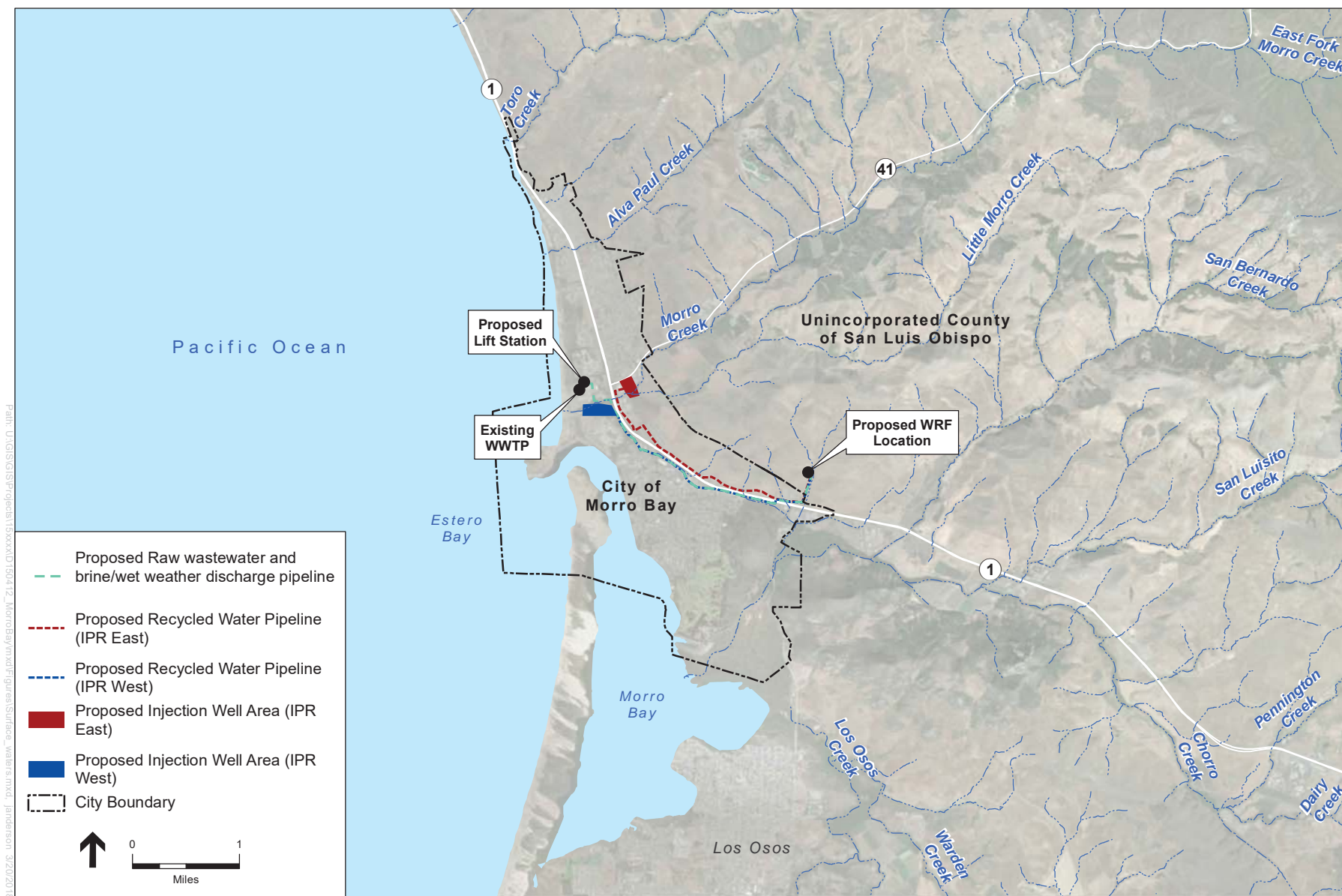
The study area for the project is located within the Central Coastal Watershed (USGS Unit 18060006) (USEPA, 2009) in the Morro Bay Watershed and Cayucos Creek – Whale Rock Area Watershed within the Estero Bay Hydrologic Unit. A watershed is an area of land that drains all the streams and rainfall to a common outlet such as the outflow of a reservoir, mouth of a bay, or any point along a stream channel. The major surface water features in the region are Chorro Creek, Los Osos Creek, Toro Creek, Alva Paul Creek, San Bernardo Creek, Little Morro Creek, and Morro Creek, which all flow to the Pacific Ocean, either directly or via the Morro Bay estuary (**Figure 3.9-1**). Those creeks and their tributaries also serve as receiving waters for the City's storm drain system.

#### Topography and Drainage

The study area for the proposed project includes varied topography with rolling hills and coastal plains. In general, drainage flows westerly towards the ocean. In the vicinity of the proposed WRF location at about 85 feet above mean sea level (amsl), drainage is toward the unnamed drainage which is a tributary to Chorro Creek. The existing WWTP at about 15 feet amsl and proposed lift station options at about 20 feet amsl are located close to where Morro Creek empties into the mouth of Morro Bay and the ocean.

#### Groundwater Hydrology

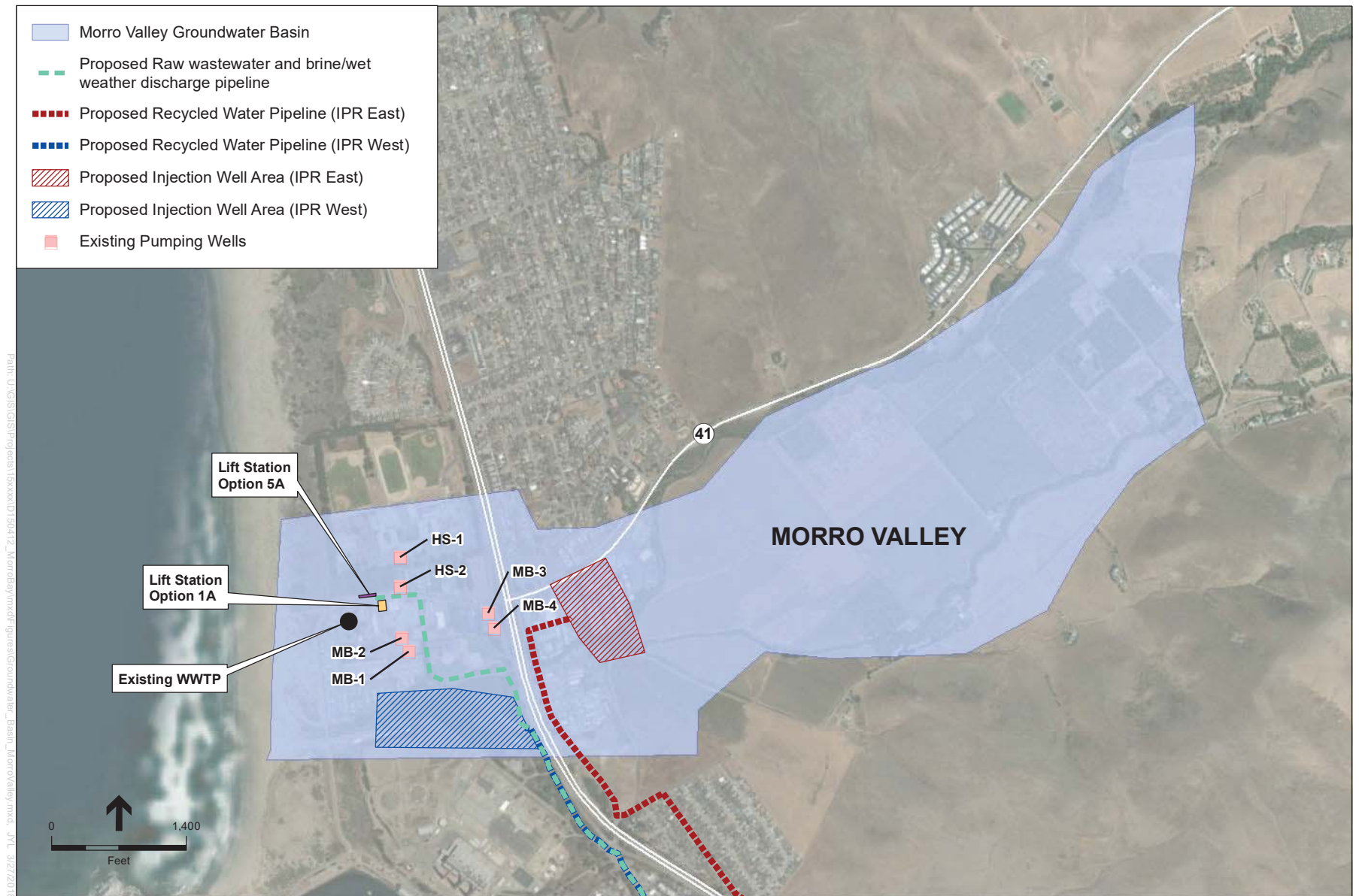
The study area for the proposed project is located within the Morro Valley Groundwater Basin (Basin No. 3-41 in the California Department of Water Resources [DWR] Bulletin 118; DWR, 2004) (**Figure 3.9-2**). The Morro Valley Basin is a shallow alluvial basin that encompasses approximately 1.9 square miles and is bounded on the west by the ocean and otherwise surrounded and underlain by impermeable bedrock of the Franciscan Complex. The basin materials consist of alluvium, dune sand, and terrace deposits that range in thickness from 30 to 40 feet along the northern side of the valley at the base of the mountain slopes to 80 to 85 feet near Morro Creek (Fugro, 2016). The depths to water in six of the City wells (MB-1, MB-3, MB-4, HS-1, HS-2, and Flippos) ranged from about 9 feet to 18 below ground surface (bgs) on November 7, 2017 (GSI, 2017).



SOURCE: ESRI 2015; NHD

Morro Bay Water Reclamation Facility Project. 150412





SOURCE: ESRI 2016; FEMA

Morro Bay Water Reclamation Facility Project. 150412

**Figure 3.9-2**

Morro Valley Groundwater Basin





Recharge to the basin is by percolation of stream flow, precipitation, and irrigation return flows. As a shallow alluvial basin, the Morro Valley Basin functions in a manner similar to an underground stream (MKN Associates, 2017). Rainfall in the watershed percolates into the ground and flows underground to the ocean. Use of such water resources is controlled by the SWRCB. The SWRCB issued findings in 1972 that the Morro Valley Basin is supplied by riparian underflow. The City applied for appropriative water rights, and the SWRCB approved rights in 1995 for an instantaneous withdrawal of up to 1.2 cubic feet per second (cfs) and annual withdrawal of 581 acre-feet per year (AFY) from the Morro Valley Basin underflow.

Groundwater modeling conducted for the proposed project further refined the inflow and outflow of the existing water conditions in the groundwater basin (GSI, 2017). The primary source of recharge to the Lower Morro Valley Basin appears to be mostly from Morro Creek streambed percolation. Morro Creek is mostly a losing stream (*i.e.*, water in the creek is usually percolating down into and recharge the underlying aquifer). However, during wet periods, portions of Morro Creek can become a gaining stream (*i.e.*, water from the underlying aquifer rises up enough to discharge into the stream and support its flow). The volume of Morro Creek percolation is believed to be partly affected by City pumping; the higher the rate of pumping, the more water Morro Creek loses to the aquifer because groundwater levels decrease and do not support its flow. The following summarizes the recharge components in decreasing order of magnitude:

- Streambed percolation
- Underflow from upgradient areas
- Areal recharge from deep percolation of precipitation
- Subsurface inflow from the ocean (seawater intrusion)

The primary discharge component from the aquifer under non-pumping conditions is subsurface underflow to the ocean. The following summarizes the discharge components in decreasing order of magnitude:

- Subsurface outflow to ocean
- Municipal groundwater pumping
- Rising groundwater into Morro Creek

Aquifer testing on local wells conducted for the modeling revealed that the aquifer has a large permeability contrast between the upper and lower portions, with the lower portion of the aquifer being more permeable. The horizontal hydraulic conductivities (*i.e.*, the rate the groundwater horizontally flows through the aquifer materials) are estimated at about 10 feet per day for the upper portion, and about 725 feet per day for the lower portion, which is the producing zone (the zone from which the City currently pumps groundwater). Vertical hydraulic conductivities (the rate the groundwater vertically seeps down or rises up through the aquifer materials) indicate a similar pattern of 0.1 feet per day in the upper portion and 72.5 feet per day in the lower portion.

The City has five seawater wells located along Morro Bay harbor that are operated to provide desalinated water during drought emergency or when SWP water is otherwise unavailable (MKN, 2017). The water is treated at the City's desalination plant, which was constructed in 1992. In

2009, the City modified the desalination plant to treat brackish groundwater. Groundwater from the Morro Valley Basin that is pumped by the City is treated by the plant's Brackish Water Reverse Osmosis (BWRO) treatment train. The BWRO plant treatment train can produce up to 581 AFY, enough to treat the annual permitted allowance from the Morro Valley basin.

Active groundwater supply users in the Morro Valley Basin include the City, Morro Bay Mutual Water Company, a cement plant, a small public water system at mobile home park, and individual residential and agricultural land uses (MNS Engineers, 2016). Due to the relatively small size and number of users, the groundwater basin can reach overdraft conditions during droughts (MKN, 2017). The Morro Basin is not listed as critically overdrafted basins by the DWR as of December 2016 (DWR, 2016). Groundwater management of Morro Valley Basin is not judicially designated as with the neighboring Los Osos Basin adjudication. However, since the basin is supplied by riparian underflow, SWRCB issues water right permits for groundwater extraction, thus effectively managing groundwater resources.

## Groundwater Quality

The general water quality from City water supply production wells for 2011 through 2015 are summarized in **Table 3.9-1**, along with maximum contaminant levels (MCLs, including primary and secondary drinking water standards) and public health goals (PHGs) (MKN, 2017).

**TABLE 3.9-1**  
**GENERAL GROUNDWATER QUALITY**

Constituent	Units	MCL	PHG	Maximum Annual Detected Range 2011 to 2015
<b>Primary Drinking Water Standards</b>				
Aluminum	mg/L	1	0.6	nd – 0.01
Barium	mg/L	1	2	0.0128 – 100
Fluoride	mg/L	2	1	0.2 – 0.3
Nickel	ug/L	100	12	nd – 10
Nitrate as nitrogen	mg/L	10	10	20.34 – 37.41
<b>Secondary Drinking Water Standards</b>				
Chloride	mg/L	500	ne	64 – 1480
Color	color units	300	ne	nd – 20
Hardness	mg/L	ne	ne	533 – 1800
Manganese	ug/L	50	ne	nd – 30
Selenium	ug/L	50	ne	nd – 19
Sodium	mg/L	ne	ne	42 – 317
Specific Conductance	microohms	1600	ne	715 – 5050
Sulfate	mg/L	500	ne	36 – 149
Total Dissolved Solids	mg/L	1000	ne	423 – 2870
Turbidity	turbidity units	5	ne	0.11 – 11.7

**NOTES:**

Values in bold exceeded a regulatory standard

mg/L = milligrams per liter

ug/L = micrograms per liter

SOURCE: MKN, 2017.

The above-listed water quality data indicates nitrates and seawater intrusion are the predominant concerns for water quality (MKN & Associates, 2017; MNS Engineers, 2016). Nitrate levels are elevated due to the agricultural application of nitrogen fertilizers within the watershed, which is restricting the City's ability to use groundwater as a potable water supply. Historically, the Morro Valley Basin wells have experienced elevated nitrate concentrations as high as 110 mg/L as nitrate (MKN & Associates, 2017). Periodically high iron and manganese levels have also been detected.

In the mid-1980s, total dissolved solids (TDS) concentrations in groundwater downstream of the narrows near Highway 1 began to exceed 1,000 mg/L seasonally due to seawater intrusion and tidal influences (MNS Engineers, 2016). In general, under natural conditions, the seaward movement of freshwater prevents seawater from encroaching coastal aquifers (USGS, 2018). An interface between freshwater and seawater is maintained with denser seawater underlying freshwater. When groundwater is pumped from a coastal aquifer, lowered water levels can cause seawater to be drawn toward the freshwater zones of the aquifer. The intruding seawater decreases the freshwater storage in the aquifers. In 2007, basin TDS concentrations were typically between 400 and 800 mg/L and increasing toward the coast, except for an area beneath agricultural fields in the lower valley where TDS concentrations reached 1,000 mg/L, and nitrate concentrations reached 220 mg/L as nitrate (MNS Engineers 2016). Groundwater wells in the Morro Valley basin have experienced elevated levels of salinity during dry periods, with TDS levels as high as 4,000 milligrams per liter (mg/L). The City's BWRO plant is designed to remove TDS and nitrate from groundwater pumped out of the Morro Valley groundwater basin. Permeate from the reverse osmosis process is remineralized through calcium carbonate contact to reduce corrosivity and is disinfected and sent to the distribution system. Concentrate is discharged to an ocean outfall separate from the existing WWTP outfall (MKN, 2017).

In 1999, methyl tertiary butyl ether (MTBE) was discovered in groundwater in the Morro Basin, and in 2000, the SWRCB issued an order prohibiting the use of the City's five Morro Basin wells. The source of the MTBE was found to be the Shell gasoline station on Main Street at Highway 41. The CCRWQCB required the Shell station owner to install monitoring wells and to conduct groundwater and soil sampling. Subsequent investigations confirmed the MTBE contamination originated from this former Shell service station. The underground storage tanks (USTs) and gasoline-impacted soils beneath the USTs were removed from the location in January 2002. Shell implemented extensive remedial actions since the discovery of the contamination, which included the excavation of contaminated soil, addition of oxygen releasing compound to the UST excavation backfill, soil vapor extraction, and onsite and offsite groundwater extraction and treatment. Extensive monitoring conclusively demonstrated that the City's Well Field was never impacted, even prior to MTBE plume stabilization. On September 26, 2008, the CCRWQCB sent case closure letter to Shell Oil Company and the wells were reinstated for use.

## Surface Water

The proposed project is located within the Morro Bay Watershed and Cayucos Creek – Whale Rock Area Watershed, as shown on **Figure 3.9-3**. The Cayucos Creek Watershed lies within the southern portion of the California Coast Range. The watershed is bounded to the west by Pacific Ocean and the east by the Santa Lucia Mountain Range. Consistent with the CalWater HUC 10 grouping scale, the watershed area contains four major drainages that independently reach the Pacific Ocean: Cayucos Creek, Old Creek, Toro Creek and Morro Creek, the latter of which borders and shares some attributes with the Morro Bay watershed. The headwaters of the watershed are in Santa Lucia Range, reaching a maximum elevation of approximately 2,345 feet amsl with the lowest elevation at around at sea level, draining in to the Pacific Ocean. Whale Rock reservoir is located in the watershed approximately ½ mile east of the community of Cayucos. The dominant land use in the watershed is agriculture with the sea side town of Cayucos providing an urban core area with tourist oriented opportunities.

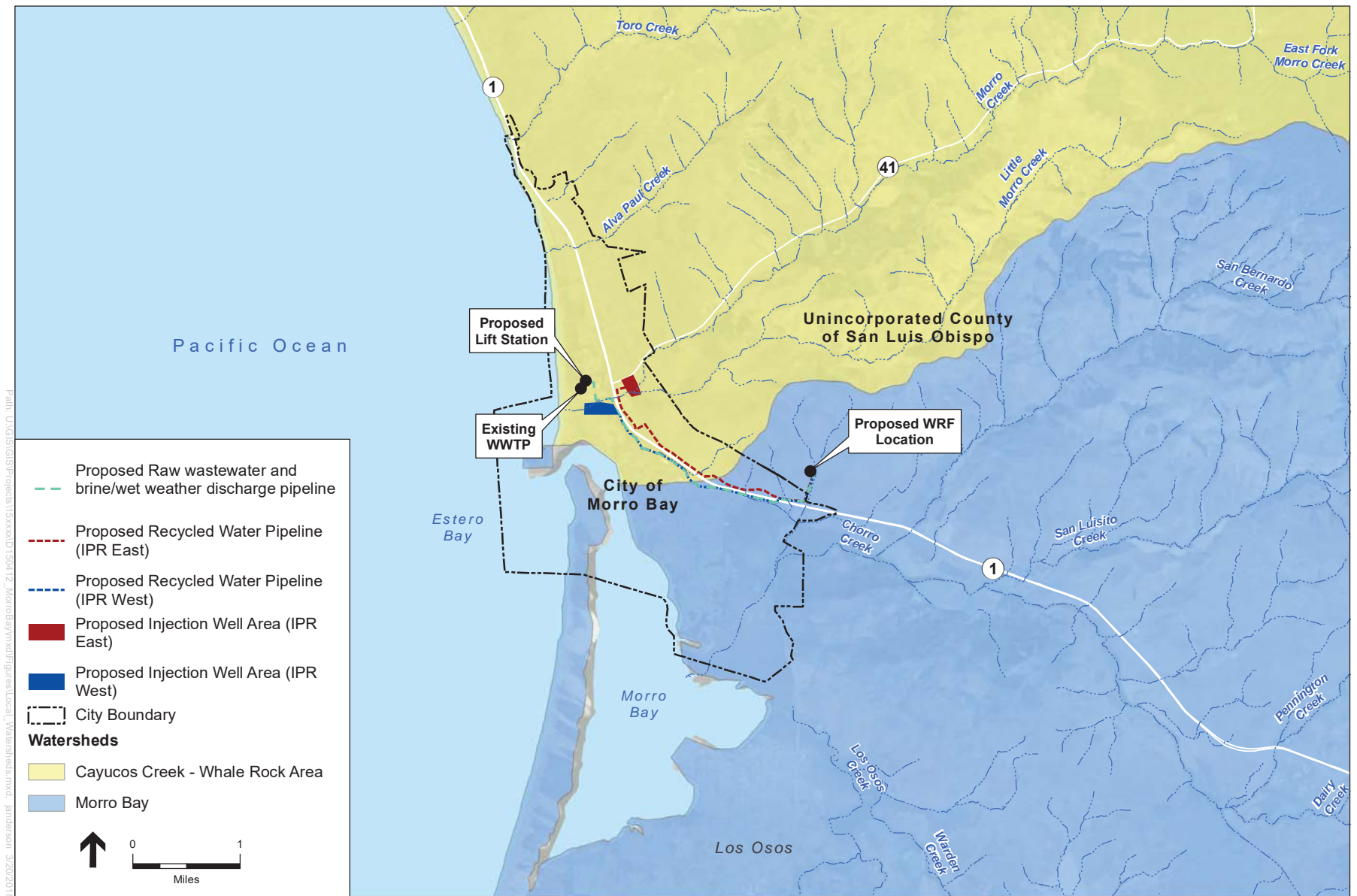
The Morro Bay Watershed is located in the central area of a coastal portion of the County. It is composed of two major sub-watersheds that drain into Chorro and Los Osos Creeks. The Chorro Creek sub-watershed accounts for about 60 percent of the total land area draining into the estuary.

Much of the watershed remains in open space that is used primarily for agriculture and a range of public uses, including parks, golf courses, nature preserves, a military base, and university-owned rangeland. The developed portions of the watershed include the community of Los Osos/ Baywood Park, parts of the City, Cuesta College, Camp San Luis Obispo, the California Men's Colony, and various facilities of the County.

## Surface Water Quality

Section 303(d) of the Clean Water Act (CWA) requires each state identify water bodies or segments of water bodies that are “impaired” (*i.e.*, do not meet one or more of the water quality standards established by the state). Those waters are identified in the Section 303(d) list as waters that are polluted and need further attention to support their beneficial uses. Once the water body or segment is listed, the state is required to establish a Total Maximum Daily Load (TMDL) for each pollutant. A TMDL is the maximum amount of a pollutant that a water body can receive and still meet the water quality standards. Typically, TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources.

**Table 3.9-2** summarizes the impaired water bodies on the Central Coast Regional Water Quality Control Board (CCRWQCB) 2012 Clean Water Act Section 303(d) list near the proposed project. Morro Creek, one of the closest surface waters to the study area, is not an impaired water body, however Chorro Creek is listed.



SOURCE: ESRI 2015; NHD; San Luis Obispo County 2018

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**Figure 3.9-3**  
Local Watersheds



**TABLE 3.9-2  
IMPAIRED WATER BODIES IN THE PROJECT AREA**

Water Body/Reach Name	Pollutant/Stressor	Potential Source
Chorro Creek	E. Coli Fecal Coliform, Nutrients Sedimentation	Source Unknown
Morro Bay	Dissolved Oxygen Pathogens Sedimentation/Siltation	Source Unknown

SOURCE: SWRCB, 2012.

## Flood Zone

According to flood zone mapping compiled by the Federal Emergency Management Agency's Flood Insurance Rate Maps (FIRMs), the proposed WRF location is outside of the 100-year flood zone (See **Figure 3.9-4**). However, the proposed lift station and existing WWTP are located within what is known as Flood Zone AE where the flood zone elevation occurs at approximately 20 feet above sea level (FEMA, 2017).

## Dam Inundation

None of the proposed project elements are located within a dam inundation zone.

## Tsunami, Seiche, and Mudflow

Tsunamis are a series of ocean waves generated by vertical movement of the sea floor (SLO, 2016). The movement is typically caused by earthquake related faulting, but can also result from submarine landslides or volcanic eruptions. Seiches are defined as oscillations of enclosed and semi-enclosed bodies of water (*e.g.*, Morro Bay) due to strong ground motion from seismic events, wind stress, volcanic eruptions, large landslides, and local basin reflections of tsunamis. The San Luis Obispo County Office of Emergency Services produced maps depicting modeled inundation areas for a suite of tsunami and seiche source events. According to this mapping, the existing WWTP and proposed lift station are located within the tsunami inundation area. The preferred WRF site is located further upland and outside of a tsunami hazard area.

Mudflows are rivers of liquid mud generated in sloped areas that flow across the surface of normally dry land, and are typically caused by a combination of brush loss and subsequent heavy rains (FEMA 2016). The existing WWTP and lift stations are located within the relatively flat urban part of the city in an area not susceptible to mudflows. The preferred WRF site is located on an area of gently sloping grassy hills about 100 feet from an unnamed tributary of Chorro Creek. That area does not show erosional features consistent with mudflows or other strong erosional forces.







SOURCE: ESRI 2016; FEMA

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**Figure 3.9-4**  
FEMA Flood Zones



## 3.9.2 Regulatory Framework

### Federal

#### ***Clean Water Act***

The Federal Water Pollution Control Act (33 U.S.C. 1251 *et seq.*), as amended by the Federal Water Pollution Control Act Amendments of 1972, also known as the Clean Water Act (CWA), states the discharge of pollutants to waters of the United States from any point source is unlawful, unless the discharge is in compliance with a NPDES permit. Amendments (1987) to the CWA added a section that establishes a framework for regulating municipal and industrial (M&I) storm water discharges under the NPDES program. On November 16, 1990, the USEPA published final regulations (under the 1987 CWA Amendments) that establish application requirements for storm water permits.

#### ***Federal Emergency Management Agency***

Under Executive Order 11988, FEMA is responsible for the management and mapping of areas subject to flooding during a 100-year flood event (*i.e.*, one percent chance of occurring in a given year). FEMA requires local governments covered by federal flood insurance pass and enforce a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year flood plain, as depicted on FEMA maps. The existing WWTP, proposed lift station sites, proposed injection wellfield areas, and portions of the pipeline alignments west of Highway 1 are located within the Morro Creek 100-year floodplain (**Figure 3.9-3**).

#### ***U.S. Environmental Protection Agency Underground Injection Control Program***

Under existing federal regulations for the Underground Injection Control (UIC) program, injection wells (such as proposed for this project) are “authorized by rule,” which means they do not require a permit from the U.S. Environmental Protection Agency (USEPA) if they do not endanger underground sources of drinking water and comply with other UIC program requirements. For California, USEPA Region 9 is the permitting administrator for Class V wells (wells that are used to inject non-hazardous fluids underground). Any injection project planned in California must meet the Sources of Drinking Water Policy which ensures protection of groundwater quality for drinking water supplies, so a Federal permit is not necessary. However, all Class V injection well owners in California are required to submit information to USEPA Region 9 on the well for USEPA’s inventory.

### State

#### ***Porter-Cologne Water Quality Act***

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) provides the basis for water quality regulation within California. This act establishes the authority of the SWRCB and the nine RWQCBs. The SWRCB administers water rights, water pollution control, and water quality functions throughout the state, while the RWQCBs conduct planning, permitting, and enforcement activities. The project area lies within the jurisdiction of the Central Coast RWQCB (Region 3).

### Central Coast Water Quality Control Plan

The SWRCB and the Central Coast RWQCB share the responsibility, under the Porter-Cologne Act, to formulate and adopt water policies and plans and to adopt and implement measures to fulfill CWA requirements. The Central Coast RWQCB has prepared the Central Coast Water Quality Control Plan (Basin Plan) that identifies beneficial uses for the major creeks in the project area as well as the Morro Bay Estuary and Estero Bay (see **Table 3.9-3** and **3.9-4** below). The current version was published in September 2017. The Basin Plan also includes water quality objectives for inland surface water, enclosed bays and estuaries, and groundwater basins that correspond to the identified beneficial uses. Groundwater beneficial use designations include Municipal & Domestic Supply (MUN) and Agricultural Supply (AGR). Within the Estero Bay hydrologic unit, there are water quality objectives for Chorro Creek including 1,000 mg/L TDS.

**TABLE 3.9-3**  
**BENEFICIAL USE DESIGNATIONS FOR WATER BODIES IN THE PROJECT AREA**

	Morro Creek	Little Morro Creek	Chorro Creek	Morro Bay Estuary	Estero Bay and Morro Bay
MUN	X	X	X		
AGR	X	X	X		
PROC					
IND				X	X
GWR	X	X	X		
REC1	X	X	X	X	X
REC2	X	X	X	X	X
WILD	X	X	X	X	X
COLD	X	X	X	X	
WARM	X		X		
MIGR	X	X	X	X	
SPWN	X	X	X	X	
BIOL			X	X	
RARE	X	X	X	X	X
EST	X			X	
FRSH	X		X		
NAV					X
POW					
COMM	X	X	X	X	X
AQUA				X	
MAR					X
SHELL				X	X

X = Present or potential beneficial uses

SOURCE: CCRWQCB Basin Plan, 2017

**TABLE 3.9-4**  
**DEFINITIONS OF BENEFICIAL USES OF SURFACE WATERS**

<b>Beneficial Use</b>	<b>Description</b>
Municipal and Domestic Supply (MUN)	Waters are used for community, military, municipal or individual water supply systems. These uses may include, but are not limited to, drinking water supply.
Agricultural Supply (AGR)	Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
Industrial Service Supply (IND)	Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.
Groundwater Recharge (GWR)	Uses of water for natural or artificial recharge of groundwater for purposes of future extraction, maintenance of water quality, or halting saltwater intrusion into freshwater aquifers.
Water Contact Recreation (REC 1)	Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white-water activities, fishing, or use of natural hot springs.
Non-Contact Water Recreation (REC 2)	Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
Wildlife Habitat (WILD)	Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
Cold Freshwater Habitat (COLD)	Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Warm Freshwater Habitat (WARM)	Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Migration of Aquatic Organisms (MIGR)	Uses of water that support habitats necessary for migration or other temporary activities by aquatic organism, such as anadromous fish.
Spawning, Reproduction, and/or Early Development (SPWN)	Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.
Preservation of Biological Habitats of Special Significance (BIOL)	Uses of water that support designated areas of habitats, such as established refuges, parks, sanctuaries, ecological reserves, or Areas of Special Biological Significance (ASBS), where the preservation or enhancement of natural resources requires special protection.
Preservation of Rare and Endangered Species (RARE)	Uses of waters that support habitats necessary for the survival and successful maintenance of plant or animal species established under state and/or federal law as rare, threatened, or endangered.
Estuarine Habitat (EST)	Uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds). An estuary is generally described as a semi-enclosed body of water having a free connection with the open sea, at least part of the year and within which the seawater is diluted at least seasonally with fresh water drained from the land. Included are water bodies which would naturally fit the definition if not controlled by tide gates or other such devices.

Beneficial Use	Description
Freshwater Replenishment (FRSH)	Uses of water for natural or artificial maintenance of surface water quantity or quality (e.g., salinity) which includes a water body that supplies water to a different type of water body, such as, streams that supply reservoirs and lakes, or estuaries; or reservoirs and lakes that supply streams. This includes only immediate upstream water bodies and not their tributaries.
Commercial and Sport Fishing (COMM)	Uses of water for commercial or recreational collection of fish, shellfish, or other organism including, but not limited to, uses involving organisms intended for human consumption or bait purposes.
Aquaculture (AQUA)	Uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.
Navigation (NAV)	Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.
Marine Habitat (MAR)	Uses of water that support marine ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
Shellfish Harvesting (SHELL)	Uses of water that support habitats suitable for the collection of filter-feeding shellfish (e.g., clams, oysters, and mussels) for human consumption, commercial, or sport purposes. This includes waters that have in the past, or may in the future, contain significant shellfisheries.

SOURCE: CCRWQCB Basin Plan, 2017

### ***Water Quality Control Plan for Ocean Waters of California (Ocean Plan)***

The California Ocean Plan was prepared by the SWRCB and was last updated in 2015. It is applicable to point source discharges to the ocean. The Ocean Plan specifies the beneficial uses of the ocean to be protected including industrial water supply, water contact and non-contact recreation, navigation, commercial and sport fishing, mariculture, preservation and enhancement of Areas of Special Biological Significance, rare and endangered species, marine habitat, fish migration, fish spawning and shellfish harvesting. The California Ocean Plan establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged in the state's coastal waters. Water quality objectives and effluent limits specified in the Ocean Plan currently are included in the WWTP's NPDES permit and would be included in the new NPDES permit for the WRF.

### ***WWTP NPDES Permit***

The existing WWTP currently discharges treated effluent through its ocean outfall under NPDES Permit No. CA0047881, Waste Discharge Requirements Order No R3-2017-0050. The permit requires compliance with full secondary treatment requirements for BOD and TSS. Prior to issuance of the new permit, the City and Cayucos Sanitary District (CSD) had a modified NPDES Permit with a 301(h) waiver, which waived full secondary treatment requirements for BOD<sub>5</sub> and TSS. The permit required 75 percent removal of TSS, a 30-day average TSS effluent limit of 70 mg/L, 30 percent removal of BOD<sub>5</sub>, and a 30-day average BOD<sub>5</sub> effluent limit of 120 mg/L (CCWB). It is anticipated the pending Time Schedule Order from RWQCB will allow the City and District to meet those prior effluent limits as interim limits until a new WRF is constructed.

The NPDES permit also establishes water quality objectives for receiving waters based on Ocean Plan requirements, as described above, and requires that effluent have a minimum dilution ratio of 133 parts seawater to one-part effluent.

In December 2008, the City and CSD executed a Settlement Agreement with the RWQCB to upgrade the existing WWTP and eliminate the 301(h) waiver modified permit. On January 10, 2013, the California Coastal Commission denied a Coastal Development Permit for the proposed upgrade. The objectives of the currently proposed project are to meet the requirements of the new discharge permit by constructing a new wastewater treatment facility to achieve full secondary treatment at minimum. After implementation of the proposed project, the WRF effluent would be able to meet full secondary standards as required by the 40 Code of Federal Regulations (CFR) Part 133, Secondary Treatment Regulation. The proposed WRF facilities would be subject to these treatment standards as a condition of the NPDES permit, requiring the facility to remove, as a 30-day average, at least 85 percent of both TSS and BOD<sub>5</sub> from the influent stream before discharging wastewater to the ocean. In addition, the 30-day average effluent limit would be 30 mg/L for both TSS and BOD<sub>5</sub> (40CFR Part 133). For discharge of treated effluent into the groundwater via injection wells, the effluent would be required to meet advanced treatment recycled water in accordance with 22 California Code of Regulations (CCR) Division 4.

### ***California Code of Regulations, Title 22, Division 4, Chapter 3 Water Recycling Criteria***

The use of recycled water throughout the State of California is governed by 22 CCR, Division 4, Chapter 3, *Water Recycling Criteria*. Water Recycling Criteria are incorporated in water reclamation requirements issued by the local RWQCB, which include groundwater replenishment using recycled water. The California Division of Drinking Water (a division of the SWRCB) has updated the regulations to govern groundwater replenishment for aquifers designated as sources of drinking water using recycled water from domestic wastewater sources (22 CCR Division 4, Chapter 3, Article 5.2, *Indirect Potable Reuse: Groundwater Replenishment – Subsurface Application*). The regulations for groundwater replenishment using recycled water became effective on July 16, 2015, and are implemented through the SWRCB and its RWQCBs. A Discharge Permit must be obtained from the Central Coast RWQCB for the use of recycled water. Further details for the reuse of 22 CCR recycled water and the discharge of fully advanced treated water intended for groundwater recharge or injection are summarized below.

### **Groundwater Replenishment Reuse Project Regulations**

The proposed project is considered a Groundwater Replenishment Reuse Project (GRRP). As defined by 22 CCR §60301.390, a GRRP is “a project involving the planned use of recycled municipal wastewater that is operated for the purpose of replenishing a groundwater basin designated in the Water Quality Control Plan for use as a source of municipal and domestic water supply.” Prior to operating a GRRP, the treatment facility is required to site and construct at least two monitoring wells downgradient of the GRRP such that at least one monitoring well is located no less than two weeks but no more than six months of travel time from the GRRP, and one monitoring well is at least 30 days of travel time upgradient of the nearest drinking water well. GRRP groundwater monitoring well requirements are set forth in 22 CCR §60320.226.



Pursuant to 22 CCR §60320.226, the project sponsor is required to collect groundwater samples from each aquifer that will receive the GRRP's recharge water or that is validated as receiving recharge water from the GRRP. In addition, the monitoring wells would provide data on water levels and groundwater mounding as a result of recharge. The City would monitor groundwater levels and recycled water and groundwater quality, as required by the GRRP regulations (22 CCR §60320).

### **Title 22 Engineering Report**

22 CCR §60323 requires the submittal of a Title 22 Engineering Report. The purpose of the Title 22 Engineering Report is to provide data and information on the treatment facility and to describe the broader framework of the City's plan for compliance with the GRRP regulations. The Division of Drinking Water's approval of the Title 22 Engineering Report would be required prior to the production of reclaimed recycled water for reuse from the WRF and as a condition of the Discharge Permit. Among other things, the Title 22 Engineering Report would include a hydrogeological assessment of groundwater conditions in the project vicinity, as required by the GRRP regulations. The hydrogeological assessment would include the following:

- The report shall be prepared by a qualified engineer licensed in California and experienced in the field of wastewater treatment, and include the qualifications of the individual(s) preparing the assessment;
- A general description of geologic and hydrogeological setting of the groundwater basin(s) potentially directly impacted by the project;
- A detailed description of the stratigraphy beneath the facility, including the composition, extent, and physical properties of the affected aquifers;
- The existing hydrogeology and the hydrogeology anticipated as a result of the operation of the GRRP;
- Maps showing quarterly groundwater elevation contours, along with vector flow directions and calculated hydraulic gradients; and
- The estimated response retention time (see further discussion below);
- A description of the design of the proposed reclamation system;
- The means for compliance with these regulations and any other features specified by the regulatory agency;
- A contingency plan which will assure that no untreated or inadequately treated wastewater will be delivered to the use area.

### **Response Retention Time**

As required by 22 CCR §60320.224, recycled municipal wastewater applied by a GRRP shall be retained underground for a required period of time (i.e., response retention time). The investigation shall determine the amount of time necessary to allow a project sponsor sufficient response time to identify treatment failures and implement actions. The minimum response retention time is two months. The GRRP regulations identify four methods of quantifying the response retention time that include conducting an operational tracer test or conducting numerical or analytical modeling of groundwater flow travel times.

## Monitoring Programs

**Recycled Water Monitoring Program.** In accordance with 22 CCR §§60320.210, 60320.212, 60320.218, and 60320.220, the City would be required to monitor WRF recycled water prior to injecting into the groundwater. Each quarter, the GRRP sponsor is required to sample and analyze the recycled municipal wastewater and groundwater for priority toxic pollutants and other chemicals specified by the California Division of Drinking Water (DDW) based on the engineering report. WRF recycled water quality monitoring is performed to protect the drinking aquifers in the event of a treatment breakthrough. The treatment processes are required to undergo routine performance monitoring to demonstrate treatment of specific indicator compounds to specific performance standards, which include various organic and inorganic compounds, and pathogenic microorganisms (specifically *Giardia* and *Cryptosporidium*).

**Operational Groundwater Monitoring Program.** In accordance with 22 CCR §§ 60320.220 and 60320.226, the City would monitor each nested piezometer at each monitoring well location to assess changes in groundwater quality associated with groundwater replenishment activities. The GRRP is required to collect two samples prior to operation and at least one sample each quarter after operation begins. Each sample is to be analyzed for total nitrogen, nitrate, nitrite, and any contaminants specified by the DDW or RWQCB.

## Annual Reporting

As required by 22 CCR §60320.228, the City would be required to submit an annual report no later than six months after the end of each calendar year to the Division of Drinking Water and the RWQCB. Public water systems and drinking water well owners having downgradient sources potentially affected by the GRRP and within 10 years' groundwater travel time from the GRRP shall be notified by direct mail and/or electronic mail of the availability of the report. The report shall be prepared by an engineer licensed in California and experienced in the fields of wastewater treatment and public water supply. The report shall include the following:

- A summary of the GRRP's compliance status with the monitoring requirements and criteria of this Article during the previous calendar year;
- For any violations of this Article during the previous calendar year;
  - the date, duration, and nature of the violation,
  - a summary of any corrective actions and/or suspensions of subsurface application of recycled municipal wastewater resulting from a violation, and
  - if uncorrected, a schedule for and summary of all remedial actions;
- Any detections of monitored chemicals or contaminants, and any observed trends in the monitoring wells and diluent water supplies;
- Information pertaining to the vertical and horizontal migration of the recharge water plume;
- A description of any changes in the operation of any unit processes or facilities;
- A description of any anticipated changes, along with an evaluation of the expected impact of the changes on subsequent unit processes;
- The estimated quantity and quality of the recycled municipal wastewater and diluent water to be applied for the next calendar year;

- A summary of the measures taken to comply with § 60320.206 and 60320.200(j), and the effectiveness of the implementation of the measures; and
- Increases in RWC during the previous calendar year and RWC increases anticipated for the next calendar year.

### **Five Year Reporting**

Every five years from the date of the initial approval of the Title 22 Engineering Report required pursuant to 22 CCR §60323, the City shall update the report to address any project changes and submit the report to the DDW and the RWQCB. The update shall include, but not be limited to:

- Anticipated recycled municipal wastewater contribution (RWC)<sup>1</sup> increases, a description of how the RWC requirements in 22 CCR §60320.216 will be met, and the expected impact the increase will have on the GRRP's ability to meet the requirements of this Article;
- Evidence that the requirements associated with retention time in 22 CCR §60320.208, if applicable, and 22 CCR §60320.224 have been met; and
- A description of any inconsistencies between previous groundwater model predictions and the observed and/or measured values, as well as a description of how subsequent predictions will be accurately determined.

### ***NPDES General Construction Permit for Storm Water Runoff***

Construction associated with the proposed project would disturb more than one acre of land surface affecting the quality of stormwater discharges into waters of the U.S. The proposed project would therefore be subject to the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines. That General Permit requires storm water discharges and authorized non-storm water discharges must not contain pollutants that cause or contribute to an exceedance of any applicable water quality objective or water quality standards (identified in the Basin Plan).

The Construction General Permit requires construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the receiving waters risk during periods of soil exposure (*e.g.*, grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The receiving waters risk level reflects the risk to the receiving

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<sup>1</sup> 22 CCR §60301.705. Recycled Municipal Wastewater Contribution (RWC) means the fraction equal to the quantity of recycled municipal wastewater applied at the GRRP divided by the sum of the quantity of recycled municipal wastewater and credited diluent water.

waters from the sediment discharge. Depending on the risk level, the construction projects could be subject to the following requirements:

1. Effluent standards
2. Erosion and sediment controls
3. Good site management (“housekeeping”)
4. Inspection, maintenance, and repair
5. Non-stormwater management
6. Monitoring and reporting requirements
7. Run-on and runoff controls

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific best management practices (BMPs) designed to prevent sediment and pollutants from contacting stormwater as well as non-storm water and from moving offsite into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management and good housekeeping. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

Receiving water risk is based on whether the project drains to a sediment-sensitive water body. A sediment-sensitive water body is one that appears on the most recent 303(d) list for water bodies as impaired for sediment, has a USEPA-approved TMDL implementation plan for sediment, or has the beneficial uses of cold freshwater habitat, fish migration, and fish spawning.

Examples of typical construction BMPs include scheduling or limiting certain activities to dry periods, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing and fueling. The Construction General Permit also sets post-construction standards (*i.e.*, implementation of BMPs to reduce pollutants in stormwater discharges from the site following construction).

In addition to stormwater discharges, the Construction General Permit also covers other non-storm water discharges including irrigation of vegetative erosion control measures, water to control dust, uncontaminated groundwater from dewatering, and other discharges not subject to a separate general NPDES permit adopted by the Regional Water Board. The discharge of non-storm water is authorized under the following conditions:

1. The discharge does not cause or contribute to a violation of any water quality standard;
2. The discharge does not violate any other provision of the General Permit;
3. The discharge is not prohibited by the applicable Basin Plan;

4. The discharger has included and implemented specific BMPs required by the General Permit to prevent or reduce the contact of the non-storm water discharge with construction materials or equipment.
5. The discharge does not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants;
6. The discharge is monitored and meets the applicable numeric action levels; and
7. The discharger reports the sampling information in the Annual Report.

Dischargers are required to electronically submit a notice of intent (NOI) and permit registration documents (PRDs) in order to obtain coverage under this Construction General Permit.

Dischargers are responsible for notifying the RWQCB of violations or incidents of non-compliance, as well as for submitting annual reports identifying deficiencies of the BMPs and how the deficiencies were corrected. The risk assessment and SWPPP must be prepared by a state Qualified SWPPP Developer and implementation of the SWPPP must be overseen by a state Qualified SWPPP Practitioner. A Legally Responsible Person, who is legally authorized to sign and certify PRDs, is responsible for obtaining coverage under the permit.

#### **NPDES Phase II Small MS4 General Permit**

The City prepared a Stormwater Management Program (SWMP) to comply with the Phase II Small Municipal Separate Storm Sewer System (MS4) NPDES permit (Water Quality Order No. 2013-0001-DWQ) issued by the State Water Resources Control Board, effective July 1, 2013.

The permit contains a comprehensive plan to reduce the discharge of pollutants to the “maximum extent practicable” and mandated that participating municipalities implement an approved stormwater management plan. The program incorporates BMPs that include construction controls (such as a model grading ordinance), legal and regulatory approaches (such as stormwater ordinances), public education and industrial outreach (to encourage the reduction of pollutants at various sources), inspection activities, wet-weather monitoring, and special studies.

USEPA and the SWRCB have determined that a SWMP will be considered to reduce pollutants to the “maximum extent practicable” (MEP) if it fulfills the following minimum control measures (MCMs): 1) Public Education and Outreach, 2) Public Participation and Involvement, 3) Illicit Discharge Detection and Elimination, 4) Construction Site Runoff Control, 5) Post-Construction Stormwater Management and 6) Pollution Prevention/Good Housekeeping for Municipal Operations

To fulfill each of the six minimum control measures and reduce pollutants to achieve the MEP, MS4s are required to develop and implement BMPs and measurable goals. BMPs consist of structural and non-structural activities that address stormwater. The BMPs in this SWMP were selected using a process based on EPA guidance documents, the MS4 General Permit, and on factors specific to the County and the regulated communities.

#### **NPDES General Industrial Permit for Storm Water Runoff**

The NPDES General Industrial Permit regulates storm water discharge associated with ten broad categories of industrial activity within California. The General Industrial Permit requires the implementation of management measures that will achieve the performance standard of best

available technology economically achievable and best pollutant control technology. The General Industrial Permit also requires the development of a SWPPP and a monitoring plan. Category 9, Sewage and Wastewater Treatment Works includes facilities used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage and land designated to the disposal of sewage sludge that are located within the confines of a facility with a design flow of one million gallons per day or more are required to have an approved pretreatment program under 40 CFR Part 403 (SWRCB, 2009). The City would be required to revise and renew the General Industrial Permit for the WWTP to include the new proposed facilities.

### ***SWRCB WDRs for Construction Dewatering***

Construction of the proposed project may require dewatering during excavation for new facilities. Discharge of the removed waters requires waste discharge requirements (WDRs) from the SWRCB. Dewatering discharges are considered a low-threat discharge if the groundwater does not contain significant quantities of pollutants that would violate the provisions of the Basin Plan. The dewatering discharges for the proposed project would be considered low-threat discharges and would be covered under the SWRCB General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality (Water Quality Order No. 2003-003-DWQ) or discharged to surface waters in accordance with the Central Coast Regional Water Quality Control Board's General Waste Discharge Requirements for Discharges with Low Threat to Water Quality (Water Quality Order No. R3-2006-0063). Coverage under the General WDRs requires the City to file a Notice of Intent to comply with the general order and a discharge monitoring plan (DMP) with SWRCB. The City would be required to comply with the terms and conditions of the General WDRs and DMP issued by SWRCB to avoid impacts to surface and groundwater quality.

## **Local**

### ***San Luis Obispo County Environmental Health Services Well Program***

The County Environmental Health Services Well Program provides the regulatory oversight to permit the construction and installation of community water supply wells, individual domestic wells, industrial wells, agricultural wells, cathodic protection wells, electrical grounding wells, test and exploratory holes, observation wells and salt water (hydraulic) barrier wells. The Program also covers destruction of existing wells. Contractors are required to submit permit application and meet all well construction requirements for the drilling method and well design requirements.

### ***City of Morro Bay Storm Water Management Plan***

As noted above, the SWMP was prepared by the City of Morro Bay to comply with mandatory requirements of the USEPA NPDES Phase II Final Rule and the SWRCB General Construction Permit. The SWMP, last updated in 2013, provides an integral approach for the prevention of pollution from storm water runoff in Morro Bay. The program is managed by the City Public Works Department and implemented by the Harbor Department, Recreation and Parks, and staff from the Public Works Department. The SWMP meets the four additional conditions required by the CCRWQCB: (1) maximize infiltration of clean storm water, and minimize runoff volume and

rates, (2) protect riparian areas, wetlands, and their buffer zones, (3) minimize pollutant loading and (4) provide long-term watershed protection.

### ***City of Morro Bay Stormwater Control Ordinance***

The purpose of Chapter 14.48 Building Regulations—Stormwater Control, of the Morro Bay Municipal Code is to prevent water quality degradation and prevent damage to property from increased runoff rates and volumes. In accordance with Chapter 14.48, the SWPPP for the proposed project would need to be approved by the City prior to commencement of construction activities (14.48.020 E.). In addition, Chapter 14.48 requires management of peak runoff from development and redevelopment sites to prevent significant increases in downstream peak flows. A significant increase in peak flow for 2-year, 10-year, 50-year, and 100-year events is considered to be over five percent at and immediately downstream of the project site (14.48.020 C.).

### ***City of Morro Bay Flood Damage Prevention Ordinance***

The purpose of Chapter 14.72 of the City’s Municipal Code is “to promote public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas” (14.72.010 C.). The proposed project is considered nonresidential construction, and as such, the following provisions are applicable:

- 14.72.050 A.3. b. Nonresidential construction, new or substantial improvement, shall either be elevated to [at least one foot above the base flood elevation] or together with attendant utility and sanitary facilities:
- i. Be floodproofed...so that the structure is watertight with walls substantially impermeable to the passage of water;
  - ii. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
  - iii. Be certified by a registered professional engineer or architect retained by the applicant that the standards of subsection (A)(3)(a) are satisfied.

### ***City of Morro Bay Sewer System Management Plan***

The preparation and implementation of the City of Morro Bay’s Sewer System Management Plan (SSMP) is required by the SWRCB to fulfill the requirements of the State General Waste Discharge Requirements (WDR) for Sanitary Sewer Systems, Order No. 2006-003. The WDR requires the City as the owner and operator of the sanitary sewer system to develop and implement a system-specific SSMP. SSMPs must include provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management and cost benefit analysis. Additionally, an SSMP must contain a spill response plan that establishes standard procedures for immediate response to a sanitary sewer overflow in a manner designed to minimize water quality impacts and potential nuisance conditions. The WDR also requires the SSMP include the development and implementation of a Fats, Oils and Grease (FOG) Control Program, which describes procedures for identifying the primary dischargers of FOG to the system and measures to reduce or eliminate FOG from the system. The City is required to revise and adopt an updated SSMP every five years. The latest SSMP was adopted by the City Council in 2014.

### 3.9.3 Impacts and Mitigation Measures

#### Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to hydrology and water quality in the project area. This Draft EIR assumes implementation of the proposed project would have a significant impact related to hydrology and water quality if it would:

- Violate water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or offsite;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Result in inundation by seiche, tsunami or mudflow.

#### Methodology

##### **General**

Information for this assessment of impacts relative to hydrology and water quality is based on the project design features, a review of available literature (hydrology and water quality reports and maps), groundwater modeling (discussed below), and the regulatory requirements summarized in the Regulatory Framework. The impact analysis discusses the potential effects of the proposed project on hydrology and water quality according to the key issue areas identified in Appendix G of the *CEQA Guidelines* and corresponding to the significance criteria identified above.

The proposed project would be regulated by the various laws, regulations, and policies summarized in the Regulatory Framework. Compliance by the project with applicable federal, state, and local laws and regulations is assumed in this analysis, and local and state agencies would be expected to continue to enforce applicable requirements to the extent that they do so now. Note that compliance with many of the regulations is a condition of permit approval.



Additionally, it is assumed that the City would require its pipeline engineers and construction contractors to adhere to the American Water Works Association (AWWA; see discussion further below) standards, or its equivalent for pipeline construction.

A significant impact would occur if, after considering the features described in Chapter 2, Project Description and the required compliance with regulatory requirements, identified significance thresholds are exceeded. For those impacts considered to be significant, mitigation measures are proposed to reduce the identified impacts.

### ***Groundwater Modeling***

A screening level groundwater model was developed for the proposed project to determine the feasibility of the proposed injection and extraction of advanced treated recycled water (GSI, 2017) (see Appendix G to this Draft EIR). The modeling effort evaluated the feasibility of injecting 825 acre-feet per year (AFY), determined the maximum annual production (extraction) capacity of the existing wells without causing seawater intrusion, and the ability to satisfy the CCR Title 22 minimum response retention time requirements for the injected recycled water. The model and results are summarized below.

### **Purpose and Objectives**

Groundwater modeling was conducted to evaluate the response of the aquifer to the injection and extraction of treated recycled water (GSI, 2017). Prior to the modeling, aquifer testing was conducted on the existing city wells to better quantify the parameters of the aquifer to be used for injection, including the horizontal and vertical hydraulic conductivity, as discussed above in the Environmental Setting. That information was reported in the groundwater modeling report and used to design the model.

The primary purpose of the groundwater model was to quantify the retention time. As discussed in the Regulatory Framework, GRRP by Subsurface Application requires that the injected water be retained in the aquifer for a minimum of 2 months in order to provide an environmental buffer. The buffer allows for further treatment of the injected water and provides time to adjust operations if needed in an emergency.

The objectives of the modeling were to evaluate the feasibility of:

- Injecting 825 AFY of treated recycled water in the aquifer
- Sustaining the annual production capacity of the City wells without causing significant seawater intrusion
- Satisfying Title 22 minimum response retention time requirements for the injected recycled water

### **General Description of a Groundwater Model**

Groundwater models are computer simulations that represent water flow in the environment using mathematical equations. By mathematically representing a simplified version of a hydrogeological system, the effects of groundwater pumping scenarios can be simulated, evaluated, and compared to determine their effects on an aquifer system. The applicability or

usefulness of the model depends on how closely the mathematical equations approximate the essential characteristic of the groundwater system being modeled.

Groundwater models consist of individual cells in a model domain. A domain is the entire area and depth within which the model simulates subsurface conditions. The domain is made of smaller units called cells, which represent a defined three-dimensional area, the size of which is dependent on the coverage area of the model. For example, models that cover an entire groundwater basin of many square miles may have cells that represent one square mile area each, while models designed to evaluate smaller areas have cells representing only 200 square feet. Each cell contains information about the occurrence and flow of groundwater at that particular location. Using subsurface hydrogeological information from soil borings, well logs, geologic mapping, and aquifer testing, each cell is assigned, or populated with, parameters to describe how water moves through that cell. Parameters typically include hydraulic conductivity (the ability of water to flow through a given material), permeability and porosity (the relative amount of open spaces between grains in the geologic material), and the direction of water flow into and out of each of the model cells. Vertical layers are then established based on the subsurface geologic characteristics, such as permeable aquifer zones and less permeable aquitards. After the cells are populated, the model is then tuned or calibrated with actual groundwater information (depth, hydraulic conductivity, etc.), so that the model can better represent real world conditions.

Once the model has been populated and tuned, it can be used to predict the effects of hydrological changes, like groundwater extraction, on the behavior of the aquifer or aquifers. As previously noted, the model used for this analysis estimated the retention time under several operating scenarios, discussed further below.

### **Limitations of Groundwater Models**

Groundwater models simulate aquifer conditions based on a specific set of data that describes parameters such the subsurface characteristics, groundwater flow, and pumping rates. The more robust the data set, the more capable the model will be to accurately simulate subsurface conditions. Most groundwater models use conservative input parameters so that the output overstates the actual aquifer response. Nevertheless, groundwater models are mathematical-based computer programs that rely on input parameters and, consequently, there is a degree of uncertainty. However, the model code described below was developed by the USGS and has been in use and updated for many years. In addition, the model used input data derived from site-specific subsurface information, including the aquifer testing. Given that, and given the fact that the model was calibrated with known data, the level of degree of uncertainty for this analysis is considered reasonable.

### **Model Description**

The groundwater modeling was constructed using MODFLOW-2000, a block-centered, modular finite-difference groundwater flow code developed by the United States Geologic Survey (USGS) (GSI, 2017). The modeled area covered about 742 acres with a grid consisting of 122 rows in the northeast to southwest direction and 106 columns in the northwest to southeast direction for a total of 38,796 cells. The active model area of 538 acres consisted of 22,454 model cells with

each model cell representing an area of 50 feet by 50 feet. The model grid was divided into three layers as follows:

- Layer 1: Ocean (offshore only)
- Layer 2: Upper Portion of Aquifer
- Layer 3: Lower Portion of Aquifer (main groundwater production zone)

As discussed in the Environmental Setting, aquifer has a large permeability contrast between the upper and lower aquifer zones requiring the use of two model layers (Layers 2 and 3).

Four scenarios were modeled that used changes in injection locations and the number of wells. The results of the scenarios estimated the retention time, the flow paths of water, and the potential for exacerbating seawater intrusion from either of the proposed injection fields shown on Figure 2-2. The modeled scenarios are listed as follows:

- Scenarios 1A (utilizing 5 extraction wells) and 1B (utilizing 6 extraction wells) evaluated recycled water injection upgradient (east) of the City's existing wells, near the Narrows.
- Scenarios 2A (utilizing 4 extraction wells) and 2B (utilizing 5 extraction wells) evaluated recycled water injection cross-/downgradient (south) of the City's existing wells.

### Model Results and Recommendations

The modeled retention time under each of the four scenarios are listed in **Table 3.9-5**. The minimum allowable response residence time is 2 months. The DDW requires that if groundwater modeling is utilized for permitting, a safety factor of two is required, hence, 4 months of retention time must be demonstrated. The estimated minimum retention time for some of the scenarios are less than 4 months but always greater than 2 months. Thus, the modeling results suggest that it may be possible to meet the minimum required retention time. However, because some of the retention times are less than 4 months, groundwater modeling alone may not be sufficient for permitting.

**TABLE 3.9-5 ESTIMATED RETENTION TIMES**

Scenario	Injection (AFY)	Pumping (AFY)	Minimum Retention Time (months)	
			Wet	Dry
1A	825	943	3 to 4	Greater than 4
1b	825	1,193	2 to 3	3 to 4
2A	801	1,119	2 to 3	3 to 4
2B	814	1,305	2 to 3	3 to 4

NOTES:  
AFY = acre-feet per year  
SOURCE: GSI, 2017

Of the modeled scenarios, Scenario 1A provided the longest estimated retention time. **Figures 3.9-5 and 3.9-6** illustrate the modeled flow paths from the injection wells to the extraction wells during dry and wet periods, respectively. The model creates the flow paths by tracking a particle of water from the injection point to the extraction point. Note that the modeled retention times range from about 4 to 8 months. The retention times were less for all other scenarios. Of the four modeled scenarios, Scenarios 1A and 1B indicated that the 825 AFY injection goal could be achieved, whereas Scenarios 2A and 2B indicated that there may be times when injection would need to be curtailed by an estimated 2 to 5 percent due to high groundwater levels that could occur during wet periods. The model was also used to assess the potential for the proposed project to exacerbate seawater intrusion by tracking several particles of water from near the shore. The results indicated that seawater intrusion would not be exacerbated by the proposed project under Scenarios 1A, 1B, and 2A. Seawater intrusion was observed to be exacerbated under Scenario 2B. In summary, the model results concluded that:

- It is likely feasible for the aquifer to accept 825 AFY of treated recycled water
- A minimum of four injection wells would likely be needed to achieve the desired treated recycled water injection capacity
- Depending on the injection well locations, up to approximately 1,200 AFY of groundwater could potentially be produced for potable supply without the model indicating seawater intrusion would occur
- The 2-month minimum subsurface recycled water response retention time required under 22 CCR will likely be met.

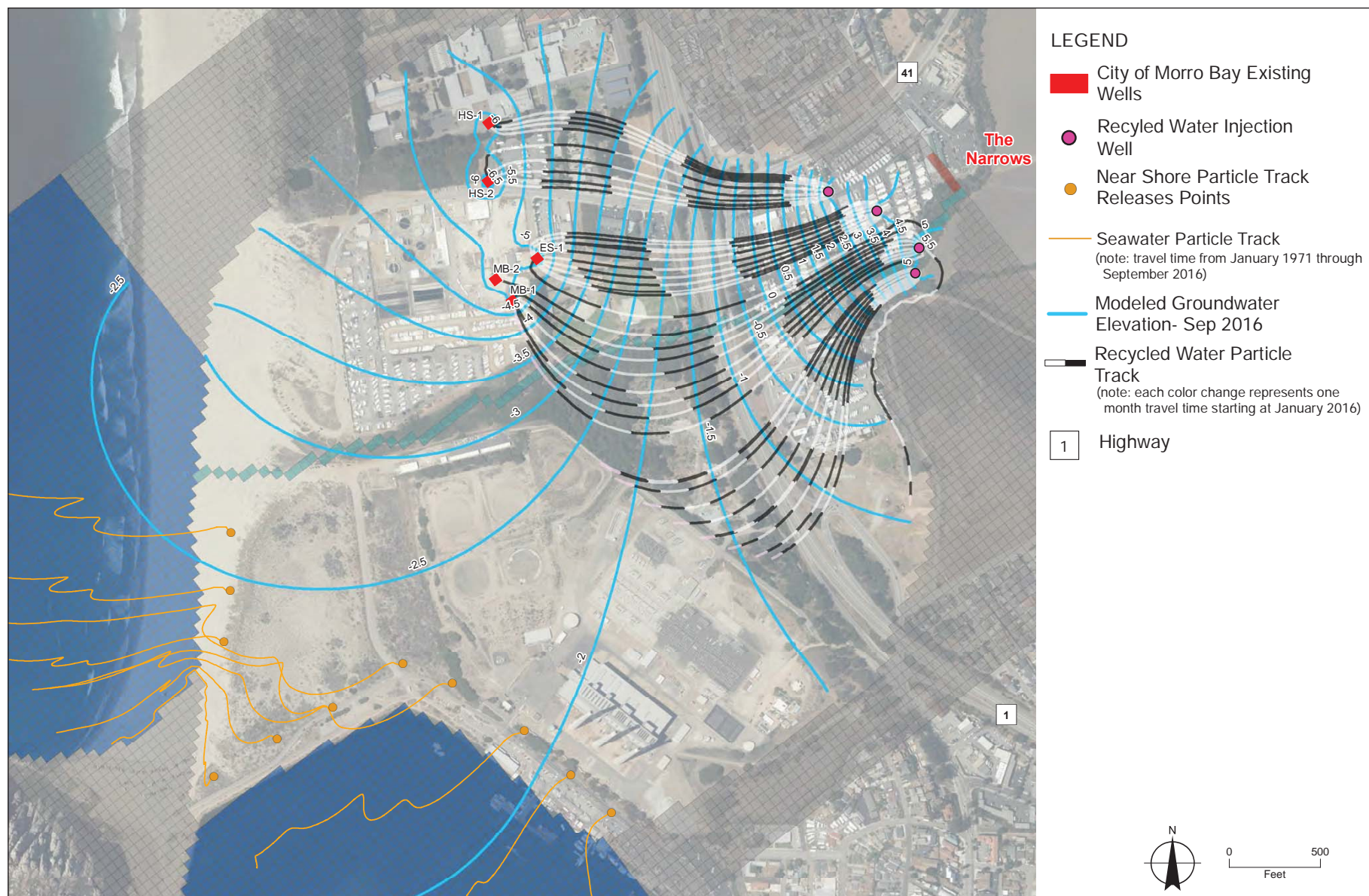
Based on the screening evaluation, the model report provided the following recommendations:

- Conduct a preliminary consultation with DDW regarding permitting considerations.
- Implement a pilot injection program. The pilot program would consist of constructing a pilot injection well and monitoring wells, baseline groundwater monitoring, and long-term injection pilot tests. The purpose of the pilot program would be to validate the screening modeling results and provide a design basis for the full scale project and permitting.

### ***American Water Works Association Standards for Proposed Recycled Water and Potable Water Pipelines***

Pipelines are constructed to various industry standards. The AWWA is a worldwide nonprofit scientific and educational association that, among its many activities, establishes recommended standards for the construction and operation of public water supply systems, including standards for pipe and water treatment facility materials and sizing, installation, and facility operations. While the AWWA's recommended standards are not enforceable code requirements, they nevertheless can dictate how pipelines for water conveyance are designed and constructed. The City has committed to requiring its contractors to incorporate AWWA Standards into the construction of the proposed recycled water and potable water pipelines.



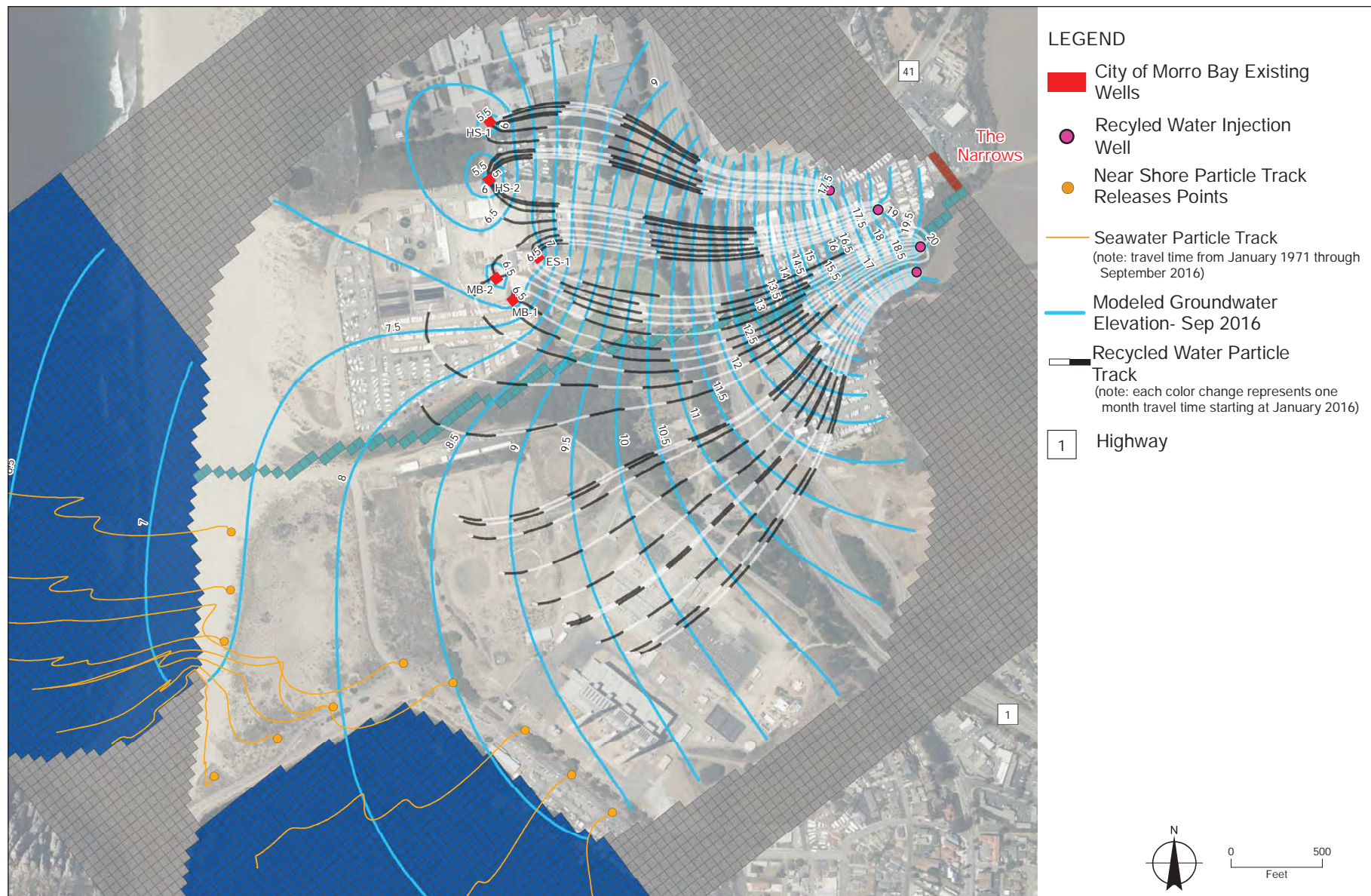


SOURCE: GSI, 2016

Morro Bay Water Reclamation Facility Project . 150412  
**Figure 3.9-5**  
 Recycled Water Response Retention Time  
 Scenario 1A During Dry Periods







SOURCE: GSI, 2016

Morro Bay Water Reclamation Facility Project . 150412  
**Figure 3.9-6**  
 Recycled Water Response Retention Time  
 Scenario 1A During Dry Periods





### ***Issues Not Discussed in Impacts***

Due to the nature of the project, there would be no impact related to the following topics for the reasons described below:

- ***Housing in flood zone:*** The proposed project does not involve construction of any housing within a 100-year flood hazard area. There would be no impact relative to residential units. This issue is not discussed further as there would be no impact.
- ***Failure of a levee or dam:*** The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving flooding due to failure of a levee or dam. The WRF and associated facilities are not located near a levee or dam nor would it involve construction or other activities that would alter the stability of any levee or dam, or any other flood control structure. This issue is not discussed further as there would be no impact.

## **Impact Analysis**

### ***Water Quality Standards and Waste Discharge Requirements***

**Impact 3.9-1: As a Groundwater Recharge Reuse Project, the proposed project would inject advanced treated recycled water into the Morro Valley Groundwater Basin for subsequent withdrawal as potable water supply. The proposed project would not result in violating water quality standards or waste discharge requirements or otherwise substantially degrade water quality. This would be a Class III impact, Less than Significant.**

### ***Construction of All Facilities***

Until operational and treated recycled water is injected into the aquifer, the proposed project would not affect groundwater quality and there would be no impact.

### ***Operation***

#### **All Facilities except Injection Wells**

Only the injection wells would involve the potential to affect groundwater quality. All other facility components would not affect groundwater quality and there would be no impact.

#### **Injection Wells**

The proposed project would inject advanced treated recycled water into the Morro Valley Groundwater Basin for subsequent withdrawal as potable water supply. If not properly managed, the injection of treated water could adversely affect groundwater quality by adding chemicals not presently in groundwater or causing a chemical reaction that degrades the existing water quality.

As discussed in Chapter 2.0 Project Description, prior to injection, the recycled water would be treated to tertiary standards, followed by additional treatment using microfiltration, reverse osmosis (RO) and advanced oxidation with ultraviolet radiation (UV), and an oxidant. Microfiltration filters out bacteria, protozoa, and solids; followed by RO to filter out viruses, salts, and organic contaminants; followed by advanced oxidation to destroy remaining trace contaminants and provide the final disinfection (TrojanTech, 2015). The use of advanced oxidation at the end of the treatment process is to remove nitrosamines, chemicals of emerging

concern<sup>2</sup> such as pharmaceuticals, and industrial solvents. In addition, the use of oxidation is effective in destroying microorganisms such as *Cryptosporidium* and *Giardia*. The combination of these post-tertiary advanced water treatment methods is required by the DDW for indirect potable reuse water projects using injection wells.

In addition to the treatment processes described above, the proposed project would also require retention time in the aquifer, as described above in the Methodology subsection. As previously discussed, the groundwater modeling indicates that Scenarios 1A and 1B would likely result in sufficient retention time to comply with DDW regulations. The City recognizes the DDW may require more stringent analysis of the retention time for permitting. In response, the City will be required to conduct tracer tests to further refine the estimated travel time. That test would include the installation of injection wells, in application of a tracer chemical in groundwater, and the monitoring of the existing extraction wells to measure the retention time. Those data would define the minimum distance between the injection and extraction wells, as required by the DDW.

With compliance with the existing regulations, the injection of treated recycled water into the aquifer would not degrade water quality and the impact would be less than significant.

### **Mitigation Measures**

None required.

### **Significance Determination**

Less than Significant

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**Impact 3.9-2: The proposed project could degrade surface water or groundwater quality in the event of pipeline rupture or accidental spill. Implementation of regulatory requirements, including a leak detection system and preventative maintenance program for new proposed project pipelines would ensure water quality in the project area is not adversely affected. This is a Class III impact, Less than Significant.**

### **Construction of All Facilities**

Construction of the proposed project would involve earthmoving activities such as excavation, grading, soil stockpiling, and filling. Construction activities could result in soil erosion and the subsequent discharge of sediment to down gradient surface waters or drainages (i.e., Morro Creek, Chorro Creek, and Estero Bay). Sedimentation of down gradient waterways could degrade water quality and affect the associated beneficial uses. Construction activities would also involve the use and handling of chemicals such as, but not limited to, oil, fuels, and lubricants. In the event of accidental release of such chemicals, such as spills during fueling of equipment or vehicles, the chemicals could come into contact with storm water runoff and flow into the nearby

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<sup>2</sup> Chemicals of emerging concern are man-made chemicals that have made their way into drinking water supplies but have not been previously regulated or studied at length. The chemicals include pharmaceuticals, personal care products, and various industrial chemicals.

water bodies, thus affecting surface water quality and or absorb into the soil and affect groundwater quality. That would be a potentially significant impact to water quality

Prior to the start of the proposed project construction, the City would be required to obtain coverage under the NPDES General Construction Permit and prepare NOI, Risk Assessment, and a SWPPP since the construction areas would be greater than one acre in size. The SWPPP would include BMPs to control erosion, sedimentation, and hazardous materials release, appropriate to the project's risk level. The CCRWQCB also would require that the SWPPP contain the necessary BMPs to meet its waste discharge requirements. In addition, construction of the proposed project is also subject to the BMPs included in the City's SWMP to control runoff and protect water quality during the construction period. In accordance with the City of Morro Bay's Municipal Code for Building Regulations—Stormwater Control (Chapter 14.48), the SWPPP would need to be approved by the City prior to commencement of construction activities (14.48.020 E.). Implementation of these BMPs during construction would ensure storm water runoff would not violate any water quality standards or waste discharge requirements.

Injection and monitoring wells would be required to adhere to well permitting requirements issued by the County Environmental Health Services Well Program. Well permit requirements would include measures that ensure the protection of water quality during the construction of any wells.

Project construction could require dewatering of groundwater during excavation phases to complete any subsurface improvements. Compliance with the required SWRCB Low-Threat General WDRs for construction dewatering would ensure impacts to water quality from construction dewatering discharges are less than significant. The General WDRs would require a Detection Monitoring Program (DMP) and may require treatment of dewatering discharges depending on water quality of the groundwater. Compliance with these existing regulations would ensure construction dewatering would have a less than significant impact on water quality.

## **Operation**

### **WRF**

The proposed WRF would meet advanced water treatment standards (tertiary treatment plus RO/UV/advanced oxidation) as required by 22 CCR recycled water quality control requirements for unrestricted use. The new WRF facilities would allow the City to discharge the advanced treatment recycled water for groundwater injection and indirect potable reuse, as well as direct discharge to Estero Bay through the existing ocean outfall if necessary, such as during periods of high groundwater levels. In addition, brine and wet weather flows would be discharged through the existing ocean outfall. Therefore, relative to the existing ocean discharge from the existing WWTP, the proposed project would decrease the volume of effluent currently discharged to Estero Bay under expected normal operating conditions when recycled water is used for groundwater replenishment and brine is discharged through the outfall. Even under conditions when recycled water is discharged through the outfall, water quality would be improved due to the addition of advanced treatment at the proposed WRF. As currently required for any water that is discharged to Estero Bay, the effluent would be required to adhere to the requirements of the Ocean Plan which would be included in the WRF's NPDES permit. The WRF effluent would be

required to meet the Secondary Treatment Regulation of 40 CFR Part 133. The WRF facilities would be subject to these treatment standards as a condition of the NPDES permit, requiring the facility to remove, as a 30-day average, at least 85 percent of both TSS and BOD<sub>5</sub> from the influent stream before discharging wastewater to the ocean. In addition, the 30-day average effluent limit would be 30 mg/L for both TSS and BOD<sub>5</sub> (40CFR Part 133.) Therefore, as required by the required operational permits, the discharge of brine and wet weather flows would be in compliance with NPDES and Ocean Plan effluent discharge requirements.

The proposed WRF would also be subject to regulation by an NPDES General Industrial Permit for WWTPs, which requires implementation of Best Available Technology (BAT) and Best Control Technology (BCT) design measures to control the quality of storm water runoff from industrial land uses. The General Industrial Permit also requires the preparation of a SWPPP and a monitoring plan. The SWPPP must identify the sources of pollutants and the means to manage the sources to reduce storm water pollution. The City would be required to submit a new NOI to comply with the General Industrial Permit for the proposed new WRF following completion of the proposed project.

The WRF is also subject to the BMPs included in the City of Morro Bay's SWMP, including any relevant post-construction BMPs to control runoff and protect water quality. Provision E.12 of the NPDES MS4 Permit requires the project to implement both source control measures and low impact design (LID) standards for post-construction stormwater treatment. As shown on **Figure 2-4**, the WRF design would include a stormwater management system that would route offsite stormwater around the WRF, and capture all onsite stormwater for percolation onsite or use within landscaping. Stormwater within the immediate areas of WRF processes will be drained to the WRF headworks for treatment. The storm system would comply with the City's NPDES MS4 and SWMP requirements. Therefore, compliance with existing regulatory requirements for the design and operation of the WRF would ensure that project operation does not impact water quality standards or violate waste discharge requirements. Impacts to water quality would be less than significant

#### Lift Station

The proposed lift station would be constructed to convey up to 7.05 MGD of wastewater uphill to the new WRF. Although relatively small (approximately 500 square feet), the proposed lift station would be required to adhere to NPDES MS4 storm drainage requirements as discussed above. Otherwise, there would be no other direct discharges associated with the lift station. Operation of the lift station may, however, include use of calcium ammonium nitrate or some other product for the purpose of odor control. Mismanagement of any chemicals or products used for odor control could be released causing adverse effects to workers, the public, or the environment. However, all activities associated with odor control and any other maintenance activities at the lift station would adhere to the Hazardous Materials Management Plan that would be required for all operational aspects of the project (See also discussion of hazardous materials handling in Chapter 3.8, Hazards and Hazardous Materials). Compliance with existing hazardous materials handling, storage, and disposal regulatory requirements would ensure that potential water quality impacts would be less than significant.

### Conveyance Pipelines

The proposed raw wastewater and waste discharge conveyance pipelines would be completed below the ground surface using AWWA standards. Any failure of the raw wastewater pipeline (force main) could adversely affect groundwater quality through the inadvertent release of untreated wastewater to the subsurface. This would result in a potentially significant impact to water quality.

However, the most frequently used materials for wastewater force mains are ductile iron, high density polyethylene, cement mortar-lined steel, and polyvinyl chloride (PVC). Ductile iron pipe has particular advantages in wastewater collection systems due to its high strength and high flow capacity with greater than nominal inside diameters and tight joints. For special corrosive conditions and extremely high flow characteristics, polyethylene-lined or epoxy-lined ductile iron pipe and fittings are widely used. Force mains are very reliable when they are properly designed and maintained (EPA, 2010). For the proposed project, the conveyance pipelines would be constructed in accordance with current industry practices and engineering standards by a qualified Civil Engineer, including a leak detection system. The leak detection system would use pressure gauges and flow meters to constantly monitor pipeline pressure and identify leaks early so that repairs would be made and pipeline failures would be avoided. The City's SSMP (2014) provides the framework for implementing preventative operation and maintenance activities on daily, monthly, semi-annually, and annual time steps. Such activities include daily lift station checks, daily sewer line cleaning, and daily CCTV (closed-circuit TV) inspections. The monitoring and inspection efforts are recorded and inform the City's plans for rehabilitation and replacement projects. The preparation and implementation of the SSMP is required by the SWRCB to fulfill the requirements of the State General Waste Discharge Requirements for Sanitary Sewer Systems, Order No. 2006-003. The City is required to revise and adopt an updated SSMP every five years. With implementation of regulatory requirements for system preventative maintenance and operation, there would be a less than significant impact to water quality.

### Injection and Monitoring Wells

As previously discussed in Impact 3.9-1, the proposed WRF would allow the City to meet advanced treatment standards as required by 22 CCR recycled water quality control requirements for unrestricted use. 22 CCR Article 5.2 *Indirect Potable Reuse: Groundwater Replenishment – Subsurface Application* includes the water quality requirements that are necessary for a project sponsor to be permitted to inject advanced treated recycled water into the subsurface.

Consequently, in the event that injection or monitoring wells leaked, the leaked fluid would be water treated to advance treatment standards meeting all drinking water standards. Therefore, the leaked water would not adversely affect water quality and the impact would be less than significant. In addition, and as previously discussed in the Methodology section, the injection of advanced treatment recycled water would aid in limiting any further seawater intrusion, which would benefit water quality.

### Decommissioning of Current WWTP

Once the demolition and decommissioning of the WWTP is completed, that site would be graded to conform with the basic drainage pattern of the surrounding area and be surfaced with a thin layer of gravel. In accordance with the City's Stormwater Control Ordinance and Storm Water

Management Plan, the vacant site would be designed to meet requirements to minimize increases in peak runoff volumes and rates, maximize infiltration of clean storm water, and minimize pollutant loading in storm water. Compliance with such regulatory requirements would result in less than significant impacts to water quality in the long-term due to decommissioning of the WWTP.

### **Mitigation Measures**

None required.

### **Significance Determination**

Less than Significant

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### ***Groundwater Supplies***

**Impact 3.9-3: As a Groundwater Recharge Reuse Project, the proposed project would inject advanced treated recycled water into the Morro Valley Groundwater Basin for subsequent withdrawal as potable water supply. The project would not result in a net deficit in aquifer volume or lowering of the local groundwater table. This would be a Class III impact, Less than Significant.**

### ***Construction of All Facilities***

The proposed project would be built in areas where groundwater levels are likely to be relatively shallow. As a result, temporary dewatering activities may be necessary in order to complete construction of some subsurface elements such as foundations, utility connections, pipelines, and improvements associated with the lift station. However, any dewatering that may be necessary would be temporary and not result in any permanent change to the underlying water table level or availability of groundwater supplies. The impact during construction would be less than significant.

### ***Operation***

#### **WRF**

The proposed WRF would introduce new impervious surfaces on land currently covered in pervious surfaces. As a result, there would be a reduction in the ability to allow for onsite infiltration of stormwater. However, development of the proposed WRF would be required to adhere to the Low Impact Development (LID) stormwater drainage control requirements of the NPDES MS4 permit, which minimizes the amount of new impervious surfaces and requires drainage features that infiltrate stormwater runoff onsite. Accordingly, as mentioned in Chapter 2, Project Description, the WRF design would include new stormwater detention basins; these basins would allow for percolation and onsite landscaping, similar to existing conditions. As a result, the proposed WRF would not reduce the infiltration of stormwater to the underlying groundwater basins. There would be no changes in the groundwater table or aquifer volume, and impacts would be less than significant.

### **Lift Station**

The proposed lift station would have a relatively small footprint (approximately 500 square feet). Depending on lift station location, this could result in a small change from pervious to impervious surfaces. That change would be considered negligible with respect to interference with stormwater infiltration. The proposed lift station would not substantially alter groundwater levels, and the impact would be less than significant.

### **Conveyance Pipelines**

The proposed pipelines would be located in areas where both pervious and impervious surfaces occur within the footprint of disturbance. However, once construction is completed the cover would be restored to match existing conditions such that there would be no change in the amount of surface runoff that is able to recharge into the underlying aquifer due to permeability of surface materials (See also discussion in Chapter 3.8 Geology, Soils and Seismicity and Mitigation Measure GEO-2). There would be no impact to the groundwater table or aquifer volume.

### **Injection and Monitoring Wells**

The impervious footprint of the proposed injection or monitoring wells would not be large enough to interfere substantively with groundwater recharge owing to the fact those are largely vertical subsurface improvements.

In operation, the injection of advanced treated recycled water could raise the water table such that adverse effects (*i.e.*, seepage and/or flooding of subsurface improvements) could result to land uses in the area if not managed appropriately, especially during years of higher than average precipitation. Historical groundwater monitoring data indicate that groundwater levels fluctuate from approximately 10 to 18 feet below ground surface. According to the groundwater modeling conducted for the project, injection of the treated recycled water at the proposed IPR East injection well area (Scenarios 1A and 1B) would not be expected to result in water levels approaching the ground surface. The groundwater modeling results did indicate, if the proposed IPR West injection well area is used (Scenarios 2A and 2B), then it could be necessary to reduce the maximum amount of advanced treated recycled water injected to the groundwater basin by 2 to 5 percent during wet periods. However, the monitoring wells required by the GRRP regulations would include the ability to monitor groundwater levels to ensure that such adverse effects of a high groundwater table do not occur, which would be incorporated into the Title 22 Engineering Report. The recycled water distribution system would be designed to convey water for injection, or as could possibly occur in wet weather conditions, to the ocean outfall as warranted by operational conditions. With compliance with the operational requirements identified by the Title 22 Engineering Report, the monitoring program would be developed with actionable triggers to modify operations such that adverse water levels do not occur. As a result, the potential impact related to a lowering of the groundwater table would be less than significant.

### **Decommissioning of Current WWTP**

As noted above, the decommissioning of the current WWTP would remove all of the existing impervious surfaces and result in a net increase in the amount of pervious surfaces that could provide infiltration. As a result, there would be no interference with groundwater recharge; rather the additional potential for stormwater infiltration may augment groundwater replenishment and



offset small increases in new impervious surfaces caused by the lift station and injection wells. The decommissioning of the WWTP would not lower the local groundwater table or cause a net deficit in aquifer volume; the impact would be less than significant.

### **Mitigation Measures**

None required.

### **Significance Determination**

Less than Significant

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### ***Alteration of Drainage Patterns***

**Impact 3.9-4: Installation of the proposed project components would alter topography and drainage patterns at each site; however, compliance with the City's Storm Water Management Plan and other NPDES regulatory requirements would minimize erosion, siltation, and flooding onsite and offsite. Implementation of mitigation requiring post-construction restoration of conveyance pipeline alignments would also ensure long-term impacts associated with erosion, siltation or flooding during storm events would be minimized. This is a Class II impact, Less than Significant with Mitigation.**

### ***Construction of All Facilities***

The construction of all proposed project facilities would require ground disturbance, including grading and excavation. Those activities would potentially alter site topography and slope temporarily, which could affect site drainage patterns. In particular, the WRF site includes a hillside area with approximately 10 to 25 percent slope (Yeh, 2017). Without control of stormwater runoff during construction, exposed soils could be subject to erosion, resulting in siltation at neighboring drainages such as the unnamed tributary to Chorro Creek near the WRF site and Morro Creek near the conveyance pipeline crossings. That is a potentially significant impact.

As noted above, all construction activities would be required to obtain coverage under the NPDES General Construction Permit. As part of the permit requirements, the contractor would prepare and implement a SWPPP, which would include BMPs to control erosion, sedimentation, and stormwater runoff during construction. Implementation of these BMPs would protect water quality during the construction period and minimize the potential for erosion or siltation. These measures would also be effective to protecting flooding either on- or off-site. Therefore, the potential impacts to erosion, siltation, or flooding from altered drainage patterns during construction would be less than significant.

### ***Operation***

#### **WRF**

The preferred WRF site is located on currently vacant hillside rangeland that is entirely pervious. The introduction of new impervious surfaces that are graded and flat would change drainage

patterns at the site and potentially cause erosion, siltation, or flooding if the control of stormwater runoff from the site is not designed appropriately. That is a potentially significant impact.

The proposed WRF would be required under the NPDES General Industrial Permit for WWTPs and the City's SWMP to implement BAT and BCT design measures to control both the quality and quantity of storm water runoff from the site. The City would be required to submit a new NOI to comply with the General Industrial Permit for the proposed new facility following completion of the proposed project. Prior to proposed project approval, the WRF design would be required to include drainage control features that would minimize the potential for erosion or siltation and provide the volume control to ensure that post-project flows do not exceed existing runoff volumes. Therefore, compliance with existing regulatory requirements for the design and operation of the WRF would ensure that project operation would have a less than significant impact related to erosion, siltation, or flooding either on- or off-site.

#### **Lift Station and Injection and Monitoring Wells**

The proposed lift station and the injection and monitoring wells would be relatively small and would not substantively alter drainage patterns at each site. In addition, the proposed facilities would be required to adhere to any applicable drainage control requirements from the City's SWMP, which complies with the NPDES MS4 permit. Therefore, the design of the proposed facilities would be required to include drainage control features that would contain or direct stormwater runoff, as needed, such that the potential for erosion, siltation or flooding would be less than significant.

#### **Conveyance Pipelines**

Once constructed, proposed project pipelines would be underground. The trenches or tunnels that would be created to install the pipelines would be backfilled and the residual post-construction disturbance at the ground surface could alter the local topography and drainage, resulting in onsite and offsite erosion, siltation, or flooding during storm events. That is a potentially significant impact.

To mitigate that potential impact, after construction is complete, the area of disturbance for conveyance pipelines would be restored in accordance with Mitigation Measure GEO-2 (see Chapter 3.6, Geology, Soils, and Seismicity) such that there would be negligible change to drainage patterns. The result would be a less than significant impact with mitigation related to erosion, siltation or flooding.

#### **Decommissioning of Current WWTP**

Decommissioning the current WWTP would alter drainage patterns by reducing the amount of impervious surfaces and buildings at that site. The site is relatively flat and not highly susceptible to erosion or siltation. Once the demolition and decommissioning of the WWTP is completed, the site would be graded to fit the basic drainage pattern of the surrounding area and be surfaced with a thin layer of gravel. In accordance with the NPDES General Construction Permit, post-construction BMP measures also would be required to ensure the final conditions do not leave the site susceptible to erosion or siltation. Demolition of the WWTP structures would increase onsite pervious surfaces and the potential for onsite infiltration, such that the potential for onsite and

offsite flooding may be lessened. Therefore, the potential impact related to erosion, sedimentation, and flooding would be less than significant.

### **Mitigation Measures**

Implement Mitigation Measure GEO-2: Post-Construction Site Restoration (see Chapter 3.6 Geology, Soils, and Seismicity, Impact 3.6-2).

### **Significance Determination**

Less than Significant with Mitigation

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### ***Stormwater Runoff and Drainage Systems***

**Impact 3.9-5: Installation of the proposed project components would add impervious surfaces that could increase stormwater runoff from proposed project sites. Compliance with the City's Storm Water Management Plan, Stormwater Ordinance, and other NPDES regulatory requirements would require drainage control features and LID features to be incorporated into proposed project design to control and prevent increases in stormwater runoff and minimize impacts to the existing capacity of the storm drain system. This is a Class III impact, Less than Significant.**

### ***Construction of All Facilities***

As described above under Impact 3.9-3, construction of proposed project components would temporarily alter drainage patterns at each site and potentially cause increases in stormwater runoff offsite that would be captured by the existing storm drain system. Runoff from construction sites also could carry pollutants such as oil, fuels, and lubricants to the existing storm drain system. That is a potentially significant impact.

All construction activities would be required to adhere to a SWPPP with BMPs to control stormwater runoff during construction in accordance with the NPDES General Construction Permit. Adherence to these existing regulatory requirements would ensure that stormwater runoff from construction sites would be controlled, such that the capacity of the existing stormwater drainage system is not impacted and polluted runoff is minimized. Impacts to the stormwater drainage system during project construction would be less than significant.

### ***Operation***

#### **WRF**

The preferred WRF site is currently undeveloped hillside rangeland and entirely covered in pervious surfaces. The introduction of new impervious surfaces that are graded and flat would change drainage patterns at the preferred WRF site and potentially cause increases in stormwater runoff offsite. Runoff from construction sites also could carry pollutants such as oil, fuels, and lubricants to the existing storm drain system. That is a potentially significant impact.

The proposed project would be required to adhere to the City's SWMP, which complies with the NPDES MS4 permit. To be consistent with these regulatory requirements, the design for the proposed WRF facility would be required to adhere to Provision E.12, which requires the project to implement both source control measures and low impact design (LID) standards for post-construction which limit the amount of runoff that is discharged offsite. In addition, the proposed WRF would be required to adhere to the City's Stormwater Ordinance which requires that existing or proposed infrastructure be capable of preventing any significant increase in peak flow for 2-year, 10-year, 50-year, and 100-year events which is defined as flows that are over five percent at and immediately downstream of the project site (MBMC subdivision 14.48.020 C.). The WRF design would include a stormwater management system that would route offsite stormwater around the WRF, and capture all onsite stormwater for percolation onsite or use within landscaping. Stormwater within the immediate areas of WRF processes will be drained to the WRF headworks for treatment. Implementation of the required LID drainage features in the facility design and compliance with the City's Stormwater Ordinance would ensure that all stormwater runoff from the site is captured onsite to reduce potential impacts related to the drainage system capacities to less than significant levels.

#### **Lift Station and Injection and Monitoring Wells**

The proposed lift station and the injection and monitoring wells would introduce new impervious surface at each site. The footprint of each facility would be relatively small at the ground surface and would not generate substantial volumes of stormwater runoff. In addition, as applicable, any new impervious surfaces associated with the lift station or wells would be required to implement stormwater drainage control features consistent with the City's Stormwater Ordinance and the SWMP. Compliance with these existing drainage control requirements, which include controls on stormwater volumes, would also prevent any significant increase in stormwater runoff. As such, there would be no significant impact to existing stormwater drainage system capacity.

#### **Conveyance Pipelines**

Once constructed, project pipelines would be underground. The trenches or tunnels that would be created to install the pipelines would be backfilled once construction is complete. There would be no change in the amount of pervious surfaces along the pipeline alignments and thus no change in the volume of stormwater runoff from the pipeline alignments' footprint. There would be no impact to the existing stormwater drainage system capacity from this project component.

#### **Decommissioning of Current WWTP**

Decommissioning of the current WWTP would reduce the amount of impervious surfaces and buildings at the site. The site is relatively flat, and once the demolition and decommissioning of the WWTP is completed, the site would be graded to fit the basic drainage pattern of the surrounding area and be surfaced with a thin layer of gravel. Demolition of the WWTP structures would increase onsite pervious surfaces and the potential for onsite infiltration. Accordingly, the amount of stormwater runoff discharged from the site would be reduced. Therefore, the potential impact related to drainage capacities and sources of runoff pollution would be less than significant.

## **Mitigation Measures**

None required.

## **Significance Determination**

Less than Significant

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## ***Flood Hazard Areas***

**Impact 3.9-6: The proposed lift station and IPR wells would be located within a 100-year flood hazard area; however, the relatively small footprint would be negligible and would not impede or redirect flood flows. This would be a Class III impact, Less than Significant. In addition, decommissioning of the WWTP would remove treatment facilities from the same 100-year flood hazard area, which is beneficial because it would remove a substantial impediment within the flood plain. Overall, the introduction of IPR wells combined with the removal of the existing WWTP would result less impervious surface than the current condition, which is a net beneficial impact (Class IV).**

## ***Operation***

### **WRF**

The proposed WRF would not be located within a 100-year flood zone (FEMA, 2017). As a result, there would be no impact related to placing structures within flood hazard area that could impede or redirect flood flows.

### **Lift Station**

The proposed lift station would be located within the 100-year flood zone according to the FEMA FIRM maps (FEMA, 2017). However, the lift station would include a subsurface concrete wet well and a separate control building structure. The lift station would only be visited during infrequent maintenance times and would not otherwise be staffed. The proposed lift station would have a relatively small footprint and would be designed to be floodproofed in accordance with the City's Municipal Code (Subdivision 14.72.050 A. 3. b.) so the structure is watertight with walls substantially impermeable to the passage of water. The lift station also would be designed to be elevated at least one foot above the base flood elevation in accordance with the same code section. Therefore, considering the relatively small mass of the lift station, and design requirements for floodproofing, there would be a less than significant impact related to flood flow and flood elevations on neighboring parcels.

The design of the lift station would also ensure its continued operation in the event of a flood, ensuring raw wastewater is pumped to the WRF without interruption, thus avoiding wastewater backup and spills. The lift station design also would include a backup generator to ensure uninterrupted operation in the event of a power outage.

### **Conveyance Pipelines**

The conveyance pipelines would be completed below ground surface and would not impede or redirect flood flows. The result would be no impact related to placing structures within a flood hazard area.

### **Injection and Monitoring Wells**

The proposed injection and monitoring wells would have a relatively small above ground presence but would be placed within the 100-year flood zone (FEMA, 2017). The proposed injection and monitoring wells would primarily consist of below ground improvements and thus would have a negligible contribution to the impedance or redirection of any flood flows. Therefore, there would be a less than significant impact related to impeding or redirecting flood flows from the injection and monitoring wells.

### **Decommissioning of Current WWTP**

Decommissioning of the current WWTP would remove structures that currently reside within the flood zone. Therefore, there would be no impact related to placing structures within the flood hazard area. Flood elevations in the immediate vicinity may be lower and experience less redirection of flooding with the removal of the current WWTP. This would be a beneficial impact.

### **Mitigation Measure**

None required

### **Significance Determination**

Beneficial impact

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### ***Tsunami Hazard Zone***

**Impact 3.9-7: The proposed project would remove the existing WWTP from the tsunami hazard zone, but construct a new lift station within the tsunami hazard zone. Floodproof design features and compliance with the City's Tsunami Emergency Response Plan would minimize service disruptions to the wastewater system due to the potential effects of tsunami inundation of the lift station. This is a Class III impact, Less than Significant.**

A seiche is a free or standing wave oscillation(s) of the surface of water in an enclosed or semi-enclosed basin that may be initiated by an earthquake. None of the proposed elements of the proposed project are located adjacent to an enclosed or semi-enclosed body of water such that they would be susceptible to seiche waves. There would be no impact related to inundation by seiche.

Tsunamis (seismic sea waves) are long period waves that are typically caused by underwater disturbances (landslides), volcanic eruptions, or seismic events. Areas that are highly susceptible to tsunami inundation tend to be located in low-lying coastal areas such as tidal flats, and

marshlands. The proposed lift station, injection and monitoring wells, and the existing WWTP are located within a tsunami hazard area and discussed below (San Luis Obispo County, 2016).

Mudflows are debris flows that are associated with a high water content and typically associated with areas of steep slopes where vegetation is not sufficient to prevent rapid erosion. Mudflows are most common in arid and semi-arid regions and can also be associated with volcanoes and areas that have been affected by wildfires. The preferred WRF site is located in a hillside area, and as such, impact related to mudflow are discussed below.

## **Construction and Operation**

### **WRF**

The preferred WRF site is located upland over two miles from the coastline and out of any potential tsunami inundation hazard area (San Luis Obispo County, 2016). The preferred WRF site is located within a State-designated Seismic Hazard Zone for Earthquake Induced-Landslides, but mudflows are associated with high volumes of water on steep slopes where vegetation is not sufficient to prevent rapid erosion. The slopes at the preferred WRF site are approximately 10 to 25 percent. As discussed above in Impact 3.9-5, the proposed WRF design would include routing offsite stormwater around the proposed WRF and an onsite stormwater runoff detention system that would capture all onsite stormwater for onsite landscaping with the option of pumping excess stormwater to the proposed WRF for treatment. With the construction of stormwater control measures, mudflows are not considered likely (See Chapter 3.6 Geology for a further discussion of landslide hazards). Therefore, the proposed project would not be susceptible to inundation by tsunami or mudflow, and impacts would be less than significant.

### **Lift Station and Injection/Monitoring Wells**

Since the proposed lift station and IPR wellfield locations are located in the coastal zone, these facilities could experience inundation by a tsunami event (San Luis Obispo County, 2016). The City has an adopted Tsunami Emergency Response Plan. The plan is intended to effectively coordinate the City's response to a tsunami to minimize loss of life and damage to property. The proposed project elements would all be required to adhere to the plan. Although there is no way to completely protect against a potential tsunami near the coast, the Tsunami Emergency Response Plan provides measures that would lessen the potential for catastrophic failure of the proposed improvements and protect any workers that may be onsite. The Emergency Response Plan measures include alarms, notifications, remote monitoring systems, procedures to protect electrical and controls systems to the extent practicable, and procedures to bring systems back online as soon as facilities are safe to enter by operations staff. In addition, as mentioned above under Impact 3.9-5, the proposed lift station would only be visited during infrequent maintenance times and would not otherwise be staffed. The proposed lift station would have a relatively small footprint and would be designed to be floodproofed in accordance with the City's Municipal Code (Subdivision 14.72.050 A. 3. b.) so the structure is watertight with walls substantially impermeable to the passage of water. The lift station also would be designed to be elevated at least one-foot above the base flood elevation in accordance with the same code provision. Therefore, considering the relatively small mass of the proposed lift station and design requirements for floodproofing, the impact of potential tsunami inundation to the operation of the wastewater system would be less than significant.

The proposed lift station and well sites are flat and located on unconsolidated sandy soils. Therefore, there is a low potential for damage or injury from mudflows. Therefore, the potential impacts from mudflows would be less than significant.

### **Conveyance Pipelines**

The proposed conveyance pipelines would be completed below ground and would not be susceptible to any tsunami or mudflow hazards. There would be no impact.

### **Decommissioning of Current WWTP**

The existing WWTP is located within the tsunami hazard inundation zone. The decommissioning would remove the treatment facilities from the tsunami hazard zone and relocate the associated treatment plant staff to the proposed WRF which is outside of the tsunami hazard area. That would be a beneficial impact. In addition, the existing WWTP site is flat and would not be susceptible to mudflow.

### **Mitigation Measure**

None required.

### **Significance Determination**

Less than Significant

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## 3.10 Land Use and Land Use Planning

This section provides an assessment of project effects related to land use and planning, and addresses whether the proposed project would physically divide existing communities and potential conflicts with existing land use policies. An assessment of the proposed project's potential to conflict with the County of San Luis Obispo's General Plan, Local Coastal Program (LCP) and Coastal Zone Land Use Ordinance (CZLUO) and the City of Morro Bay's General Plan, LCP and City of Morro Bay Zoning Ordinance.

This analysis complies with Subdivision 15125(d) of the *CEQA Guidelines*, which directs all EIRs to discuss a project's potential to conflict with applicable plans, policies, and regulations adopted for the purpose of avoiding or mitigating environmental effects, including general plans and regional plans. Potential conflicts with policies related to specific environmental issues (e.g., water quality, cultural resources) are addressed in the environmental topic areas included in other sections of this EIR.

### 3.10.1 Environmental Setting

#### Local Setting

Some components of the proposed project are located in an unincorporated portion of the County of San Luis Obispo (County), while others are within the City of Morro Bay (City). Specifically, the preferred WRF site is located within the County while the lift station, distribution system and conveyance pipelines between the lift station and WRF site are located within the City. The entire study area is located within the Coastal Zone as defined by the California Coastal Act (see Figure 1-1 in Chapter 1).

#### ***Proposed WRF Site***

The preferred WRF site would be located within a portion of the Estero Planning Area in the County, which occupies a narrow strip along the coast north of the City and south of the unincorporated community of Los Osos. The Estero Planning Area is characterized by its natural setting including volcanic peaks, green valleys, coastal terraces, and hillsides (County of San Luis Obispo, 2009). The area surrounding the preferred WRF site is mostly undeveloped. The Bayside Care Center senior living facility is located just southwest of the preferred WRF site. The preferred WRF site is otherwise surrounded to the west, north and east by undeveloped grazing land. Immediately east of the preferred WRF site is an unnamed drainage that is a tributary to Chorro Creek. Highway 1 is located approximately 690 feet south of the southern boundary of the preferred WRF site, and across Highway 1, at the intersection of Highway 1 and South Bay Boulevard is a church, mortuary and a mobile home park.

#### ***Proposed Lift Station***

Morro Rock is one of the defining geologic and topographic characteristics of Morro Bay. The City's land use pattern is largely defined by Morro Harbor, which is a working waterfront that services commercial fishing operations and offers recreational opportunities. The most dense

residential and commercial land uses are located south of Morro Rock around Morro Bay, inland from the sandspit located in the middle of the harbor. Moving outward and eastward from the Harbor, the City is surrounded by agricultural land uses that serve to maintain a buffer around the town, isolating it from other development (City of Morro Bay, 2004). The proposed lift station would either be located within the City's existing Corporation Yard on Atascadero Road (Option 1A) or adjacent to Atascadero Road along the public right-of-way (Option 5A). Those locations are just north and east of the existing WWTP and the City's Corporation Yard. Morro Bay High School is located just north of Atascadero Road and the Morro Strand RV Park is also located along Atascadero Road just northeast of the proposed lift station locations. Developed areas are more heavily concentrated further inland of the proposed lift station sites, on the east side of Highway 1.

### ***Proposed Conveyance Pipelines***

There are two options for the proposed recycled water conveyance pipeline alignments, a west alignment and an east alignment. The raw wastewater and brine/wet weather discharge pipeline would run along the majority of the proposed west alignment starting at the proposed injection well area as shown in Figure 2-2 and culminating at the proposed WRF site.

#### **IPR West Alignment (West Alignment)**

The proposed west alignment starts at the proposed lift station and travels south along J Street and east around the perimeter of Lila Keiser Park before following an existing parkway/bike path across Morro Creek and south until it meets Main Street. The remainder of the alignment is generally located within existing rights-of-way. The alignment continues southeast along the Main Street right-of-way to Quintana Road. Along Main Street, to the west are residential uses separated from the right-of-way by a landscaped berm, and to the east are commercial uses. The west alignment continues along Quintana Road, a frontage road that generally parallels Highway 1, until it reaches a point just west of the Bay Boulevard interchange where it crosses Highway 1. Commercial and light industrial uses exist along the south side of Quintana Road until La Loma Avenue. Along that segment of Quintana Road there are some commercial uses located on the north side of Quintana Road near Main Street, otherwise the remainder of Quintana Road on the north is bordered by Highway 1. The segment of Quintana Road from La Loma Avenue to the crossing point abuts a portion of Morro Bay State Park the south, and Highway 1 to the north. After crossing Highway 1, the west alignment continues east along Teresa Road to South Bay Boulevard, where it heads north to the proposed WRF site. Teresa Road fronts Highway 1 and serves as the entry road to the Bayside Care Center nursing home.

#### **IPR East Alignment (East Alignment)**

The proposed east alignment starts at the proposed injection well area (IPR East) as shown in Figure 2-2 and culminates at the preferred WRF site. The proposed east alignment would extend west along Errol Street to Main Street. Along the north side of Errol Street are commercial uses, and a mobile home park is located to the south. The east alignment continues along Main Street to Radcliff Avenue. That segment of the alignment fronts Highway 1 to the west and commercial uses, an RV park, and open space to the east. The east alignment continues east along Radcliff Avenue to the end of Bolton Drive within a residential neighborhood. The east alignment

continues from the end of Bolton Road to Teresa Road. This segment generally parallels Highway 1 and is located within undeveloped grazing land. The east alignment continues east along Teresa Road to South Bay Boulevard, where it heads north to the proposed WRF site. Teresa Road fronts Highway 1 and serves as the entry road to the Bayside Care Center nursing home.

## 3.10.2 Regulatory Framework

### State

#### ***California Coastal Act***

The California Coastal Act (Public Resources Code (PRC) section 30000 *et seq.*) (Coastal Act) was enacted to provide long-term protection of the state's 1,100-mile coastline for the benefit of current and future generations. The Coastal Act provides for the management of lands within California's Coastal Zone boundary, as established by the Legislature and defined in Coastal Act (PRC section 30103). The width of the Coastal Zone varies across the State, extending inland a couple hundred feet in some locations to 5 miles in others, and offshore out to 3 miles. The Coastal Act authorizes the State of California to regulate development within the Coastal Zone, defined as the area between the seaward limits of the state's jurisdiction and generally 1,000 yards landward from the mean high-tide line of the sea. The Coastal Zone in the project vicinity is shown in Figure 1-1.

The Coastal Act includes specific policies for management of natural resources and public access within the coastal zone. Those policies constitute the statutory standards applied to coastal planning and regulatory decisions made by the California Coastal Commission (CCC) and by local governments, pursuant to the Coastal Act. The basic goals of the Coastal Act, per PRC section 30001.5, are:

- (a) Protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.
- (b) Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.
- (c) Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.
- (d) Assure priority for coastal-dependent and coastal-related development over other development on the coast.
- (e) Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

The Coastal Act's coastal resources planning and management policies cover six areas: public access, recreation, the marine environment, land resources, development, and industry. The policies articulate requirements for public access and for protection of marine resources and environmentally sensitive habitat areas. They lay out clear priorities for concentrating

development in urbanized areas, preserving agriculture and open space, protecting fishing and coastal-dependent industry, promoting recreational use of the coast, and giving priority to visitor-serving commercial uses over general commercial or residential development. In particular, relevant Coastal Act policies that would be applicable to the proposed project are those related to public access and recreation. The proposed project does not interfere with public access or the provision of sufficient recreation and low-cost visitor and recreation facilities.

The Coastal Act requires individual jurisdictions adopt an LCP to implement the Coastal Act at the local level. Upon certification of the LCP by the CCC, the local government becomes the Coastal Development Permit (CDP) permitting authority. The County and the City have adopted LCPs, which have been certified. Upon certification of the LCP, the LCP serves as the standard for review to determine any conflicts with the Coastal Act, including avoidance of hazard areas and designated sensitive view areas, protection of archaeological resources, maximizing and protecting public access, and maximizing wastewater reclamation. Relevant LCP policies that would be applicable to the proposed project and an assessment of the proposed project's potential to conflict with any applicable LCP policies adopted for the purpose of avoiding or mitigating an environmental effect are described in the impact analysis below (see Table 3.10-2 and Table 3.10-3).

The County and City are working closely to implement the proposed project, which will ensure compliance with a directive from the CCC to relocate the WRF outside of a coastal hazard area and sensitive view areas, two of the reasons the CCC denied the CDP for replacing/upgrading the existing WWTP in its current location.<sup>1</sup>

### ***San Luis Obispo Local Agency Formation Commission (LAFCO)***

San Luis Obispo Local Agency Formation Commission (LAFCO) implements the Knox-Cortese-Hertzberg Act of 2000. More specifically, the State of California gives LAFCO the authority to achieve the following objectives:

- Encourage orderly formation of local government agencies. Consider proposals for formation of new local governmental agencies including Cities and Special Districts. LAFCO is also responsible for considering annexations and detachments for agencies. LAFCO also determines the Sphere of Influence, which is a plan for the probable physical boundary of a City or Special District. Reviews proposals based on a variety of factors including: a plan for services submitted by the agency, resource and infrastructure capacity, and the need for services.
- Preserve agricultural land resources. Considers the impact that a proposal may have on existing agricultural lands with focus on prime agricultural lands. San Luis Obispo LAFCO has adopted specific policies regarding the preservation of agricultural resources.

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<sup>1</sup> In January 2013, the CCC denied the City and Cayucos Sanitary District's project application for the CDP to demolish the existing WWTP and construct a new treatment facility on the same site. The basis for that denial included the CCC's assessment the new facilities would be inconsistent with the Morro Bay Local Coastal Plan's zoning provisions, failed to avoid coastal hazards, failed to include a sizeable reclaimed water component, and that the project location was within an LCP-designated sensitive view area.

- Discourages urban sprawl. Urban sprawl can best be described as irregular and disorganized growth occurring without apparent design or plan. By discouraging sprawl, LAFCO limits the misuse of land resources and promotes a more efficient system of services by local governmental agencies.

The preferred WRF site is located immediately adjacent to the Morro Bay service area. However, it is not currently located within the City's sphere of influence. The 396-acre parcel that the preferred WRF site is located within was studied in LAFCO's Morro Bay Sphere of Influence (SOI) Update and Municipal Service Review (MSR) in 2017. The study identified two roughly 15-acre portions of the 396-acre parcel considered viable locations for a future WRF site. LAFCO recommended the SOI should exclude the larger, 396-acre parcel with exception of a future WRF site. LAFCO further recommended, if the City selected the site and builds a treatment facility, then LAFCO would support the City's selection and would process an SOI and annexation proposal at that time (San Luis Obispo LAFCO, 2017).

## Local

### ***County of San Luis Obispo General Plan and Local Coastal Plan***

The County General Plan is integrated with the Local Coastal Program and was first adopted by the County and certified by the California Coastal Commission in 1988. The Land Use Element provides a framework for planning within the Coastal Zone and serves as the Land Use Plan portion of the County Local Coastal Program (LCP). In addition to a framework and coastal plan policies, the Land Use Plan includes Area Plans and land use category maps. The County land use category maps also serve as the zoning maps. The Land Use Plan together with the Coastal Zone Land Use Ordinance (CZLUO) and related maps comprise the Local Coastal Program (County of San Luis Obispo, 2011).

### ***Estero Area Plan and Geologic Study Area (GSA)***

The preferred WRF site is located within the Estero Area Plan and the Geologic Study Area (GSA) combining designation. That site is located outside of the Urban Reserve Line (URL), which is coterminous with the boundary between the City and County. The GSA designation when applied to lands outside the URL signifies that the area is subject to high landslide risk potential. The Estero Area Plan provides additional policy guidance and standards unique to the plan area. Combining designations are overlay designations that are applied to areas with hazardous conditions or resources of particular public value and where more detailed project review is needed.

The existing land use designations for the preferred WRF site and surrounding areas are depicted in **Figure 3.10-1** and further described below.

The majority of the Estero Planning Area is designated Agriculture, including the preferred WRF site and surrounding properties to the north, east and south. To the west, the preferred WRF site abuts the City. Land use designations within the City are described in further detail in the subsequent section.

The Agriculture designation allows Public Utility Facilities as a special use, which is allowable subject to special standards and/or processing requirements, unless otherwise limited by a specific planning area standard. Public Utility Facilities are defined as:

*Fixed-base structures and facilities serving as junction points for transferring utility services from one transmission voltage to another or to local distribution and service voltages. These uses include any of the following facilities: electrical substations and switching stations; telephone switching facilities; natural gas regulating and distribution facilities; public water system wells, treatment plants and storage; and community wastewater treatment plants, settling ponds and disposal fields (County of San Luis Obispo, 2011).*

### **County of San Luis Obispo Coastal Zone Land Use Ordinance (CZLUO)**

As defined above, Public Utility Facilities uses within the County's Agriculture designation are subject to the special use standards in the San Luis Obispo Coastal Zone Land Use Ordinance (CZLUO) (County of San Luis Obispo, 2011). The CZLUO was adopted in 1988 and most recently revised in December 2014. Development within the Coastal Zone as defined by the Coastal Act of 1976 is subject to the CZLUO. As set forth in Section 30106 of the Coastal Act, "development" in the Coastal Zone means:

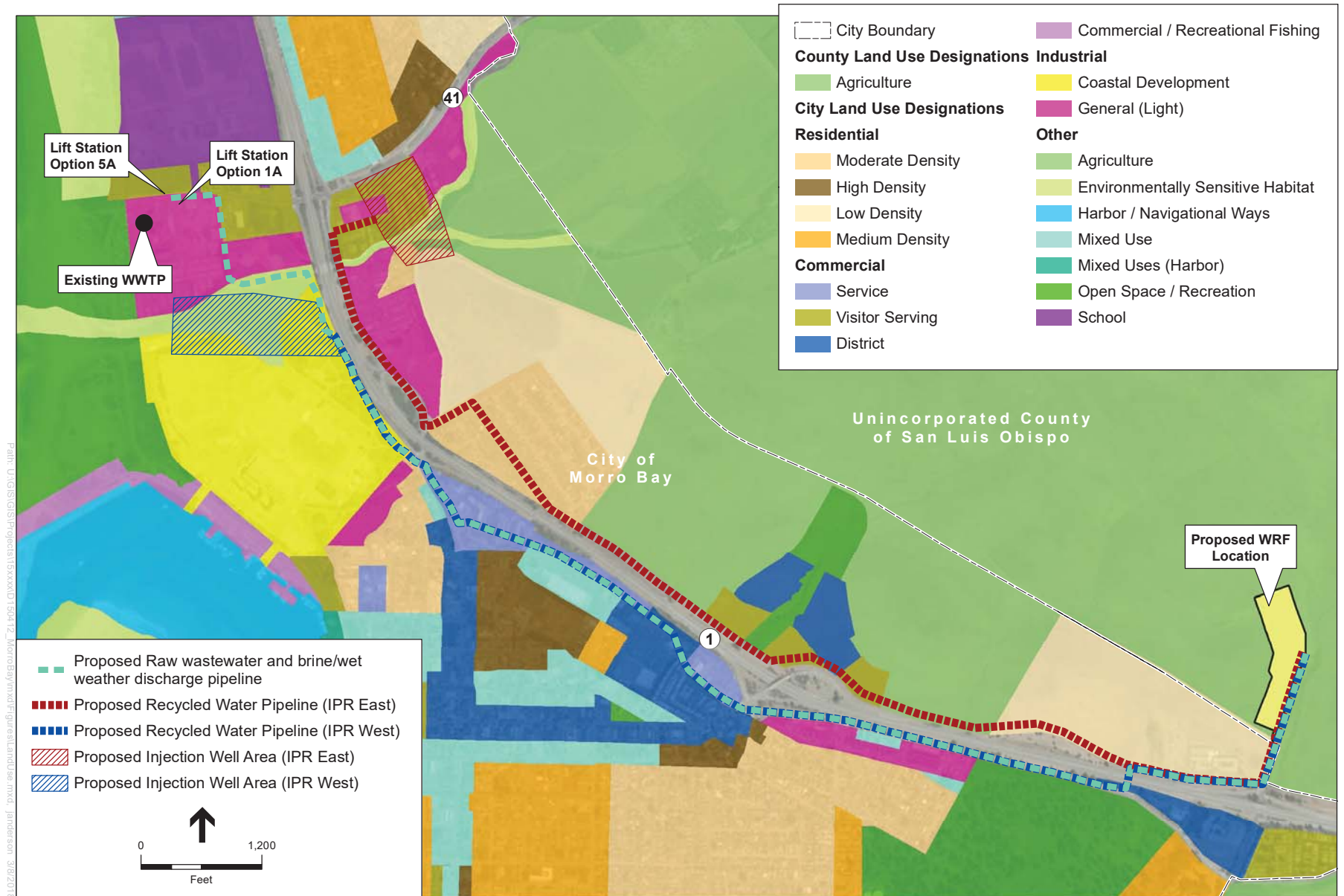
*construction, reconstruction, demolition, or alteration of size of any structure, including any facility of any private, public or municipal utility*

As used in the CZLUO,

*structure includes, but is not limited to, any building, road, pipe, flume, conduit, siphon, aqueduct, telephone line, and electrical power transmission and distribution line.*

Pursuant to Section 23.08.288 of the CZLUO, any new public use facility or modification of an existing public use facility in the Agriculture, Rural Lands, Residential, Office and Professional, and Commercial land use categories requires approval of a Development Plan consistent with the requirements of Section 23.02.034 (Development Plan) and additional application requirements of Section 23.08.288 (b). In addition, pursuant to Section 23.08.288(c), the following development standards apply in addition to any that may be established as conditions of approval:

- 1) Environmental quality assurance. An environmental quality assurance program covering all aspects of construction and operation shall be submitted prior to construction of any project component. This program will include a schedule and plan for monitoring and demonstrating compliance with all conditions required by the Development Plan. Specific requirements of this environmental quality assurance program will be determined during the environmental review process and Development Plan review and approval process.



SOURCE: ESRI 2016; City of Morro Bay; San Luis Obispo County

Morro Bay Water Reclamation Facility Project. 150412

**Figure 3.10-1**  
County and City Land Use Designations





- 2) Clearing and revegetation. The land area exposed and the vegetation removed during construction shall be the minimum necessary to install and operate the facility. Topsoil will be stripped and stored separately. Disturbed areas no longer required for operation will be regarded, covered with topsoil and replanted during the next appropriate season.
- 3) Fencing and screening. Public Utility Facilities shall be screened on all sides. An effective visual barrier will be established through the use of a solid wall, fencing and/or landscaping. The adequacy of the proposed screening will be determined during the land use permitting process.

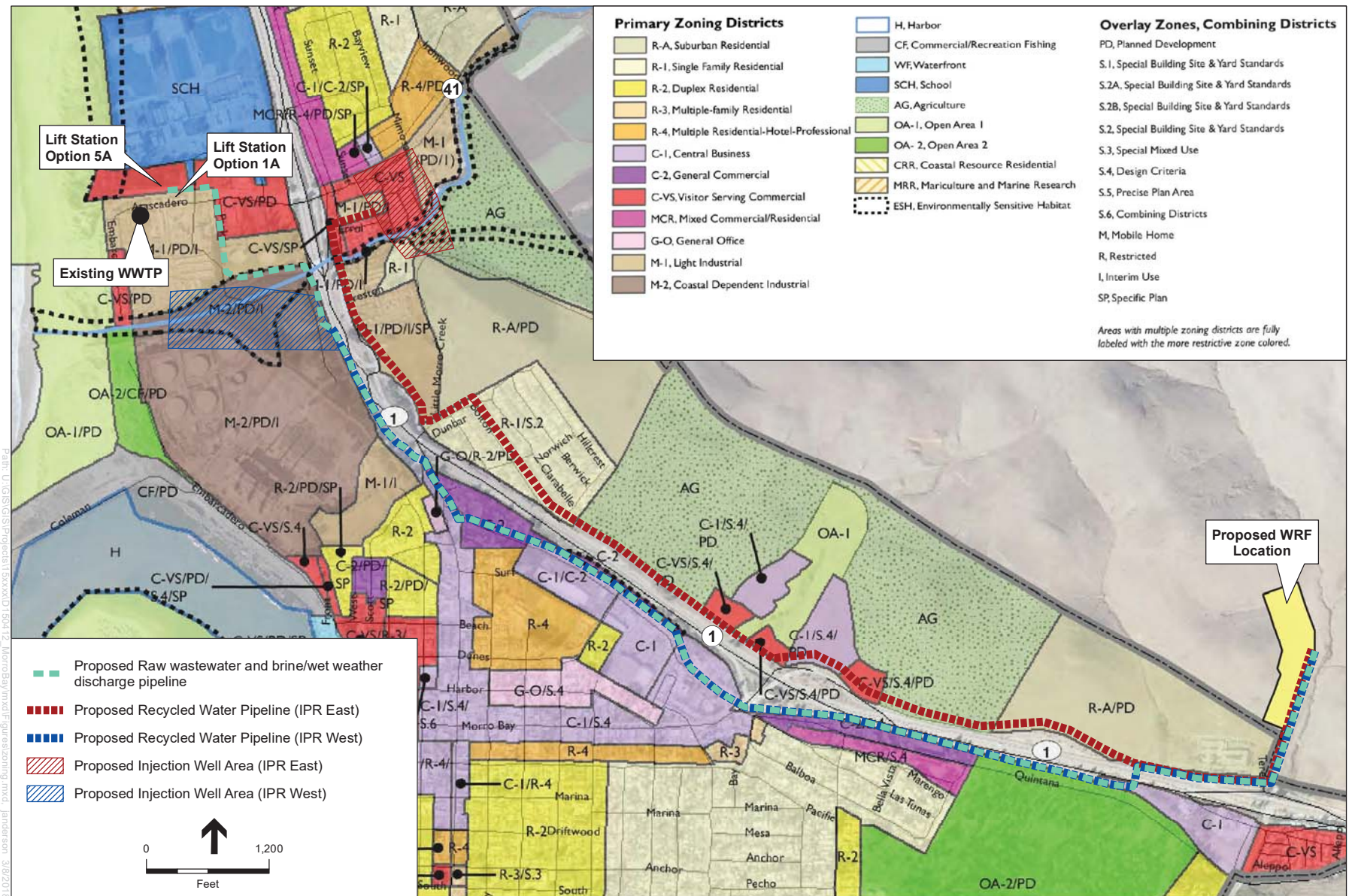
The Development Plan process includes a public hearing before the Review Authority. Action on the Development Plan is discretionary and serves as the local government equivalent of a coastal development permit action in accordance with the Coastal Act.

### ***City of Morro Bay General Plan and Local Coastal Plan***

The City's current General Plan was adopted in 1988 and the Local Coastal Program was certified by the California Coastal Commission in 1982. Existing land use and zoning designations for the preferred WRF site and surrounding areas are depicted in **Figure 3.10-1** and **Figure 3.10-2** respectively and are further described below. A large portion of the proposed recycled water pipeline, the proposed injection well sites, and the proposed lift station are within the City. The proposed recycled water pipeline passes through several land use and zoning designations. Along IPR East, land use designations include: Low and Moderate Density residential, Agriculture, Environmentally Sensitive Habitat, General (Light) industrial and Visitor Serving. Along IPR West, land use designations include: Low Density Residential, District Commercial, Open Space/Recreation, General (Light) Industrial, Service Commercial, Coastal Development Industrial, Environmentally Sensitive Habitat and Visitor Serving. The existing land use designations and corresponding zoning for project components, with the exception of pipelines, also are listed in **Table 3.10-1** and described below.

The City's 1988 General Plan and 1982 Local Coastal Program currently govern the components of the proposed project within the City. However, it should be noted the City is currently in the process of comprehensively updating the General Plan and Local Coastal Program. The General Plan and Local Coastal Program (GP/LCP) Update, referred to as Plan Morro Bay, was initiated in early 2016 and is estimated to be completed by the end of 2018. The City has completed their initial outreach, community baseline assessment, key issues and policies report, vision and values statement and the draft vulnerability assessment. The intent of the GP/LCP update is to ensure the proposed WRF is consistent with and is coordinated within the planning framework of the updated Plan. A preferred Land Use Map was selected in August 2017 that designates the preferred WRF site as Public/Institutional and a Notice of Preparation (NOP) for the EIR analyzing the updating of the City's land use regulations was prepared in November 2017. The City is currently preparing the Draft Plan and EIR and adoption hearings are anticipated to occur in the Fall/Winter 2018.





SOURCE: ESRI 2016

— Morro Bay Water Reclamation Facility Project. 150412

**Figure 3.10-2**  
City of Morro Bay Zoning



**TABLE 3.10-1  
ABOVE-GROUND COMPONENTS EXISTING LAND USE AND ZONING DESIGNATIONS (CITY OF MORRO BAY)**

<b>Project Site</b>	<b>1988 General Plan Land Use Designation/1982 Local Coastal Program Designation</b>	<b>Existing Zoning /Zoning Overlay</b>
Lift Station Option 1A	General (Light) Industrial	M-1 - Light Industrial
Lift Station Option 5A	Visitor Serving	CVS - Visitor Serving Commercial/PD - Planned Development
Proposed Injection Wells Site (IPR West)	General (Light) Industrial, Environmentally Sensitive Habitat Coastal Dependent Industrial	M-2 - Coastal Dependent Industrial/PD - Planned Development /I- Interim Use M-2 – Coastal Dependent/PD-Planned Development/I – Interim Use M-1 – Light Industrial/PD – Planned Development/I-Interim Use M-2 – Light Industrial/PD – Planned Development/I-Interim Use
Proposed Injection Wells Site (IPR East)	General (Light) Industrial Visitor-Serving Commercial Environmentally Sensitive Habitat Moderate Density Residential Low Density Residential	M-1 – Light Industrial/PD – Planned Development/I – Interim Use C-VS – Visitor Serving Commercial AG – Agriculture R-1 – Single-Family Residential R-A/PD – Suburban Residential/Planned Development

### ***City of Morro Bay Zoning Ordinance***

The City's Zoning Ordinance implements the General Plan and serves as the implementation plan for the LCP. As shown in Figure 3.10-2, there are a range of zoning designations that apply to the project sites. The following describes the intent of each zoning designation as well as applicable overlay designations.

The proposed project includes the construction of new public utility facilities. Public Utility Facilities, include but are not limited to water wells, substations, switching stations, pipelines, transmission lines and similar utility uses. Public Utility Facilities are considered a special use and are allowed in any of the above listed zoning designations subject to approval of a conditional use permit processed in accordance with the provisions of Chapter 17.60 and Subdivision 17.30.030 (P)(1)(a) of the Morro Bay Municipal Code (MBMC), which provides the following additional finding applicable to new pipelines.

- a. Routes of All New Lines. The routes of all new lines shall, to the maximum extent feasible, avoid important coastal resources such as recreation and environmentally sensitive areas. Where such resources cannot be avoided, and will be adversely affected, the planning commission/city council shall require appropriate mitigation measures. These measures may include, but are not limited to precluding construction during peak visitor seasons in recreational areas, precluding construction during nesting or breeding seasons in sensitive habitat areas, the vegetation of graded areas, the undergrounding of utility facilities, the preparation of an oil spill contingency plan for new pipelines, restrictions of the use of herbicides, and various erosion control measures (as appropriate);

The proposed project is also subject to approval of a Coastal Development Permit in accordance with the provisions of MBMC Chapter 17.58.

### 3.10.3 Impacts and Mitigation Measures

#### Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to land uses in the project area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to land use and planning if it would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any habitat conservation plan or natural community conservation plan.

#### Methodology

The potential impacts to land use associated with the various components of the project were evaluated on a qualitative basis. The evaluation of impacts is based on professional judgement, the significance criteria established by the CEQA Plus guidelines and a comparison with relevant land use policies and standards for consistency.

#### Impact Analysis

##### *Divide Established Community*

**Impact 3.10-1: The proposed project would not physically divide an established community. Project components are located in areas that are not established residential communities and would not disconnect any established communities. There would be no impact.**

The proposed construction and operation of the project would not create any physical barriers or linear development within an established community. As a result, there would not be impacts related to physically dividing an established community.

##### **WRF**

The proposed WRF would be located on an approximately 10- to 15-acre site of a larger 396-acre agricultural parcel. The majority of the surrounding area is undeveloped, grazing land. There nearest development is an existing nursing home located southwest of the preferred WRF site. However, the preferred WRF site development would not create a physical barrier or physically disconnect the existing nursing home from any established communities within the vicinity of the preferred project site.

### ***Lift Station***

The proposed lift station would be located within the existing Corporation Yard or along the right of way of Atascadero Road across the street from the existing Corporation Yard. There are no existing residential developments within the vicinity of the proposed lift station sites. Thus, development of the proposed lift station would not physically divide two established residential communities.

### ***Conveyance Pipelines***

The conveyance pipelines would be constructed in trenches within existing rights-of-way or underground and would not result in the creation of a physical barrier that would divide an established community.

### ***Injection and Monitoring Wells***

The injection and monitoring wells would be constructed primarily underground. The injection wellheads would occupy a footprint of approximately 200 square feet, enclosed by a fence no greater than 8 feet tall. The wellhead would not be of sufficient size or massing to create a physical barrier that would divide an established community.

### ***Decommissioning of Current WWTP***

The decommissioning of the existing WWTP and the eventual removal of this facility would not create a physical barrier that would divide an established community.

### **Mitigation Measures**

None required.

### **Significance Determination**

No Impact.

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### ***Land Use Plans and Policies***

**Impact 3.10-2: The project would not conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect, including the City or County General Plan, Local Coastal Plan, Coastal Zone Land Use Ordinance, or Zoning Ordinance. There would be no impact.**

Consistent with the *CEQA Guidelines* subdivision 15125(d), an EIR shall discuss potential conflicts between a proposed project and applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect, including those of a General Plan and regional plans. The following analysis addresses that requirement, as it pertains to land use. In addition, policies related to specific environmental issues are addressed in other chapters of this



Draft EIR within particular topical sections (e.g. Chapter 3.2 Agriculture, Chapter 3.4 Biological Resources).

As discussed in Section 3.10.2 Regulatory Framework, applicable land use plans, policies and regulations include the San Luis Obispo General Plan, LCP and CZLUO and the City's General Plan, LCP and Zoning Ordinance. The proposed WRF would be located within the County and is subject to the policies and regulations of the San Luis Obispo General Plan, LCP and CZLUO. The proposed lift station, distribution system and conveyance pipelines between the lift station and preferred WRF site are located within the City and are subject to the policies and regulations of the City's General Plan, LCP and Zoning Ordinance.

The proposed project's potential to conflict with the above listed land use plans, policies and regulations is addressed in the tables that follow.

The evaluation of potential conflicts with the plans and policies is intended to provide perspective on whether the proposed project could conflict with the framework of goals and policies the City and County have adopted to guide growth and development. The following discussion and tables summarize the relevant sections of the applicable plans and ordinances and evaluate the proposed project's potential to conflict with these guiding policies and regulations.

### ***County of San Luis Obispo General Plan and Local Coastal Plan***

**Table 3.10-2** identifies all County land use goals, policies and objectives relevant to the proposed project from the Land Use Element, including the Estero Area Plan, which along with the land use maps serve as the LCP land use plan. The table includes an analysis of the project's potential to conflict with these goals, policies and objectives. In order to implement the proposed project, the County would be required to process and adopt a Coastal Development Permit in the form of a Development Plan.

**TABLE 3.10-2  
POTENTIAL TO CONFLICT WITH COUNTY OF SAN LUIS OBISPO GENERAL PLAN AND LOCAL COASTAL PLAN**

Policies	Project's Potential to Conflict
<b>FRAMEWORK FOR PLANNING COASTAL ZONE</b>	
<b>General Goals and Objectives</b>	
<p><b>Goal 1: Preserve open space, scenic natural beauty and natural resources. Conserve energy resources. Protect agricultural land and resources.</b></p> <p>Objective 1. Environment – Maintain and protect a living environment that is safe, healthful and pleasant for all residents by:</p> <p>c. Giving highest priority to avoiding significant environmental impacts from development through site and project design alternatives. Where such impacts cannot be avoided, minimize and mitigate them to the extent feasible.</p>	<p><b>No Conflict.</b> The WRF project site was selected after a rigorous site selection and review process that included constraints and alternatives reports that considered a wide range of sites and examined them for suitability based on a variety of criteria related to cost, environmental, logistical and engineering issues and prioritized based on a robust public outreach program. Through this process, which started with 17 possible sites, the current project site was chosen as the most suitable. Site selection was guided by goals adopted by the Morro Bay City Council adopted in 2013 and updated in 2017. In addition, the site layout of the WRF as described in the Facility Master Plan and shown in Chapter 2 of this Draft EIR, has been designed to minimize the footprint of the facilities to avoid impacts to rangeland and the unnamed drainage. The proposed architectural treatment including massing, colors and</p>

Policies	Project's Potential to Conflict
	materials is designed to ensure compatibility with the agricultural building forms in the area and tree plantings would provide additional visual screening of structures. Additional mitigation measures have been identified in Chapter 3.4 Biological Resources to ensure that site design minimizes project specific impacts to natural resources to the lowest extent possible.
<p><b>Goal 2: Strengthen and direct development toward existing and strategically planned communities.</b></p> <p>Objective 3. Public Services and Facilities – Avoid the use of public resources, services, and facilities beyond their renewable capacities.</p> <p>c. Locating new public service facilities as close as possible to the users. If facilities are necessary in rural areas, allow for sufficient buffers to protect environmentally sensitive and agricultural areas.</p>	<p><b>No Conflict.</b> As discussed under Goal 1, the WRF site was selected after a rigorous review process that determined it to be the most physically suitable location for the WRF. In addition, as described above, the WRF has been designed to minimize the footprint of the facilities to avoid impacts to rangeland and the unnamed drainages. As described in Chapter 3.2 Agriculture and Forestry Resources, the WRF would occupy only 4 percent of the 396-acre parcel on which it would be located, and which would still be available for grazing. As described in Chapter 3.4, Biological Resources, the WRF layout also would meet LCP setback requirement of 100 feet from riparian areas.</p>
<p><b>Goal 11: Strengthen regional cooperation</b></p> <p>Objective 1 Work closely with cities and regional agencies to achieve common land use goals.</p> <p>Objective 2. Collaborate with communities, stakeholders and the public to plan according to strategic growth goals and objectives and encourage "ownership" of the process and the outcomes.</p>	<p><b>No Conflict.</b> The County of San Luis Obispo and the City of Morro Bay are working closely to implement the new WRF facility which will ensure compliance with a directive from the California Coastal Commission to relocate the Morro Bay Wastewater Treatment facilities outside of a coastal hazard area and would achieve goals identified by the City of Morro Bay City Council for the facility. In addition, the site alternatives and constraints analysis process included robust community outreach that prioritized site selection. In addition, the current project is consistent with recommendations provided by LAFCO during their MSR process which reviewed the potential for a future WRF site at the selected location.</p>
<b>Public Service Objectives and Implementing Strategies</b>	
<p>Objective 3. Provide additional public resources, services and facilities in sufficient time to avoid overburdening existing resources, services and facilities while sustaining their availability for future generations.</p> <p>Conduct long term planning (20+ years) to fund and provide additional, sustainable public resources, services and facilities in sufficient time to avoid overburdening existing resources, services and facilities.</p> <p>Schedule development to occur when needed services are available or can be supplied concurrently</p>	<p><b>No Conflict.</b> As stated previously, the new WRF facility is designed to meet the requirements of the California State Water Resources Control Board to meet secondary treatment requirements. The RWQCB's executive officer has indicated that the project be implemented by 2021 in order to meet the goals of the RWQCB. The project location also meets the requirements of the Coastal Commission to avoid coastal hazards which also helps to ensure the physical sustainability of the proposed facility for future generations. In addition, the project provides a significant reclaimed water component intended to augment the City's water supplies and the project has been designed for energy efficiency to maximize opportunities for funding and to further ensure sustainability.</p>
<b>ESTERO AREA PLAN</b>	
<b>Public Facilities, Services and Resources</b>	
<p><b>B. Wastewater</b></p> <p>1. Wastewater Recycling. Sewage disposal agencies should work with the County Public Works and Health Departments and the Regional Water Quality Control Board to develop a program to find alternative uses for treated wastewater, such as irrigation (e.g., on agricultural lands and the Morro Bay Golf Course), groundwater recharge, and environmental enhancement.</p>	<p><b>No Conflict.</b> One of the primary reasons for the proposed project was to comply with the Regional Water Quality Control Board requirements to meet secondary treatment requirements. The project includes a Master Water Reclamation Plan to explore the most feasible approach to reclaim water for future use to augment existing City water supplies. The Master Water Reclamation Plan identifies a recommended approach to implementing a recycled water program consistent with RWQCB objectives.</p>

Policies	Project's Potential to Conflict
<b>Environmental and Cultural Resource Policies and Programs</b>	
<p>V. Morro Bay Estuary and Its Watershed</p> <p>A. Policies, Cayucos and Rural Area</p> <p>5. Where feasible, implement applicable provisions of the Comprehensive Conservation and Management Plan for Morro Bay published by the Morro Bay National Estuary Program through special programs, land use planning strategies, review of development proposals, and public education.</p>	<p><b>No Conflict.</b> The Comprehensive Conservation and Management Plan for Morro Bay, BMP-12, supports the increase in treatment levels and the upgrades for recycled water distribution both of which the proposed project incorporates. Additional discussion of consistency with the Comprehensive Conservation and Management Plan is discussed in Chapter 3.4 Biological Resources.</p>
<p>Geologic Study Areas</p> <p>Morro Bay and Cayucos Hillside. A geologic report prepared by a certified engineering geologist is required for hillside development adjacent to the city of Morro Bay and the Cayucos Urban Reserve Line.</p>	<p><b>No Conflict.</b> A geotechnical report and hydrogeology report were prepared for the project. See Chapter 3.6 Geology for additional discussion.</p>

### ***County of San Luis Obispo Coastal Zone Land Use Ordinance***

As shown in Figure 3.10-1, the preferred WRF site is located within the Agriculture land use category. According to Table O in the Land Use Element, Public Utility Facilities (which includes WRF facilities) is an allowed use in the Agriculture land use category subject to the approval of a Development Plan or a Coastal Development Permit for projects located within the Coastal Zone. As indicated in Chapter 2, Project Description, the City would prepare and submit to the County for review and approval a Coastal Development Permit which must meet all applicable land use regulations and findings consistent with the CZLUO. That includes consistency with Section 23.02.034 Development Plan and the additional application requirements of Section 23.08.288 (b) as well as the development standards provided in Section 23.08.288(c). Through adherence to the above-referenced provisions, the project would not conflict with the County's CZLUO.

### ***City of Morro Bay General Plan and Local Coastal Program***

**Table 3.10-3** identifies all City land use policies, objectives and programs relevant to the proposed project from the General Plan and Local Coastal Program. The table includes an analysis of the proposed project's potential to conflict with those policies, objectives and programs. In order to implement the proposed lift station, distribution system and conveyance pipelines, the City would be required to process a Coastal Development Permit.

**TABLE 3.10-3  
POTENTIAL TO CONFLICT WITH CITY OF MORRO BAY GENERAL PLAN AND LOCAL COASTAL PLAN**

Policies	Project's Potential to Conflict
<b>City of Morro Bay General Plan and LCP</b>	
<p><b>Coastal-Dependent Industrial Uses</b></p> <p>Policy LU-39: Industrial uses located on or adjacent to the harbor and beaches shall be regulated to protect the environment and priorities shall be established for coastal dependent land uses.</p> <p><i>Program LU-39.3 The Morro Bay Wastewater Treatment facilities shall be protected in their present location since an important operational element, the outfall line, is coastal dependent. (LCP 123)</i></p>	<p><b>No Conflict.</b> The proposed lift stations are not proposed to be located on or adjacent to the harbor and beaches and the removal of the existing WWTP would create the opportunity for new coastal-dependent land uses and the project would not relocate the outfall line.</p>
<p><b>Public Facilities</b></p> <p>Objective: Maintain the level of service of public facilities in a manner consistent with the expectations that have resulted from past levels of service. Efforts should continue to strive towards improving public facilities, but should occur with careful recognition of the range of costs supportable by the community (LUE55)</p> <p><i>Program LU-77.2: Improvements in public facilities should also respond to the positive impact they can have on the overall community image. (LUE 55)</i></p> <p><i>Program LU-77.4: It should be the practice of the City to give highest priority to those public facility programs that would solve existing problems and overcome existing deficiencies in the public facilities system. (LUE 55)</i></p>	<p><b>No Conflict.</b> The proposed WRF and associated project components fulfill directives from the California State Water Resources Control Board and the Coastal Commission to meet regulatory requirements. The project would not impact levels of service and would remedy deficiencies in the existing public facilities system. In addition, the decommissioning and ultimate removal of the existing WWTP facility would allow the community to evaluate potential future development proposals for the site in keeping with its overall community image priorities.</p>
<p><b>Wastewater – Related Policies and Programs</b></p> <p>Policy LU-81: The City shall endeavor to implement its Wastewater Treatment Program. (OS 86)</p> <p>Program LU-81.1: The City will continue a program of providing wastewater treatment facilities to accommodate the build-out population of 12,195, determined to be the buildout figure in Coastal Development Permit No. 406-01, which permitted further expansion of the wastewater treatment facilities to 2.4 mgd. (LCP 96)</p>	<p><b>No Conflict.</b> The City is currently embarking on a process to update its General Plan and LCP, which will evaluate future population for the City. As part of the City's preliminary analysis for the General Plan Update, they estimated a build-out population of 12,015 in the year 2040. This projection is less than the 12,200 which was established as an ultimate population cap under Measure F (Ordinance 266) adopted in 1984 and referenced in Program LU81.1. The proposed WRF facility has been designed to accommodate the buildout population as specified in the General Plan and anticipated in the General Plan Update and therefore is not in conflict with this program.</p>

### **City of Morro Bay Zoning Ordinance**

The proposed project includes the construction of lift station, distribution system and conveyance pipelines, which are identified as new public utility facilities considered a special use in the City's Zoning Ordinance. As a special use, Public Utility Facilities are allowed within any zoning designation, subject to approval of a Conditional Use Permit. As stated previously, Public Utility Facilities, include, but are not limited to, water wells, substations, switching stations, pipelines, transmission lines and similar utility uses.

In addition, the proposed project is subject to approval of a Coastal Development Permit. As indicated in Chapter 2, Project Description, the City would submit applications for a Conditional Use Permit and Coastal Development Permit. Through adherence to the above-referenced permitting requirements, the project would not conflict with the City's Zoning Ordinance.

### **Mitigation Measures**

None required.

### **Significance Determination**

Less than Significant.

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### ***Habitat Conservation Plan***

**Impact 3.10-3: The project would not be located in or adjacent to a habitat conservation plan or a natural community conservation plan and therefore would not conflict with a habitat conservation plan or natural community conservation plan. There would be no impact.**

The proposed project would not be located in or adjacent to a habitat conservation plan or a natural community conservation plan. Therefore, the project would not result in a conflict with a habitat conservation plan or community conservation plan.

### **Mitigation Measures**

None required.

### **Significance Determination**

Less than Significant.

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## **References**

- City of Morro Bay, 2004. City of Morro Bay General Plan/Local Coastal Plan, February 23, 2004
- County of San Luis Obispo, 2009. The Land Use Element and Local Coastal Plan of the San Luis Obispo County General Plan, Estero Area Plan, Revised January 2009
- County of San Luis Obispo, 2011. Framework for Planning Coastal Zone, Revised November 2011.
- San Luis Obispo Local Agency Formation Commission (LAFCO), 2017. City of Morro Bay Adopted Sphere of Influence Update Municipal Service Review, August 17, 2017.
- County of San Luis Obispo, 2016. Land Use Ordinances, Title 22 and 23 of the County Municipal Code, December 2016.

## 3.11 Noise

This section describes the existing noise environment near the proposed project areas, and evaluates the potential for construction and operation of the proposed project to result in significant impacts associated with noise and vibration.

The analysis included in this section was developed based on data provided in the County of San Luis Obispo General Plan (San Luis Obispo County, 1992), the City of Morro Bay General Plan (City of Morro Bay, 1993), the Federal Highway Administration (FHWA) *Road Construction Noise Model* (FHWA, 2006) and the Federal Transit Administration's (FTA's) *Transit Noise and Vibration Impact Assessment* (FTA, 2006).

### 3.11.1 Principles of Noise and Vibration

#### Technical Background and Noise Terminology

Noise can be generally defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level), which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. That method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements. Some representative noise sources and their corresponding A-weighted noise levels are shown in **Figure 3.11-1**.

**NOISE LEVEL**  
COMMON OUTDOOR ACTIVITIES (dBA) COMMON INDOOR ACTIVITIES

	110	Rock band
Jet flyover at 1,000 feet	100	
Gas lawnmower at 3 feet	90	
Diesel truck at 50 feet at 50 mph	80	Food blender at 3 feet
Noisy urban area, daytime	70	Garbage disposal at 3 feet
Gas lawnmower at 100 feet	70	Normal speech at 3 feet
Commercial area	60	
Heavy traffic at 300 feet	50	Large business office
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime	30	Library
Quiet rural nighttime	30	Bedroom at night, concert hall (background)
	20	
	10	Broadcast/recording studio
	0	

Noise exposure is a measure of noise over a period of time. Noise level is a measure of noise at a given instant in time. Community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual receptor. Those successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts.

The time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

- $L_{eq}$ : the energy-equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The  $L_{eq}$  is the constant sound level, which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).
  - $L_{max}$ : the instantaneous maximum noise level for a specified period of time.
  - $L_{50}$ : the noise level that is equaled or exceeded 50 percent of the specified time period. The  $L_{50}$  represents the median sound level.
  - $L_{90}$ : the noise level that is equaled or exceeded 90 percent of the specific time period. This is considered the background noise level during a given time period.
  - $L_{dn}$ : is a 24-hour day and night A-weighted noise exposure level which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night (“penalizing” nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dB to take into account the greater annoyance of nighttime noises.
- CNEL: similar to DNL, the Community Noise Equivalent Level (CNEL) adds a 5-dB “penalty” for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10-dB penalty between the hours of 10:00 p.m. and 7:00 a.m.

As a general rule, in areas where the noise environment is dominated by traffic, the  $L_{eq}$  during the peak-hour is generally within one to two decibels of the  $L_{dn}$  at that location (Caltrans, 2013a).

### ***Effects of Noise on People***

When a new noise is introduced to an environment, human reaction can be predicted by comparing the new noise to the ambient noise level, which is the existing noise level comprised of all sources of noise in a given location. In general, the more a new noise exceeds the ambient



noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- except in carefully controlled laboratory experiments, a change of 1-dB cannot be perceived;
- outside of the laboratory, a 3-dB change is considered a just-perceivable difference;
- a change in level of at least 5-dB is required before any noticeable change in human response would be expected; and
- a 10-dB change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

The perceived increases in noise levels shown above are applicable to both mobile and stationary noise sources. Those relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence, the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

### **Noise Attenuation**

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate between 6 dB for hard sites and 7.5 dB for soft sites for each doubling of distance from the reference measurement. Hard sites are those with a reflective surface between the source and the receiver such as parking lots or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the changes in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface such as soft dirt, grass or scattered bushes and trees. In addition to geometric spreading, an excess ground attenuation value of 1.5 dB (per doubling distance) is normally assumed for soft sites. Line sources (such as traffic noise from vehicles) attenuate at a rate between 3 dB for hard sites and 4.5 dB for soft sites for each doubling of distance from the reference measurement (Caltrans, 2013a).

Noise levels may also be reduced by intervening structures, such as a row of buildings, a solid wall, or a berm located between the receptor and the noise source.

### **Fundamentals of Vibration**

As described in the FTA's *Transit Noise and Vibration Impact Assessment*, ground-borne vibration can be a serious concern for nearby neighbors, causing buildings to shake and rumbling sounds to be heard (FTA, 2006). In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses and heavy trucks on rough roads, and construction activities such as blasting, sheet pile-driving and operating heavy earth-moving equipment.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal, which is measured

in inches per second (in/sec). The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (Vdb) is commonly used to express RMS. The decibel notation acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration assessment include structures (especially older masonry structures), people who spend a lot of time indoors (especially residents, students, the elderly and sick), and vibration sensitive equipment such as hospital analytical equipment and equipment used in computer chip manufacturing.

The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin.

### 3.11.2 Environmental Setting

#### ***Existing Noise Environment***

The noise environment surrounding the proposed project sites is influenced by vehicular traffic along Highway 1 and along roadways such as Main Street and Quintana Road. Other noise sources in the area consist of ocean surf and operations at the existing wastewater facility. The locations of proposed project components do not include noise-generating land uses. The existing WWTP does generate low noise levels through vehicular trips to and from the site, but such levels are relatively insignificant in the context of other traffic using existing nearby roadways. The ambient noise environment within the preferred and proposed project sites were estimated using a relationship between ambient noise levels and population density researched by the U.S. Environmental Protection Agency (EPA, 1974) and traffic noise contours found in the County of San Luis Obispo Department of Planning and Building Land Use View (County of San Luis Obispo, 2018).

The EPA determined ambient noise can be related to population density in locations away from transportation corridors, such as airports, major roads, and railroad tracks. **Table 3.11-1** provides typical ambient noise levels from environs ranging from “Quiet Suburban” to “Very Noisy Urban.” According to the U.S. Census Bureau, the population density of the City of Morro Bay is 1,929.9 people per square mile as of 2010 (U.S. Census, 2010). Using the typical ambient noise levels presented in Table 3.11-1, the estimated existing ambient within the City of Morro Bay could range from 53 to 57 dBA  $L_{dn}$ .

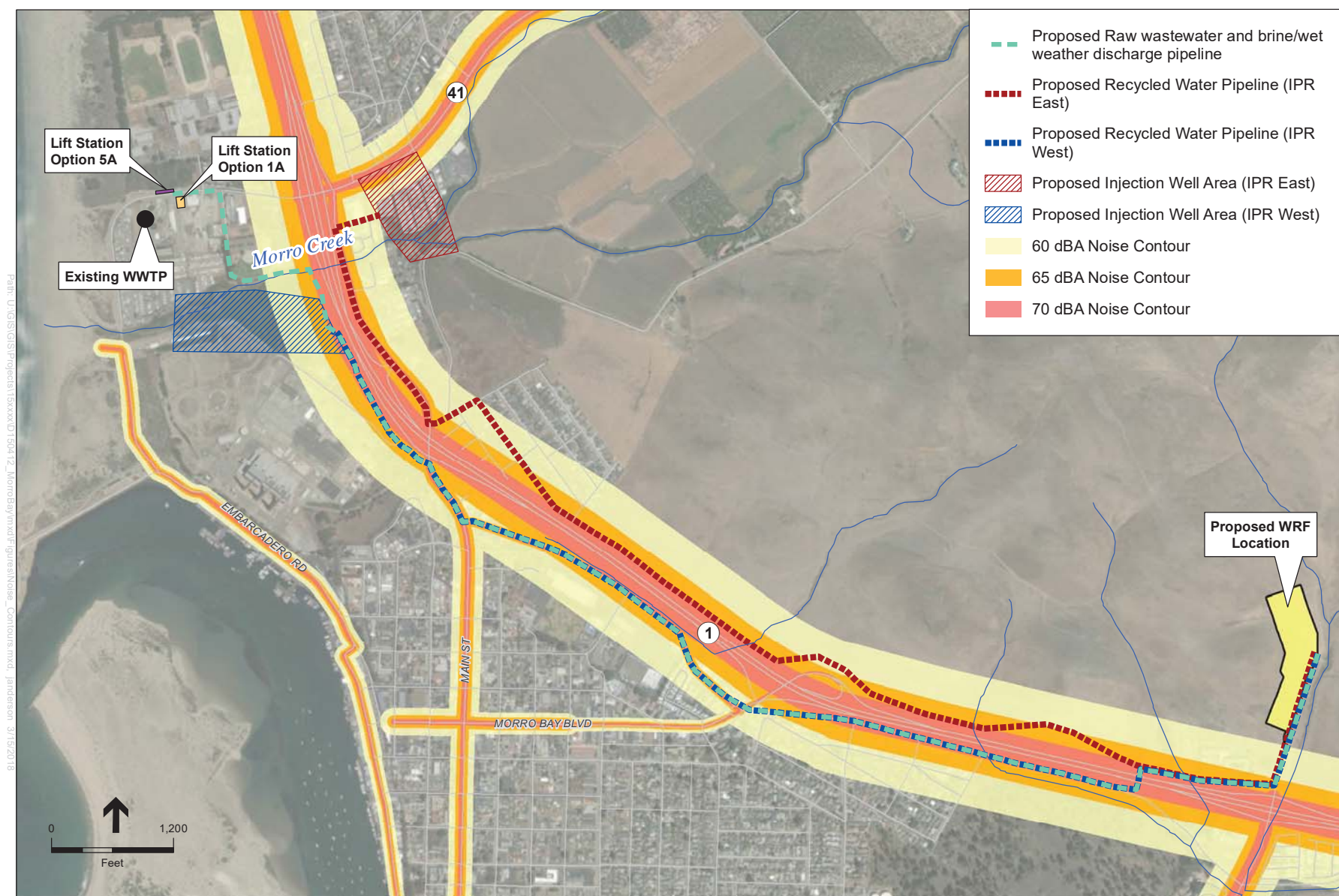
**TABLE 3.11-1  
TYPICAL AMBIENT NOISE LEVELS IN A SUBURBAN AND URBAN ENVIRONMENT**

Description	Typical Range L <sub>dn</sub> , dBA	Average L <sub>dn</sub> , dBA	Average Census Tract Population Density, Number of People per Square Miles
Quiet Suburban Residential	48–52	50	630
Normal Suburban Residential	53–57	55	2,000
Urban Residential	58–62	60	6,300
Noisy Urban Residential	63–67	65	20,000
Very Noisy Urban Residential	68–72	70	63,000
SOURCE: EPA, 1974			

The County of San Luis Obispo (County), Department of Planning and Building, have developed traffic noise contours to the 60 dBA, 65 dBA and 70 dBA L<sub>dn</sub> along Highway 1 and along major arterial roadways within the County (County of San Luis Obispo, 2018). The traffic contours for the segment of Highway 1 that transverses through the City of Morro Bay (City) can be found in **Figure 3.11-2**. As shown in Figure 3.11-2, sensitive receptors located near the proposed pipelines are currently exposed to traffic noise levels ranging from 60 dBA to 65 dBA L<sub>dn</sub>.

### ***Existing Noise-Sensitive Land Uses***

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication, and can cause physiological and psychological stress and hearing loss. Given those effects, some land uses are considered more sensitive to noise levels than others due to the duration and nature of time people spend at these uses. In general, residences are considered most sensitive to noise as people spend extended period of time in them including the nighttime hours. Therefore, noise impacts to rest and relaxation, sleep, and communication are highest at residential uses. Schools, hotels, hospitals, nursing homes, and recreational uses are also considered to be more sensitive to noise as activities at these land uses involve rest and recovery, relaxation and concentration, and increased noise levels tend to disrupt such activities. Places such as churches, libraries, and cemeteries, where people tend to pray, study, and/or contemplate, are also sensitive to noise but due to the limited time people spend at these uses, impacts are usually tolerable. Commercial and industrial uses are considered the least noise-sensitive.



SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

**Figure 3.11-2**  
Traffic Noise Contours



The sensitive receptors nearest to the proposed WRF and O&M facilities consists of residences at the Bayside Care Center located approximately 360 feet from the preferred project site's southernmost boundary. The location of those residences can be found on Figure 3.4-5.

Sensitive receptors near the proposed lift station located at either the Option 1A or Option 5A site include the Morro Strand RV Park, Morro Dunes RV Park and Morro Bay High School. The location of those sensitive receptors relative to the proposed lift station locations at Option 1A and Option 5A can be found in Figure 2-3. As shown in Figure 2-3, the people at the Morro Strand RV Park are located approximately 260 feet south-east of Option 1A and approximately 330 feet southeast of Option 5A. The people at the Morro Dunes RV Park are located approximately 510 feet south of Option 1A and approximately 650 feet south of Option 5A. The students and staff at the Morro Bay High School are located approximately 380 feet north of Option 1A and approximately 270 feet north of Option 5A.

The route of the proposed conveyance pipeline alignment for raw wastewater and brine/wet weather discharge can be found in Figure 2-2. Sensitive receptors near the proposed conveyance pipeline alignment for raw wastewater and brine/wet weather discharge consist of the Morro Dune RV Park, single-family residences along Main Street and Quintana Road, and Bayside Care Center. As shown in Figure 2-2, people at the Morro Dune RV Park are located approximately 50 feet east of the proposed conveyance pipeline alignment. The single-family residences along Main Street and Quintana Road are located approximately 50 and 130 feet east of the proposed conveyance pipeline alignment, respectively. The residences at the Bayside Care Center are located approximately 50 feet north of the proposed conveyance pipeline alignment.

Location of the proposed recycled water distribution system IPR East alignment can be found in Figure 2-2. As shown in Figure 2-2, sensitive receptors located near the proposed recycled water distribution system IPR East alignment alternative consist of the Bayside Care Center, single-family residences along Bolton Drive and Radcliff Avenue, and Tratel-Morro Bay mobile home park. All of these land uses will be located within approximately 50 feet from the proposed recycled water distribution system IPR East alignment alternative.

Location of the proposed recycled water distribution system IPR West alignment can be found in Figure 2-2. As shown in Figure 2-2, the proposed recycled water distribution system IPR West alignment alternative would follow the same path as the proposed conveyance pipeline alignment for raw wastewater and brine/wet weather discharge. Sensitive receptors near the proposed recycled water distribution system IPR West alignment alternative will be the same as those already discussed under the proposed conveyance pipeline alignment above.

### 3.11.3 Regulatory Framework

#### **Federal**

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205, Subpart B. The federal truck pass-by noise standard is 80 dBA at 15 meters (approximately 49 feet) from the

vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers.

### **Noise Control Act**

In 1972, the Noise Control Act was established to address the concerns of noise as a growing danger to the health and welfare of the Nation's population, particularly in urban areas. In 1974, in response to the Noise Control Act, the U.S. Environmental Protection Agency (EPA) published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. **Table 3.11-2** summarizes U.S. EPA findings for residential land uses.

**TABLE 3.11-2.**  
**SOUND LEVELS THAT PROTECT PUBLIC HEALTH (dBA)**

Category	Measure of Exposure	Indoor			Outdoor		
		Activity Interference	Hearing Loss	To Protect Against Both Effects	Activity Interference	Hearing Loss	To Protect Against Both Effects
Residential with Outside Space	L <sub>dn</sub>	45	70	45	55	70	55
Residential with No Outside Space	L <sub>dn</sub>	45	70	45	-	-	-

**NOTES:**

Sound levels are yearly average equivalent in decibels; the exposure period which results in hearing loss at the identified level is a period of forty years.

Source: U.S. Environmental Protection Agency, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an adequate Margin of Safety, 1974.

## **State**

The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State pass-by standard is consistent with the federal limit of 80 dBA. The State pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at 15 meters (approximately 49 feet) from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

## **Local**

### **County of San Luis Obispo General Plan**

The following noise and vibration-related policies identified in the Noise Element of the *County of San Luis Obispo General Plan* (County of San Luis Obispo, 1992) are relevant to the proposed project.

**Policy 3.3.3:** Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed the levels specified in **Table 3.11-3** within the outdoor activity areas or interior spaces of existing noise sensitive land uses.

**TABLE 3.11-3  
MAXIMUM ALLOWABLE NOISE EXPOSURE – TRANSPORTATION**

Land Use	Outdoor Activity Areas <sup>1</sup>	Interior Spaces	
	L <sub>dn</sub> /CNEL, dB	L <sub>dn</sub> /CNEL, dB	L <sub>eq</sub> , dB <sup>2</sup>
Residential (except temporary dwellings and res accessory uses)	60 <sup>3</sup>	45	--
Bed and Breakfast Facilities, Hotels and Motels	60 <sup>3</sup>	45	--
Hospitals, Nursing and Personal Care	60 <sup>3</sup>	45	--
Public Assembly and Entertainment (except Meeting Halls)	--	--	35
Offices	60 <sup>3</sup>	--	45
Churches, Meeting Halls	--	--	45
Schools-Preschool to Secondary, College and University, Specialized Education and Training Libraries and Museums	--	--	45
Outdoor Sports and Recreation	70	--	--

- <sup>1</sup> Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving and use.
- <sup>2</sup> As determined for a typical worst-case hour during periods of use.
- <sup>3</sup> For other than residential uses, where an outdoor activity area is not proposed, the standard shall not apply. Where it is not possible to reduce noise in outdoor activity areas to 60 dB L<sub>dn</sub>/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

SOURCE: County of San Luis Obispo, 1992

**Policy 3.3.5:** Noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated as follows and shall be the responsibility of the developer of the stationary noise source:

- Noise from agricultural operations conducted in accordance with accepted standards and practices is not required to be mitigated.
- Noise levels shall be reduced to or below the noise level standards in **Table 3.11-4** where the stationary noise source will expose an existing noise-sensitive land use to noise levels which exceed the standards in Table 3.11-2. When the affected noise-sensitive land use is Outdoor Sports and Recreation, the noise level standards in Table 3.11-3 shall be increased by 10 dB.

Where the noise source is one of the following electrical substations which is not modified so as to increase noise levels, the noise standards shall instead be 50 dBA between 10:00 p.m. and 7:00 a.m. and 55 dBA between 7:00 a.m. and 10:00 p.m., determined at the property line of the receiving land use: the Cholame, San Miguel, Templeton, Cambria, Perry, Cayucos, Baywood, Highway 1 between Morro Bay and the California Men's Colony, Goldtree, Foothill, San Luis Obispo, Oceano, Mesa, Union Oil, Callender, and Mustang electrical substations.

- Noise levels shall be reduced to or below the noise level standards in Table 3.11-2 where the stationary noise source will expose vacant land in the Agriculture, Rural Lands, Residential rural, Residential Suburban, Residential Single-Family, Residential Multi-Family, Recreation, Office and Professional, and Commercial Retail land use categories to noise levels which exceed the standards in Table 3.11-3.

Where the noise source is one of the following electrical substations which is not modified so as to increase noise levels, the noise standards shall instead be 50 dBA



between 10:00 p.m. and 7:00 a.m. and 55 dBA between 7:00 a.m. and 10:00 p.m., determined at the property line of the receiving land use: the Cholame, San Miguel, Templeton, Cambria, Perry, Cayucos, Baywood, Highway 1 between Morro Bay and the California Men's Colony, Goldtree, Foothill, San Luis Obispo, Oceano, Mesa, Union Oil, Callender, and Mustang electrical substations.

This policy may be waived when the Director of Planning and Building determines that such vacant land is not likely to be developed with a noise sensitive land use.

- d) For new proposed resource extraction, manufacturing or processing noise sources or modifications to those sources which increase noise levels: where such noise sources will expose existing noise-sensitive land uses to noise levels which exceed the standards in Table 3.11-3, best available control technologies shall be used to minimize noise levels. The noise levels shall in no case exceed the noise level standards in Table 3.11-3.

**Policy 3.3.6:** San Luis Obispo County shall consider implementing mitigation measures where existing noise levels produce significant noise impacts to noise-sensitive land uses or where new development may result in cumulative increases of noise upon noise-sensitive land uses.

**TABLE 3.11-4  
MAXIMUM ALLOWABLE NOISE EXPOSURE – STATIONARY NOISE<sup>A</sup>**

Category	Cumulative Duration of Noise Event in Any One-hour Period	Maximum Exterior Noise Level Standards, dBA	
		Daytime 7:00 a.m. to 10:00 p.m.	Nighttime 10:00 p.m. to 7:00 a.m.
1	Hourly Leq, dBA <sup>b</sup>	50	45
2	Maximum Level, dBA <sup>b</sup>	70	65
3	Maximum level, dBA – Impulsive Noise <sup>c</sup>	65	60

<sup>a</sup> As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measure, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.

<sup>b</sup> Sound level measurement shall be made with slow meter response.

<sup>c</sup> Sound level measurements shall be made with fast meter response.

SOURCE: City of Morro Bay, 1993; County of San Luis Obispo, 1992; City of Morro Noise Ordinance

### ***City of Morro Bay General Plan***

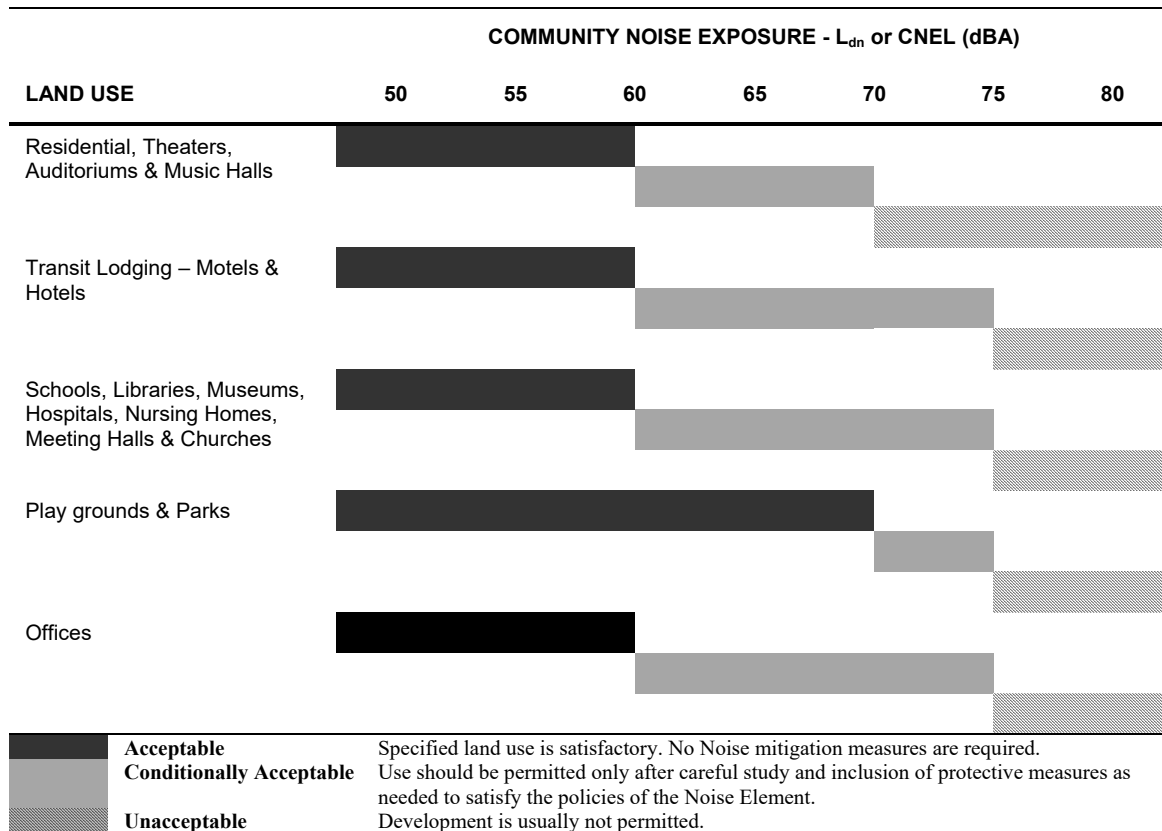
The following noise and vibration-related policies and programs identified in the Noise Element of the *City of Morro General Plan* (City of Morro Bay, 1993) are relevant to the proposed project.

**Policy N-2:** The City will provide for the identification and evaluation of potential noise problem areas within its fiscal limitations.

**Program N-2.2:** Using the noise compatibility standards provided in **Figure 3.11-3**, existing land uses should be reviewed to identify potential noise problems.

**Policy N-4:** The City will reduce existing and potential incompatible noise levels in problem areas through operational or source controls where the City has responsibility for such controls and such reductions are feasible.

**Figure 3.11-3  
Land Use Compatibility for Community Noise Environment**



SOURCE: City of Morro Bay, 1993

**Program N-4.1:** Routes for use by heavy trucks will be located away from noise sensitive land uses when feasible.

**Program N-4.3:** Noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated so as not to exceed the noise level standards of Table 3.11-3 on lands designated for noise sensitive land use.

**Program N-4.4:** The City will require noise abatement by stationary sources in cases of excessive noise emissions when feasible.

**Program N-4.5:** The City shall consider implementing mitigation measures where existing noise levels produce significant noise impacts to noise-sensitive land uses or where new development may result in cumulative increases of noise upon noise sensitive land use.

### ***Morro Bay Municipal Code***

The Morro Bay Municipal Code includes noise regulations in Title 17 – Zoning, Chapter 17.52– Noise Requirements and Title 9.28 Prohibited Conduct. Of the regulations in Chapter 17.52 and Chapter 9.28, the following regulations would be applicable to the proposed project:

**9.28.030(I) Construction Noise.** Construction or Repairing of Buildings. The erection (including excavating), demolition, alteration or repair of any building or general land grading and contour activity using equipment in such a manner as to be plainly audible at a distance of 50 feet from the building other than between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and 8:00 a.m. and 7:00 p.m. on weekends except in case of urgent necessity in the interest of public health and safety, and then only with a permit from the community development department, which permit may be granted for a period not to exceed three days or less while the emergency continues and which permit may be renewed for a period of three days or less while the emergency continues. If the building official determines the public health and safety will not be impaired by the erection, demolition, alteration and repair of any building or the excavation of streets and highways within the hours of 7:00 p.m. and 7:00 a.m. on weekdays and 7:00 p.m. and 7:00 a.m. on weekends and if he further determines that loss or inconvenience would result to any party in interest, he may grant permission for such work to be done within the hours of 7:00 p.m. and 7:00 a.m. on weekdays and 7:00 p.m. and 8:00 a.m. on weekends upon application being made at the time the permit for the work is awarded or during the progress of the work.

**17.52. 030(A) General Noise Limitations.** Any business operation with sustained or intermittent noise levels exceeding 70 dBA  $L_{dn}$  as described by the Noise Element including, but not limited to, wood or machine milling, air hammers, generators, and prolonged or excessive truck deliveries, shall not be allowed within 100 feet of residential uses, hospitals, and other noise sensitive uses unless noise levels are mitigated in compliance with this Section.

**17.52.030(B) Operational Hours.** All commercial and industrial deliveries and loud commercial activities such as loading and unloading, leaf blowers, bands with loudspeakers within 100 feet of a residential use shall be limited to the hours between 7:00 a.m. and 10:00 p.m.

**17.52.040 Vibration.** No vibration shall be permitted so as to cause a noticeable tremor, measurable without instruments at the lot line.

Noise level performance standards in Tables 3.11-3 and **Table 3.11-5**, are performance standards for noise producing land uses that may affect noise sensitive land uses.

### ***County of San Luis Obispo County Code***

The County of San Luis Obispo County Code includes noise regulations in Title 23 – Coastal Zone Land Use, Chapter 23.06– Operational Standards. Of the regulations in Chapter 23.06, the following regulations would be applicable to the proposed project:

**23.06.042(b) Exceptions to Noise Standards.** Noise sources associated with construction, provided such activities do not take place before seven a.m. or after nine p.m. any day except Saturday or Sunday, or before eight a.m. or after five p.m. on Saturday or Sunday.

**23.06.044(a) Exterior Noise Level Standards.** No person shall create any noise or allow the creation of any noise at any location within the unincorporated areas of the county on property owned, leased, occupied or otherwise controlled by such person which causes the exterior noise level when measured at any of the preceding noise-sensitive land uses situated in either the

incorporated or unincorporated areas to exceed the noise level standards in **Table 3.11-6**. When the receiving noise-sensitive land use is outdoor sports and recreation, the following noise level standards shall be increased by 10 dB.

**TABLE 3.11-5  
MAXIMUM ALLOWABLE NOISE EXPOSURE – TRANSPORTATION**

Noise Sources / Land Use	Outdoor Activity Areas <sup>a</sup>	Interior Spaces	
	Ldn/CNEL, dB	Ldn/CNEL, dB	Leq, dB <sup>b</sup>
Residential	60 <sup>c</sup>	45	--
Transient Lodging	60 <sup>c</sup>	45	--
Hospitals, nursing homes	60 <sup>c</sup>	45	--
Theatres, auditoriums, music halls	--	--	35
Churches, meeting halls, office buildings	60 <sup>c</sup>	--	45
Schools, libraries, museums	--	--	45
Playgrounds, neighborhood parks	70	--	--

<sup>a</sup> Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving and use.

<sup>b</sup> As determined for a typical worst-case hour during periods of use.

<sup>c</sup> Where it is not possible to reduce noise in outdoor activity areas to 60 L<sub>dn</sub>/CNEL, dB or less using a practical application of the best available noise reduction measures, an exterior noise level of up to 65 L<sub>dn</sub>/CNEL, dB may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

SOURCE: Morro Bay Zoning Ordinance.

**TABLE 3.11-6  
COUNTY OF SAN LUIS OBISPO COUNTY CODE – EXTERIOR NOISE STANDARDS**

Category	Daytime	Nighttime
	(7:00 a.m. to 10:00 p.m.)	(10:00 p.m. to 7:00 a.m.)
Hourly Equivalent Sound Level (Leq, dB)	50	45
Maximum level, dBA	70	65

**Notes:**

<sup>1</sup> In the event the measured ambient noise level exceeds the applicable exterior noise level standard in subsection (a), the applicable standard shall be adjusted so as to equal the ambient noise level plus one dB.

<sup>2</sup> Each of the exterior noise level standards specified in subsection (a) shall be reduced by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

<sup>3</sup> If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient noise level can be measured, the noise level measured while the source is in operation shall be compared directly to the exterior noise level standards.

Source: Chapter 23.06.044 of the County of San Luis Obispo County Code

**23.23.062(a) Exceptions to Standards.** Vibrations from construction, the demolition of structures, surface mining activities or geological exploration between 7:00 a.m. and 9:00 p.m.

**23.23.062(b) Exceptions to Standards.** Vibrations from moving sources such as trucks and railroads.

## 3.11.4 Impacts and Mitigation Measures

### Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to noise and vibration in the project area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to noise and vibration if it would:

- Result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels.
- Result in a substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.
- Result in a substantial temporary or periodic increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.
- For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within 2 miles of a public airport or public use airport, expose people residing or working in the area to excessive noise levels.
- For a project located in the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

### Methodology

Construction noise impacts are assessed relative to the increase in noise levels that could result from the operation of specified construction equipment compared to existing noise level conditions. Analysis of the proposed project's temporary construction noise effects is based on specific estimates of construction equipment and duration of use from the project applicant. In all cases, the analyses accounted for attenuation of noise levels due to distances between the construction activity and the sensitive land uses in the site vicinity. Construction noise levels at nearby sensitive land uses that would be associated with the proposed project were estimated using the FHWA's *Roadway Construction Noise Model* (FHWA, 2006).

The FTA has identified a daytime 1-hour  $L_{eq}$  level of 90 dBA as a noise level where adverse community reaction could occur at residential land uses (FTA, 2006). That noise level is used here to assess whether construction-related on-site and off-site noise levels would have the potential to cause a substantial temporary or periodic increase in ambient noise levels at sensitive receptor locations.

For the analysis of long-term operational impacts on the existing ambient noise environment, impacts are considered significant if operation of the project facilities would result in a substantial increase in noise levels in the project area. That evaluation uses a 5-dBA increase in noise exposure—which Caltrans identifies as a readily perceptible noise increase (Caltrans, 2013a)—to assess the significance of operational noise increases on ambient noise levels in the proposed project vicinity.

For the purposes of the assessment of potential vibration impacts, the methodology described in the Caltrans' *Transportation and Construction Vibration Guidance Manual* was used to evaluate project-related vibration effects to nearby sensitive land uses (Caltrans, 2013b). For adverse human reaction, the analysis applies the “strongly perceptible” threshold of 0.9 in/sec PPV for transient sources (Caltrans, 2013b). For risk of architectural damage to historic buildings and structures, this analysis applies a threshold of 0.12 in/sec PPV (Caltrans, 2013b). A threshold of 0.3 in/sec PPV is used for all other buildings.

## Impact Analysis

### ***Compliance with Noise Standards***

**Impact 3.11-1: Construction of the proposed injection and monitoring wells would require continuous drilling for 24-hour periods, at noise levels in excess of standards established in the Morro Bay Municipal Code. Implementation of a Construction Noise Reduction Plan approved by the City's building official would reduce noise levels to acceptable levels. This would be a Class II impact, Less than Significant with Mitigation.**

The proposed project would result in the construction of a new WRF, conveyance pipelines, lift station and three to five injection wells. Construction of the new facilities would involve the use of a variety of heavy construction machinery onsite. In addition to the construction of new facilities, the proposed project would also include the demolition of the City's existing WWTP. Construction is anticipated to begin in June 2019 and would take approximately three years for construction, commissioning, startup, and verification testing. All construction and demolition, with the exception of the installation of the proposed injection wells, are expected to occur generally between 7:00 a.m. to 5:00 p.m. Monday through Friday

The majority of off-road equipment and vehicles would be associated with the intensive earthwork and the structural and paving phases of construction. Large construction equipment such as backhoes, compactors, cranes, excavators, haul trucks, pavers, and rollers would be used during all construction and demolition phases of the proposed project. **Table 3.11-7** shows typical noise levels produced by the types of off-road equipment that would likely be used during construction of the proposed project as well as demolition of the existing WWTP.

**TABLE 3.11-7**  
**REFERENCE CONSTRUCTION EQUIPMENT NOISE LEVELS – (50 FEET FROM SOURCE)**

Type of Equipment	L <sub>max</sub> , dBA	Hourly L <sub>eq</sub> , dBA/% Use <sup>1</sup>
Backhoe	80	76/40%
Jackhammer	85	78/20%
Roller	85	78/20%
Compactor	80	73/20%
Paver	85	82/50%
Crane	85	77/16%
Grader	85	81/40%
Concrete Mixer Truck	85	81/40%
Loader	80	76/40%
Air Compressor	80	76/40%
Auger Drill Rig	85	78/20%
Excavator	85	81/40%

NOTES:

<sup>1</sup> Percent used during the given time period (usually an hour – hourly L<sub>eq</sub>) were obtained from the FHWA Roadway Construction Noise Model User's Guide.

SOURCE: FHWA, 2006.

The operation of each piece of off-road equipment within project construction areas would not be constant throughout the day, as equipment would be turned off when not in use. Over a typical workday, the equipment would be operating at different locations and all the equipment would not necessarily operate concurrently within the same location of the project area. To quantify construction-related noise exposure at the nearest sensitive land uses, it is assumed that the two loudest pieces of construction equipment would operate within the project areas closest to the nearest off-site sensitive receptor. **Table 3.11-8** presents the highest L<sub>max</sub> and L<sub>eq</sub> noise levels sensitive receptors would be exposed to at each of the proposed construction areas during operation of the two loudest pieces of construction equipment. A summary of impact per project component is provided below.

**TABLE 3.11-8  
SUMMARY OF NOISE AT SENSITIVE RECEPTORS DURING PROJECT CONSTRUCTION**

<b>Project Facility</b>	<b>Loudest two Pieces of Construction Equipment</b>	<b>Equipment Noise Level at 50 feet (dBA L<sub>eq</sub>/dBA L<sub>max</sub>)<sup>1</sup></b>	<b>Distance to nearest Sensitive Receptor (feet)</b>	<b>Attenuated Noise Level (dBA L<sub>max</sub>/dBA L<sub>eq</sub>)<sup>2</sup></b>
WRF	Crane, Backhoe	86/80	360	55/49 <sup>3</sup>
Lift Station				
<i>Option 1A</i>	Excavator, Backhoe	86/82	260	68/64
<i>Option 5A</i>	Excavator, Backhoe	86/82	270	68/64
Conveyance Pipelines				
<i>Discharge Pipeline</i>	Excavator, Auger Drill Rig	88/83	50	88/83
<i>IPR West</i>	Excavator, Auger Drill Rig	88/83	50	88/83
<i>IPR East</i>	Excavator, Auger Drill Rig	88/83	50	88/83
Injection/Monitoring Wells	Backhoe, Auger Drill Rig	86/80	50	86/80
Decommissioning of Current WWTP	Excavator, Backhoe	86/82	250	69/65

## Notes:

<sup>1</sup> Reference construction equipment noise levels were obtained from Caltrans' Roadway Construction Noise Level (RCNM) (FHWA, 2006).

<sup>2</sup> Assumed an attenuation rate of 7.5 dB per doubling of distance (i.e., soft site).

<sup>3</sup> Assumed 10 dB of attenuation due to intervening hill blocking line-of-sight between the preferred WRF site and nearest sensitive receptor.

Source: ESA, 2017; FHWA, 2006

## WRF

The construction activities associated with the proposed WRF would occur within an unincorporated area of the County. As described in Section 3.11.3, *Regulatory Framework*, the County noise ordinance exempts activities associated with construction provided they occur from 7:00 a.m. to 9:00 p.m. Monday through Friday or from 8:00 a.m. to 5:00 p.m. Saturday or Sunday. Construction activities that occur outside of these construction exempt hours must limit onsite construction activities as to not expose the nearest sensitive receptors to noise levels that exceed the exterior noise standards found in Subdivision 23.06.042(a) of the County's noise ordinance (see Table 3.11-4).

Construction of the WRF and O&M buildings would consist of site clearing and grading, excavation, construction of treatment buildings and installation of equipment, and site completion. Construction equipment would include backhoe, loader, dump trucks, crew trucks, concrete trucks, cranes, personal vehicles, compactor, delivery trucks, and a water truck. The construction of those facilities are expected to begin in June 2019 and take approximately 30 months to complete.

The residences at the Bayside Care Center, the nearest sensitive receptors to the preferred site for the WRF, are located approximately 360 feet from that site's southernmost boundary. A crane and backhoe are the two loudest pieces of off-road equipment that will be operating during the proposed project construction. As shown in Table 3.11-8, the people living at the Bayside Care Center would be exposed to noise levels of 55 dBA L<sub>max</sub>/ 49 dBA L<sub>eq</sub> during project construction.



All construction activities associated with the proposed WRF and associated O&M facilities would only occur within the construction exempt hours specified in the County noise ordinance. Since project-related construction activities would be exempt from the County's noise ordinance, construction of the proposed WRF and associated O&M facilities would not result in a violation of the County's code. There would be less-than-significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the local noise ordinance.

### **Lift Station**

As described in Chapter 2, *Project Description*, there are two alternative locations for the proposed lift station, which are designated as Option 1A and Option 5A. The locations of those proposed facilities can be found in Figure 2-3. The construction of the lift station is expected to begin in June 2019 and take approximately 10 months to complete. The construction equipment needed for either lift station option generally includes: auger truck, backhoe, boom lift truck, excavator and plate compactor.

The construction activities associated with the two proposed lift station options (*i.e.*, Option 1A and Option 5A) would occur within the City's jurisdiction. As described in the Section 3.11.3, *Regulatory Framework*, the City noise ordinance exempts activities associated with construction provided they occur from 7:00 a.m. to 7:00 p.m. Monday through Friday or from 8:00 a.m. to 7:00 p.m. Saturday or Sunday. Construction activities that occur outside of those construction exempt hours must submit an application to the City building official requesting permission to work outside the allowed construction hours.

The sensitive receptors nearest the proposed lift station alternative designated as Option 1A consists of people at the Morro Strand RV Park located approximately 260 feet south-east of the project site. As shown in Table 3.11-8, the people staying at the Morro Strand RV Park would be exposed to noise levels of 68 dBA  $L_{max}$ / 64 dBA  $L_{eq}$  during project construction.

The sensitive receptors nearest the proposed lift station alternative designated as Option 5A consists of people at the Morro Bay High School located approximately 270 feet north of the project site. As shown in Table 3.11-8, the students and staff at the Morro Bay High School would be exposed to noise levels of 68 dBA  $L_{max}$ / 64 dBA  $L_{eq}$  during project construction.

All construction activities associated with the proposed lift stations (*i.e.*, Option 1A and Option 5A) would only occur within the construction exempt hours specified in the City's noise ordinance. Since project-related construction activities would be exempt from the City's noise ordinance, construction of the proposed lift stations would not result in a violation of the Morro Bay Municipal Code. There would be less-than-significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the local noise ordinance.

### **Conveyance Pipelines**

As described in Chapter 2, *Project Description*, the proposed project would include the installation of one raw wastewater and brine/wet weather discharge pipeline connecting the proposed WRF to the proposed lift station and two proposed options (*i.e.*, IPR East and IPR

West) for a recycled water pipeline connecting the proposed WRF to the proposed injection wells.

The construction activities associated with the conveyance pipeline would occur within the jurisdiction of the City. As described in the Section 3.11.3, *Regulatory Framework*, the City's noise ordinance exempts activities associated with construction provided they occur from 7:00 a.m. to 7:00 p.m. Monday through Friday or from 8:00 a.m. to 7:00 p.m. Saturday or Sunday. Construction activities that occur outside of these construction exempt hours must submit an application to the City building official requesting permission to work outside the allowed construction hours.

The construction of the proposed conveyance pipelines is expected to begin in June 2019 and take approximately 12 months to complete. Construction would involve trenching using a conventional cut and cover technique or directional drilling technique where necessary under Highway 1 and to avoid sensitive drainages and roadway intersections if utilities are congested. The proposed pipeline would be installed within existing roadway rights-of-ways to the extent feasible. The trenching technique would include saw cutting of the pavement, trench excavation, pipe installation, backfill operations, and re-surfacing to the original condition.

#### Proposed Raw Wastewater and Brine/Wet Weather Discharge Pipeline

The nearest sensitive receptors to the proposed raw wastewater and brine/wet weather discharge pipeline alignment consist of the Morro Dune RV Park, single-family residences along Main Street and Quintana Road and Bayside Care Center. All of these sensitive receivers would be located within 50 feet from the proposed conveyance pipeline alignment. As shown in Table 3.11-8, the sensitive receptors located within 50 feet of the proposed discharge pipeline would be exposed to noise levels of 88 dBA  $L_{\max}$ /83 dBA  $L_{\text{eq}}$  during construction.

All construction activities associated with the proposed raw wastewater and brine/wet weather discharge pipeline would only occur within the construction exempt hours specified in the City's noise ordinance. Since project-related construction activities would be exempt from the City's noise ordinance, construction of the proposed lift stations would not result in a violation of the Morro Bay Municipal Code. There would be less-than-significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the local noise ordinance.

#### Proposed Recycled Water Pipeline (IPR West)

The proposed IPR West pipeline would be nearly identical to the proposed raw wastewater and brine/wet weather discharge pipeline. Consequently, sensitive receptors located adjacent to the proposed recycled water pipeline alignment would be similar to those already discussed under the proposed raw wastewater and brine/wet weather discharge pipeline above.

#### Proposed Recycled Water Pipeline (IPR East)

Sensitive receptors located near the proposed recycled water distribution system IPR-East alignment alternative consist of the Bayside Care Center, single-family residences along Bolton Drive and Radcliff Avenue, and Tratel-Morro Bay mobile home park. All of these land uses will

be located within approximately 50 feet from the proposed recycled water distribution system IPR East alignment alternative. As shown in Table 3.11-8, the sensitive receptors located within 50 feet of the proposed IPR East pipeline would be exposed to noise levels of 88 dBA  $L_{\max}$ / 83 dBA  $L_{\text{eq}}$  during construction.

All construction activities associated with the proposed IPR East pipeline would only occur within the construction exempt hours specified in the City's noise ordinance. Since project-related construction activities would be exempt from the City's noise ordinance, construction of the proposed lift stations would not result in a violation of the Morro Bay Municipal Code. There would be less-than-significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the local noise ordinance.

### **Injection and Monitoring Wells**

The proposed project would include the installation of three to five injection/monitoring wells. As discussed in Chapter 2, *Project Description*, there are two new proposed areas (IPR East and IPR West) where the proposed injection/monitoring wells could be installed. The areas where the injection/monitoring wells could be installed are shown in Figure 2-9a and Figure 2-9b. The exact locations of where the proposed injection/monitoring wells would be stalled are unknown at this time.

The construction activities associated with the proposed injection/monitoring wells would occur within the jurisdiction of the City of Morro Bay. As previously discussed, the City's noise ordinance exempts activities associated with construction provided they occur from 7:00 a.m. to 7:00 p.m. Monday through Friday or from 8:00 a.m. to 7:00 p.m. Saturday or Sunday. Construction activities that occur outside of these construction exempt hours must submit an application to the City's building official requesting permission to work outside the allowed construction hours.

Construction of injection wells would include site preparation, mobilization of equipment to the well site, well drilling, water quality testing, installation of the well casing, gravel packing and finishing with a cement seal. Construction equipment typically would include an auger rig, drill rig, small crane, welder, all-wheel drive forklift, pipe trailer, generator, Baker tanks, circulation pits and a backhoe. For approximately one month, daily 24-hour drilling would be required. To drill the well, the drill rig must run 24 hours-a-day.

Since the exact locations of where the proposed injection/monitoring wells are unknown at this time, it is conservatively assumed that the nearest sensitive receptors are located approximately 50 feet from construction areas. As shown in Table 3.11-8, the sensitive receptors located within 50 feet of the proposed injections/monitoring wells would be exposed to noise levels of 86 dBA  $L_{\max}$ /80 dBA  $L_{\text{eq}}$  during construction.

As previously discussed, drilling could occur over a 24-hour period. The nearest sensitive receptors to the wells sites could be exposed to construction-related noise levels outside of the allowed construction hours provided in the City's noise ordinance. There would be a potentially

significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the local noise ordinance.

To address potential impacts, the City would prepare and implement a Construction Noise Reduction Plan, that would be submitted and approved by the City's building official in accordance with Subdivisions 9.28.030. I. of the Morro Bay Municipal Code. The Construction Noise Reduction Plan Could demonstrate to the City's building official assigned to the project that no loss or inconvenience would result to any party of interest. Once the Plan is approved by the City's building official, nighttime drilling activities would be allowed to occur. Implementation of the Plan as required by **Mitigation Measure NOISE-1** would ensure well drill activities would not result in a violation of the Morro Bay Municipal Code. Therefore, this impact would result in a less than significant impact after mitigation.

### **Decommissioning of Current WWTP**

The existing WWTP facility is located within the jurisdiction of the City of Morro Bay. As previously discussed, the City's noise ordinance exempts activities associated with construction provided they occur from 7:00 a.m. to 7:00 p.m. Monday through Friday or from 8:00 a.m. to 7:00 p.m. Saturday or Sunday. Construction activities that occur outside of these construction exempt hours must submit an application to the City's building official requesting permission to work outside the allowed construction hours.

The Morro Dunes RV Park is the nearest sensitive land use to the existing WWTP. People staying at the Morro Dune RV Park could be located as close as 250 feet from the existing WWTP buildings. As shown in Table 3.11-8, the sensitive receptors located within 25 feet of the existing WWTP facility would be exposed to noise levels of 69 dBA  $L_{max}$ /65 dBA  $L_{eq}$  during demolition.

All construction activities associated with the proposed decommissioning of the current WWTP would only occur within the construction exempt hours specified in the City's noise ordinance. Since project-related construction activities would be exempt from the City's noise ordinance, construction of the proposed lift stations would not result in a violation of the Morro Bay Municipal Code. There would be a less-than-significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the local noise ordinance.

### **Mitigation Measures**

**NOISE-1: Construction Noise Reduction Measures.** The City shall develop and submit a Construction Noise Reduction Plan to the building official prior to initiating construction activities during hours that are not included in the exemption under the Morro Bay Municipal Code. The City or its contractor shall implement the Construction Noise Reduction Plan. A disturbance coordinator shall be designated for the project to implement the provisions of the Plan. At a minimum, the Construction Noise Reduction Plan shall implement the following measures:

- Distribute to the potentially affected residences and other sensitive receptors within 150 feet of project construction boundary a "hotline" telephone number, which shall be attended during active construction working hours, for use by the public to register complaints. The distribution shall identify a noise disturbance coordinator who would be responsible for responding to any local complaints about construction noise. The

disturbance coordinator would determine the cause of the noise complaints and institute feasible actions warranted to correct the problem. All complaints shall be logged noting date, time, complainant's name, nature of complaint, and any corrective action taken. The distribution shall also notify residents adjacent to the project site of the construction schedule.

- All construction equipment shall have intake and exhaust mufflers recommended by the manufacturers thereof, to meet relevant noise limitations.
- Maintain maximum physical separation, as far as practicable, between noise sources (construction equipment) and sensitive noise receptors. Separation may be achieved by locating stationary equipment to minimize noise impacts on the community.
- Impact tools (e.g., jack hammers, pavement breakers) used during construction activities will be hydraulically or electrically powered where feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used.
- Use construction noise barriers such as paneled noise shields, blankets, or enclosures adjacent to noisy stationary equipment. Noise control shields, blankets or enclosures shall be made featuring a solid panel and a weather-protected, sound-absorptive material on the construction-activity side of the noise shield.

### Significance Determination

Less than Significant with Mitigation.

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**Impact 3.11-2: Operation of the proposed injection wells in close proximity to sensitive receptors could generate noise in excess of standards established in the Morro Bay Municipal Code. A qualified noise consultant will determine the noise reduction measures to be incorporated into project design to ensure noise levels would not exceed the City's daytime and nighttime noise standards. This would be a Class II impact, Less than Significant with Mitigation.**

As discussed in Chapter 2, *Project Description*, operation of the proposed WRF and associated O&M buildings could result in approximately 14 vehicular worker trips per day and 13 heavy truck trips per month, which represents the highest operational traffic volumes out of all of the project components. Using traffic noise prediction equations developed by FHWA and conservatively assuming all 13 haul trips occur in one day, sensitive receptors located 50 feet from roadways leading to the proposed WRF and associated O&M buildings would be exposed to a traffic noise level of 47 dBA  $L_{dn}$ . These sensitive receptors would be exposed to project-related operational traffic noise levels that are below the City and County's noise standards. Therefore, for all project components, impacts associated with traffic-related noise during project operations would be less than significant.

Operational activities associated with the proposed WRF, lift station, conveyance pipelines, and injection/monitoring wells could result in the exposure of nearby off-site sensitive receptors to noise levels that could exceed local noise standards. Noise sources associated with the proposed

project include vehicular traffic from worker and truck trips and stationary sources such as pump stations, emergency generators and transformers. **Table 3.11-9** presents the highest  $L_{eq}$  noise level sensitive receptors could be exposed to during the operation of stationary noise sources at each of the proposed facilities. A summary of impact per project component is provided below.

**TABLE 3.11-9  
SUMMARY OF NOISE AT SENSITIVE RECEPTORS DURING OPERATION - STATIONARY SOURCES**

Project Facility	Loudest Noise Source	Combined Source Noise Level at 50 feet (dBA $L_{eq}$ ) <sup>1, 2, 3</sup>	Distance to nearest Sensitive Receptor (feet)	Attenuated Noise Level (dBA $L_{eq}$ ) <sup>4, 5</sup>
WRF	Pump, Generator	83	360	32 <sup>6</sup>
Lift Station				
<i>Option 1A</i>	Pump, Generator, transformer	83	260	45
<i>Option 5A</i>	Pump, Generator, transformer	83	270	45
Conveyance Pipelines				
<i>Discharge Pipeline</i>	None	N/A	N/A	N/A
<i>IPR West</i>	None	N/A	N/A	N/A
<i>IPR East</i>	None	N/A	N/A	N/A
Injection/Monitoring Wells	Pump, Generator	83	50	63
Decommissioning of Current WWTP	None	N/A	N/A	N/A

Notes:

N/A = No operational activities.

<sup>1</sup> Assumed a transformer with a power rating between 100 to 5,000 kVA would be installed at the lift station, which can generate a noise level of 67 dBA from a distance of 25 feet (Bies, 2009).

<sup>2</sup> Assumed a pump motor can generate a noise level of 76 dBA from a distance of 50 feet (FTA, 2006).

<sup>3</sup> Assumed a generator can generate a noise level of 82 dBA from a distance of 50 feet (FHWA, 2006).

<sup>4</sup> Assumed an attenuation rate of 7.5 dB per doubling of distance (i.e., soft site)

<sup>5</sup> Assumed that all stationary sources would be fully enclosed and benefit from an interior to exterior attenuation of 20 dB.

<sup>6</sup> Assumed 10 dB of attenuation due to intervening hill blocking line-of-sight between the preferred WRF site and nearest sensitive receptor.

Source: ESA, 2017; Bies, 2009; FTA, 2006; FHWA, 2006

## WRF

As described in the Section 3.11.3, *Regulatory Framework*, the County of San Luis Obispo General Plan Policy 3.3.5, sensitive receptors exposed to noise levels from a stationary source that exceeds those shown in Table 3.11-4 would result in a significant impact. The stationary noise sources associated with the proposed WRF are the two 15 or 30 horse power (HP) recycled water pumps (one on standby) and emergency backup generator. The recycled water pumps would be used to convey water to offsite injection wells. For this analysis it is assumed that the pump motors and emergency backup generator are operating at the same time and are fully enclosed. As shown in Table 3.11-9, the nearest sensitive receptor to the WRF could be exposed to a noise level of 32 dBA  $L_{eq}$  during the operation, which is below the County's daytime and nighttime noise standards. There would be a less than significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the local general plan.

### Lift Station

As described in the Section 3.11.3, *Regulatory Framework*, the City's General Plan Policy N-4.5, sensitive receptors exposed to noise levels from a stationary source that exceeds those provided in Table 3.11-3 would result in a significant impact. The stationary noise sources associated with the proposed lift station are the pump motors, emergency backup generator and transformer. For this analysis it is assumed that the pump motors, transformer and emergency backup generator are operating at the same time and are fully enclosed. As shown in Table 3.11-9, the nearest sensitive receptor to the proposed lift station located at either Option 1A or Option 5A could be exposed to a noise level of 45 dBA  $L_{eq}$  during operation, which is below the City's daytime and nighttime noise standards. There would be less than significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the General Plan.

### Conveyance Pipelines

All proposed conveyance pipelines would be underground and would not involve the installation of stationary noise sources such as pumps and emergency generators. There would be no impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the local general plan.

### Injection and Monitoring Wells

As described in the Section 3.11.3, *Regulatory Framework*, the City's General Plan Policy N-4.5, sensitive receptors exposed to noise levels from a stationary source that exceeds those showing in Table 3.11-4 would result in a significant impact. As previously discussed, the exact locations of the three to five proposed inject/monitoring wells in either the IPR West and IPR East areas are currently unknown. Due to the high density of residential development in both proposed areas, it is conservatively assumed that proposed injection/monitoring wells would be located within 50 feet of a sensitive receptor.

The stationary noise sources associated with the proposed injection wells in either the IPR West or IPR East areas would include the pump motors and emergency backup generators. For this analysis it is assumed that the pump motors and emergency backup generator are operating at the same time and are fully enclosed. As shown in Table 3.11-9, during operation of the WRF the nearest sensitive receptor to one of the proposed injection wells could be exposed to a noise level of 63 dBA  $L_{eq}$  during operation, which would exceed the City's daytime and nighttime noise standards. There would be a potentially significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the General Plan.

Prior to final design of the proposed injection wells, the City would prepare an Operational Noise Reduction Plan demonstrating that the proposed wells would not expose the nearest sensitive receptor to noise levels that would exceed the City's daytime and nighttime noise standards (see Table 3.11-4). The Operational Noise Reduction Plan would be prepared by a qualified noise consultant. Once all noise reduction measures outlined in the Operational Noise Reduction Plan are implemented, the City would measure noise at the nearest sensitive receptor property line to validate the effectiveness of the measures and to demonstrate that operational noise levels are below the City's noise standards. Implementation of the Operational Noise Reduction Plan, as

required by **Mitigation Measure NOISE-2**, would reduce the project's impact to a less than significant level.

### **Decommissioning of Current WWTP**

After the existing WWTP is fully decommissioned, no new stationary noise sources would be built or installed within the former WWTP area. Future plans for potential reuse of that site are speculative. There would be no impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the General Plan.

### **Mitigation Measures**

**NOISE-2: Operational Noise Reduction Measures.** Prior to final design of the proposed injection wells, the City shall prepare an Operational Noise Reduction Plan demonstrating that the proposed injection wells will not expose the nearest sensitive receptor to noise levels that would exceed the City's daytime and nighttime noise standards (see Table 3.11-4). The operational noise reduction plan shall be prepared by a qualified noise consultant. Once all noise reduction measures outlined in the Operational Noise Reduction Plan are implemented, the City shall measure noise at the nearest sensitive receptor property line to validate the effectiveness of the measures and to demonstrate that operational noise levels are below the City's noise standards.

### **Significance Determination**

Less than Significant with Mitigation.

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### **Groundborne Vibration**

**Impact 3.11-3: The proposed project would not expose people to excessive groundborne vibration either during construction or operation. This would be a Class III impacts, Less than Significant.**

### **Operation**

None of the proposed facilities would expose people to, or generate, groundborne vibration during routine maintenance and project operations. Groundborne noise occurs when vibrations transmitted through the ground result in secondary radiation of noise. Groundborne noise is generally associated with underground railway operations and with construction activities such as blasting, neither of which would result from project implementation. Operation of the Project would not involve equipment that would produce ground borne vibration; therefore, no impacts related to the exposure of people or structures to, or the generation of, excessive groundborne noise levels would occur in connection with project operations.

### **Construction**

Human annoyance and building damage are typically the primary issues concerning temporary construction impacts from vibration. Construction activities that may result in temporary vibration impacts include the use of large bulldozers, loaded trucks and auger drills. Impact pile driving is not proposed under any of the project components.



For adverse human reaction, the analysis applies the “strongly perceptible” threshold of 0.9 in/sec PPV for transient sources (Caltrans, 2013b). For risk of architectural damage to historic buildings and structures, this analysis applies a threshold of 0.12 in/sec PPV (Caltrans, 2013b). A threshold of 0.3 in/sec PPV is used for all other buildings. A discussion of temporary vibration impacts by project component is provided below.

## WRF

Construction of the proposed WRF would require the use of a large bulldozer during site grading. As shown in **Table 3.11-10**, the nearest sensitive receptor to the project area would be exposed to vibration level of 0.002, well below the applied human annoyance and historic building thresholds of 0.9 and 0.12 in/sec PPV, respectively. There would be a less than significant impact with respect to exposure of persons to excessive groundborne vibration.

**TABLE 3.11-10**  
**SUMMARY OF VIBRATION LEVELS AT SENSITIVE RECEPTORS DURING CONSTRUCTION**

Project Facility	Highest Vibration Source	PPV a 25 feet (inch/second) <sup>1</sup>	Distance to nearest Sensitive Receptor (feet)	Attenuated Vibration Level (PPV inch/second)
WRF	Large Bulldozer	0.089	360	0.002
Lift Station				
<i>Option 1A</i>	Loaded Trucks	0.076	260	0.002
<i>Option 5A</i>	Loaded Trucks	0.076	270	0.002
Conveyance Pipelines				
<i>Discharge Pipeline</i>	Loaded Trucks	0.076	50	0.027
<i>IPR West</i>	Loaded Trucks	0.076	50	0.027
<i>IPR East</i>	Loaded Trucks	0.076	50	0.027
Injection/Monitoring Wells	Auger Drill	0.076	50	0.027
Decommissioning of Current WWTP	Loaded Trucks	0.076	250	0.0024

Source: ESA, 2017; FTA, 2006

## Lift Station

Construction of the proposed lift stations at Option 1A and Option 5A would require the use of heavy trucks. As shown in Table 3.11-10, the nearest sensitive receptor to the project area would be exposed to a vibration level of 0.002, well below the applied human annoyance and historic building thresholds of 0.9 and 0.12 in/sec PPV, respectively. There would be a less than significant impact with respect to exposure of persons to excessive groundborne vibration.

## Conveyance Pipelines

The proposed conveyance pipelines would require the use of heavy trucks, which when fully loaded can generate noticeable groundborne vibration at close distances. As shown in Table 3.11-10, the nearest sensitive receptor to the project area would be exposed to a vibration level of 0.027, well below the applied human annoyance and historic building thresholds of 0.9 and 0.12

in/sec PPV, respectively. There would be a less than significant impact with respect to exposure of persons to excessive groundborne vibration.

### **Injection and Monitoring Wells**

Construction of the injection/monitoring wells would require 24-hour drilling for a one-month period. The exact location of where the three to five injection/monitoring wells would be installed are unknown at this time. It is conservatively assumed that the nearest sensitive receptors would be located within 50 feet from where wells would be drilled. As shown in Table 3.11-10, the nearest sensitive receptor to the project area would be exposed to a vibration level of 0.027 in/sec PPV, well below the applied human annoyance and historic building thresholds of 0.9 and 0.12 in/sec PPV, respectively. There would be a less than significant impact with respect to exposure of persons to excessive groundborne vibration.

### **Decommissioning of Current WWTP**

Decommissioning of the current WWTP would require the use of heavy trucks to transport material from the project site. As shown in Table 3.11-10, the nearest sensitive receptor to the project area would be exposed to a vibration level of 0.0024 in/sec PPV, well below the applied human annoyance and historic building thresholds of 0.9 and 0.12 in/sec PPV, respectively. There would be a less than significance impact with respect to exposure of persons to excessive groundborne vibration.

### **Mitigation Measures**

None Required

### **Significance Determination**

Less than Significant.

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### ***Permanent Increases in Ambient Noise Levels***

**Impact 3.11-4: Operation of the proposed injection wells in close proximity to sensitive receptors could result in a substantial permanent increase in ambient noise levels. A qualified noise consultant will determine the noise reduction measures to be incorporated into project design to ensure operational noise levels do not exceed the City's daytime and nighttime noise standards. This would be a Class II impact, Less than Significant with Mitigation.**

As described in Section 3.11.4, *Impacts and Mitigation Measures*, above, this evaluation uses a 5-dBA increase in noise exposure—which is considered a readily perceptible increase in noise levels (Caltrans, 2013a)—to assess the significance of operational noise increases in ambient noise levels in the proposed project vicinity

As discussed in Chapter 2, *Project Description*, operation of the proposed WRF and associated O&M buildings could result in approximately 14 vehicular worker trips per day and 13 heavy truck trips per month, which represents the highest operational traffic volumes out of all of the project components. This increase, compared to existing conditions, would not contribute

incrementally to traffic noise along local roadways. It takes a doubling of traffic to increase noise levels by only 3 dB, which is considered barely perceptible to the average person (Caltrans, 2013a). Since the increase in vehicular traffic during operations would not result in the doubling of traffic, it is unlikely that the project-related traffic noise levels would exceed the applied substantial increase threshold of 5-dB.

Operational activities associated with the proposed WRF, lift station, conveyance pipelines, and injection/monitoring wells could substantially increase the existing ambient noise level at the proposed project sites. Noise sources associated with the proposed project include stationary sources such as pump stations, emergency generators and transformers. **Table 3.11-11** presents how the proposed stationary noise sources would affect the existing ambient at each of the project sites. A summary of impact per project component is provided below.

**TABLE 3.11-11**  
**OPERATIONAL STATIONARY NOISE SOURCES – INCREASE OF OVER AMBIENT**

Project Facility	Loudest Noise Source	Attenuated Noise Levels (dBA L <sub>eq</sub> ) <sup>1, 2, 3, 4, 5</sup>	Attenuated Noise Levels (dBA L <sub>dn</sub> ) <sup>6</sup>	Ambient (dBA L <sub>dn</sub> ) <sup>7</sup>	Project plus Ambient (dBA L <sub>dn</sub> )	Increase Over Ambient (dB)
WRF	Pump, Generator	32	38 <sup>8</sup>	55	55	0
Lift Station						
<i>Option 1A</i>	Pump, Generator, transformer	45	51	55	56	1
<i>Option 5A</i>	Pump, Generator, transformer	45	51	55	56	1
Conveyance Pipelines						
<i>Discharge Pipeline</i>	None	N/A	N/A	N/A	N/A	N/A
<i>IPR West</i>	None	N/A	N/A	N/A	N/A	N/A
<i>IPR East</i>	None	N/A	N/A	N/A	N/A	N/A
Injection/Monitoring Wells	Pump, Generator	63	69	55	69	14
Decommissioning of Current WWTP	None	N/A	N/A	N/A	N/A	N/A

Notes:

N/A = No operational noise sources.

<sup>1</sup> Assumed a transformer with a power rating between 100 to 5,000 kVA would be installed at the lift station, which can generate a noise level of 67 dBA from a distance of 25 feet (Bies, 2009).

<sup>2</sup> Assumed a pump motor can generate a noise level of 76 dBA from a distance of 50 feet (FTA, 2006).

<sup>3</sup> Assumed a generator can generate a noise level of 82 dBA from a distance of 50 feet (FHWA, 2006).

<sup>4</sup> Assumed an attenuation rate of 7.5 dB per doubling of distance (i.e., soft site)

<sup>5</sup> Assumed that all stationary sources would be fully enclosed and benefit from an interior to exterior attenuation of 20 dB.

<sup>6</sup> Assumed that all stationary noise sources would operate continuously for a 24-hour period.

<sup>7</sup> The existing ambient at each of the project sites is based on a relationship between ambient noise levels and population density researched by the U.S. Environmental Protection Agency (EPA, 1974).

<sup>8</sup> Assumed 10 dB of attenuation due to intervening hill blocking line-of-sight between the preferred WRF site and nearest sensitive receptor.

Source: ESA, 2017; Bies, 2009; FTA, 2006; FHWA, 2006

## WRF

The stationary noise sources associated with the proposed WRF are the two 15 or 30 HP recycled water pumps (one on standby) and emergency backup generator. The recycled water pumps

would be used to convey water to offsite injection wells. For this analysis it is assumed that the pump motors and emergency backup generator are operating at the same time and are fully enclosed. As shown in Table 3.11-11, the nearest sensitive receptor to the preferred WRF would not be exposed to operational noise that would exceed the applied 5-dB substantial increase threshold. There would be a less than significant impact with respect to substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

### **Lift Station**

The stationary noise sources associated with the proposed lift station are the pump motors, emergency backup generator and transformer. For this analysis it is assumed the pump motors, transformer and emergency backup generator are operating at the same time and are fully enclosed. As shown in Table 3.11-11, the nearest sensitive receptor to the proposed lift station (Option 1A and Option 5A) would not be exposed to operational noise that would exceed the applied 5-dB substantial increase threshold. There would be a less than significant impact with respect to substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

### **Conveyance Pipelines**

The proposed conveyance pipelines would be underground and would not involve the installation of stationary noise sources such as pumps and emergency generators. There would be no impact with respect to substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

### **Injection and Monitoring Wells**

The stationary noise sources associated with the proposed injection wells in either the IPR West or IPR East wellfield areas would include the pump motors and emergency backup generators. For this analysis it is assumed that the pump motors, and emergency backup generator are operating at the same time and are fully enclosed. As shown in Table 3.11-11, the nearest sensitive receptor to the proposed injection/monitoring wells would be exposed to operational noise that would exceed the applied 5-dB substantial increase threshold. There would be a potentially significant impact with respect to substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

As described above, prior to final design of the proposed injection wells, the City would prepare an Operational Noise Reduction Plan demonstrating that the proposed wells would not expose the nearest sensitive receptor to noise levels that would exceed the City's daytime and nighttime noise standards (see Table 3.11-4). The Operational Noise Reduction Plan would be prepared by a qualified noise consultant. Once all noise reduction measures outlined in the Operational Noise Reduction Plan are implemented, the City would measure noise at the nearest sensitive receptor property line to validate the effectiveness of the measures and to demonstrate that operational noise levels are below the City's noise standards, which would mitigate any increases in ambient noise. Implementation of the Operational Noise Reduction Plan, as required by Mitigation Measure NOISE-2, would reduce the project's impact to a less than significant level.

### Decommissioning of Current WWTP

After the existing WWTP is fully decommissioned, no new stationary noise sources would be built or installed with the former WWTP area. There would be no impact with respect to substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

### Mitigation Measure

Implement Mitigation Measure NOISE-2

### Significance Determination

Less than Significant after Mitigation.

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**Impact 3.11-5: Construction of the proposed injection and monitoring wells would require continuous drilling for 24-hour periods, which would result in temporary increases in ambient noise levels. Implementation of a Construction Noise Reduction Plan approved by the City's building official would reduce noise levels to acceptable levels. This would be a Class II impact, Less than Significant with Mitigation.**

As described in Section 3.11.4, *Impacts and Mitigations*, above, this evaluation uses the adverse community reaction threshold of 90 dBA  $L_{eq}$  established by the FTA to assess whether construction-related noise levels would have the potential to cause a substantial temporary or periodic increase in ambient noise levels at sensitive receptor locations (FTA, 2006).

**Table 3.11-12** compares the highest  $L_{eq}$  noise level sensitive receptors could be exposed to during the construction of the proposed facilities to the applied 90  $L_{eq}$  temporary substantial increase threshold. A summary of impact per project component is provided below.

### WRF

The sensitive receptors nearest to the preferred WRF site consists of residences at the Bayside Care Center located approximately 360 feet from the project site's southernmost boundary. A crane and backhoe are the two loudest pieces of off-road equipment that will be operating during project construction. As shown in Table 3.11-12, the people living at the Bayside Care Center would be exposed to noise levels of 49 dBA  $L_{eq}$ , well below the applied 90 dBA  $L_{eq}$  temporary substantial noise increase threshold. There would be less-than-significant impacts with respect to temporary substantial increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

**TABLE 3.11-12**  
**SUMMARY OF CONSTRUCTION NOISE LEVELS**  
**COMPARED TO THE APPLIED TEMPORARY SUBSTANTIAL INCREASE OVER AMBIENT THRESHOLD**

<b>Project Facility</b>	<b>Loudest two Pieces of Construction Equipment</b>	<b>Distance to nearest Sensitive Receptor (feet)</b>	<b>Attenuated Noise Level (dBA L<sub>eq</sub>)</b>	<b>Exceed 90 dBA L<sub>eq</sub> (yes or no)?</b>
WRF	Crane, Backhoe	360	49 <sup>3</sup>	No
Lift Station				
<i>Option 1A</i>	Excavator, Backhoe	260	64	No
<i>Option 5A</i>	Excavator, Backhoe	270	64	No
Conveyance Pipelines				
<i>Discharge Pipeline</i>	Excavator, Auger Drill Rig	50	83	No
<i>IPR West</i>	Excavator, Auger Drill Rig	50	83	No
<i>IPR East</i>	Excavator, Auger Drill Rig	50	83	No
Injection/Monitoring Wells	Backhoe, Auger Drill Rig	50	80	No
Decommissioning of Current WWTP	Excavator, Backhoe	250	65	No

Notes:

- <sup>1</sup> Reference construction equipment noise levels were obtained from Caltrans' Roadway Construction Noise Level (RCNM) (FHWA, 2006).
- <sup>2</sup> Assumed an attenuation rate of 7.5 dB per doubling of distance (i.e., soft site).
- <sup>3</sup> Assumed 10 dB of attenuation due to intervening hill blocking line-of-sight between the preferred WRF site and nearest sensitive receptor.

Source: ESA, 2017; FHWA, 2006

## Lift Station

### Lift Station Option 1A

The sensitive receptors nearest to the proposed lift station alternative designated as Option 1A consists of people at the Morro Strand RV Park located approximately 260 feet south-east of the project site. As shown in Table 3.11-12, the people staying at the Morro Strand RV Park would be exposed to noise levels of 64 dBA L<sub>eq</sub> during project construction, well below the applied 90 dBA L<sub>eq</sub> temporary substantial noise increase threshold. There would be less-than-significant impacts with respect to temporary substantial increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

### Lift Station Option 5A

The sensitive receptors nearest to the proposed lift station alternative designated as Option 5A consists of people at the Morro Bay High School located approximately 270 feet north of the project site. As shown in Table 3.11-12, the students and staff at the Morro Bay High School would be exposed to noise levels of 64 dBA L<sub>eq</sub> during project construction, well below the applied 90 dBA L<sub>eq</sub> temporary substantial noise increase threshold. There would be a less-than-significant impact with respect to temporary substantial increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

### Conveyance Pipelines

#### Proposed Raw Wastewater and Brine/Wet Weather Discharge Pipeline

The nearest sensitive receptors to the proposed raw wastewater and brine/wet weather discharge pipeline alignment consist of the Morro Dune RV Park, single-family residences along Main Street and Quintana Road and Bayside Care Center. All of these sensitive receivers would be located within 50 feet from the proposed conveyance pipeline alignment. As shown in Table 3.11-12, the sensitive receptors located within 50 feet of the proposed discharge pipeline would be exposed to noise levels of 83 dBA  $L_{eq}$  during construction, well below the applied 90 dBA  $L_{eq}$  temporary substantial noise increase threshold. There would be a less-than-significant impact with respect to temporary substantial increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

#### Proposed Recycled Water Pipeline (IPR West)

The proposed IPR West pipeline would be nearly identical to the proposed raw wastewater and brine/wet weather discharge pipeline. Consequently, sensitive receptors located adjacent to the proposed recycled water pipeline alignment would be similar to those already discussed under the proposed raw wastewater and brine/wet weather discharge pipeline above.

#### Proposed Recycled Water Pipeline (IPR East)

Sensitive receptors located near the proposed recycled water distribution system IPR East alignment alternative consist of the Bayside Care Center, single-family residences along Bolton Drive and Radcliff Avenue, and Tratel-Morro Bay mobile home park. All of these land uses will be located within approximately 50 feet from the proposed recycled water distribution system IPR East alignment alternative. As shown in Table 3.11-12, the sensitive receptors located within 50 feet of the proposed IPR East pipeline would be exposed to noise levels of 83 dBA  $L_{eq}$  during construction, well below the applied 90 dBA  $L_{eq}$  temporary substantial noise increase threshold. There would be a less-than-significant impact with respect to temporary substantial increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

### Injection and Monitoring Wells

Since the exact locations of the proposed injection/monitoring wells are unknown at this time, it is conservatively assumed that the nearest sensitive receptors are located approximately 50 feet of construction areas. As shown in Table 3.11-12, the sensitive receptors located within 50 feet of the proposed injections/monitoring wells would be exposed to noise levels of 80 dBA  $L_{eq}$  during construction. Although construction noise levels would not exceed the applied 90 dBA  $L_{eq}$  temporary substantial noise increase threshold, nighttime drilling at the proposed well sites could expose nearby sensitive receptors to levels that would interfere with sleep or result in human annoyance. There would be a potentially significant impact with respect to temporary substantial increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

To reduce noise levels during drilling of the proposed injection and monitoring wells, the City would prepare and implement a Construction Noise Reduction Plan, that would be submitted and approved by the City's building official in accordance with Subdivision 9.28.030 I. of the Morro

Bay Municipal code. The Construction Noise Reduction Plan would demonstrate that no loss or inconvenience would result to any party of interest, such as neighboring sensitive receptors. Measures to be implemented would include a noise disturbance coordinator responsible for fielding noise complaints and instituting feasible corrections; locating construction equipment as far away from sensitive receptors as possible; and using noise barriers such as acoustic shields, blankets or enclosures. Implementation of the Plan as required by Mitigation Measure NOISE-1 would reduce temporary construction noise and minimize disturbance to sensitive receptors. Therefore, this impact would result in a less than significant impact after mitigation.

#### **Decommissioning of Current WWTP**

The Morro Dunes RV Park is the nearest sensitive land use to the existing WWTP. People staying at the Morro Dune RV Park could be located as close as 25 feet from the existing WWTP outermost property boundary. As shown in Table 3.11-12, the sensitive receptors located within 25 feet of the existing WWTP facility would be exposed to noise levels of 65 dBA  $L_{eq}$  during demolition, which would not exceed the applied temporary substantial noise increase threshold of 90 dBA  $L_{eq}$ . Under CEQA, the proposed project would not result in a potentially significant impact with respect to temporary substantial increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

#### **Mitigation Measures**

Implement Mitigation Measure NOISE-1

#### **Significance Determination**

Less than significant after mitigation.

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**Impact 3.11-6: The proposed project would not be located within an airport land use plan area or in the vicinity of a private airport. There would be no impact associated with noise levels at airports or airstrips.**

There are no public airports or private airstrips within the proposed project area. The proposed project would not result in the placement of workers in areas where they would be exposed to excessive noise levels associated with airports or airstrips. There would be no impact.

#### **Mitigation Measures**

None required

#### **Significance Determination**

No Impact

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## References

- Caltrans, 2013a. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September 2013.
- Caltrans, 2013b. Transportation and Construction Vibration Guidance Manual. September 2013.
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- Federal Transit Administration (FTA), 2006. Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06). May 2006.
- U.S. Census Bureau, 2010. Quick Facts: Morro Bay, California. Access at <https://www.census.gov/quickfacts/fact/table/morrobaycitycalifornia/PST045216>. Assessed on December 18, 2017.
- U.S. Environmental Protection Agency, 1974. Information of Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. March 1974.

## 3.12 Environmental Justice

According to Section 15382 of the *CEQA Guidelines*, “An economic or social change by itself shall not be considered a significant impact on the environment.” Socioeconomic characteristics should be considered in an EIR only to the extent they create adverse impacts on the physical environment. The *CEQA Guidelines* do not contain thresholds of significance for issues related to environmental justice. An environmental justice analysis is performed in order to meet the criteria to fulfill the CEQA Plus (State Revolving Fund) guidelines and address the federal standards and orders (see Chapter 1). Specifically, this chapter also discusses the potential for the proposed project to disproportionately affect minority and low-income populations.

The analysis presented below focuses on the aboveground components of the proposed project, primarily the WRF. The proposed pipelines would run underground throughout various communities in San Luis Obispo County (County) and the City of Morro Bay (City) and would not have long-term effects on any one community once constructed. Data presented was obtained from the U.S. Census Bureau: 2011-2015 American Community Survey (ACS) five-year estimates, the California Department of Finance, and the California Department of Housing and Community Development.

### 3.12.1 Environmental Setting

#### Regional Setting

##### ***Population***

Portions of the proposed project are located within unincorporated areas of the County. The County has a current population of 280,101. Between 2016 and 2017, the County’s population grew approximately 0.6 percent (CDOF, 2017).

The remainder of the proposed project is located in the City. The City’s current population is 10,762. Between 2016 and 2017, the City’s population grew approximately 0.4 percent (CDOF, 2017).

##### ***Demographics***

According to the 2011- 2015 ACS five-year estimates, the racial breakdown of the County’s population is as follows:

- 69.8 percent White
- 21.8 percent Hispanic or Latino of any race
- 3.6 percent Asian
- 1.9 percent Black/African American
- 0.4 percent American Indian and Alaska Native
- 0.1 percent Native Hawaiian and Other Pacific Islander
- 0.1 percent Some Other Race
- 2.4 percent Two or More Races

## Income

The 2015 median household income in the County was \$60,691 (US Census, 2015). In 2010, the median household income was \$57,335, which shows the income level has increased approximately 5 percent over the past 5 years. **Table 3.12-1** shows the median household incomes for 2-person, 3-person, and 4-person households.

**TABLE 3.12-1**  
**2017 SAN LUIS OBISPO COUNTY AREA MEDIAN HOUSEHOLD INCOME CLASSIFICATION IN US DOLLARS**

	2-person household	3-person household	4-person household
Extremely low income	19,600	22,050	24,600
Very low income	32,700	36,800	40,850
Low Income	52,300	58,850	65,350
Median Income	66,550	74,900	83,200
Moderate Income	79,900	89,850	99,850

SOURCE: CDHCD, 2017

## Project Area Setting

The proposed project facilities would be located within three census tracts within San Luis Obispo County (Tract 106.03, 106.02, and 105.03). All three census tracts span the jurisdiction of the City and unincorporated census-designated places (CDPs) within the County. The proposed lift station, conveyance pipelines, injection and monitoring wells, and the decommissioning of the WWTP would be located within the City, while the proposed WRF site would be located within unincorporated area of the County.

It should be noted the decommissioning of the WWTP is an existing structure and would not have any effects on the surrounding communities because it would be demolished and the land would ultimately be developed for another use to be determined at a later time. Because such a use would be speculative and the timing unknown, that site was not analyzed further.

## Population

The total population of individuals within the three census tracts in the City is 10,550, comprising the vast majority of the population of the City. **Table 3.12-2** lists all census tracts affected by the proposed project using data from the 2011-2015 ACS five-year estimates and breaks down the population per tract.

**TABLE 3.12-2**  
**POPULATION DISTRIBUTION BY CENSUS TRACT**

<i>City/Census Tract</i>	<i>Population</i>
Tract 105.03	5,224
Tract 106.02	3,926
Tract 106.03	1,400
<b>Census Tract Total</b>	<b>10,550</b>
<b>City of Morro Bay Total</b>	<b>10,762</b>

## Demographics

The demographic characteristics of the census tracts affected by proposed project components have been reviewed and summarized (see **Table 3.12-3**). The demographic data provided by the U.S. Census has been organized into four categories: Black (individuals identifying primarily with a Black ethnicity), Hispanic (individuals identifying primarily with a Hispanic ethnicity), White (individuals identifying primarily with a Non-Hispanic, White ethnicity), and Other (individuals identifying primarily with all other ethnicities not aforementioned, as well as those identifying with more than one ethnicity). According to the U.S. Census, “minorities” are defined as all individuals that identify as a race other than White or are Hispanic.

**TABLE 3.12-3  
DEMOGRAPHIC DISTRIBUTION BY CITY AND CENSUS TRACT**

<i>City/Census Tract</i>	<b>Hispanic</b>	<b>White</b>	<b>Black</b>	<b>Other</b>
<b>City of Morro Bay Total</b>	<b>19%</b>	<b>64.8%</b>	<b>1.3%</b>	<b>14.9%</b>
Tract 105.03	13%	81.9%	3.2%	1.9%
Tract 106.02	20.2%	74.4%	0%	5.4%
Tract 106.03	19.3%	73.6%	0.4%	6.7%
<i>Average</i>	<i>17.5%</i>	<i>76.6%</i>	<i>1.2%</i>	<i>4.7%</i>
<b>County of San Luis Obispo Total</b>	<b>21.8%</b>	<b>69.8%</b>	<b>1.9%</b>	<b>6.5%</b>
Tract 105.03	13%	81.9%	3.2%	1.9%
Tract 106.02	20.2%	74.4%	0%	5.4%
Tract 106.03	19.3%	73.6%	0.4%	6.7%
<i>Average</i>	<i>17.5%</i>	<i>76.6%</i>	<i>1.2%</i>	<i>4.7%</i>

SOURCE: Data obtained from US Census Survey, ACS 2011-2015 5-Year Estimates.

For purposes of this analysis, an area is considered to have a significantly greater minority population if the affected census tract or group of tracts has a minority population at least 10 percent greater on average than the overall city or CDP. Table 3.12-3 includes the demographic data for City and census tracts affected by the proposed project components.

The tracts affected by the proposed project within the City have relatively smaller minority populations on average than the overall City and County themselves. The City affected tracts have a 0.1% lower Black population (1.2%) compared to that of the overall City (1.3%) and a 1.5% lower Hispanic population (17.5%) than the overall City (19%). The affected tracts have a 4.3% lower Hispanic population (17.5%) compared to that of the overall County (21.8%) and a 0.7% lower Black population (1.2%) compared to the overall County (1.9%).

## Income

Low income is classified by the California Department of Housing and Community Development (DHCD) using population and income distribution within each county. For the purposes of the proposed project, the affected census tracts must have an average median household income at least \$10,000 below that of the overall city or CDP to be considered significantly lower income. Furthermore, as household income classification is dependent on household size, the income

amount must be equal to or below the low-income threshold designated for the average family size within the city or CDP. Table 3.12-1 shows the County median household income level classifications for two-, three- and four-person households. **Table 3.12-4** shows the income data and poverty status within all affected cities and census tract sets. According to the U.S. Census Bureau, the national poverty threshold in 2015 for a three-person household is \$18,871.

**TABLE 3.12-4**  
**MEDIAN HOUSEHOLD INCOME AND POVERTY STATUS BY CITY AND CENSUS TRACT**

<i>City/Census Tract</i>	<b>Median Household Income</b>	<b>Percent Below Poverty Level (Individuals)</b>
<b>City of Morro Bay</b>	<b>\$51,338</b>	<b>12.9%</b>
Tract 105.03	\$48,625	14.3%
Tract 106.02	\$53,299	10%
Tract 106.03	\$51,406	15%
<i>Average</i>	<i>\$51,110</i>	<i>13.1%</i>
<b>County of San Luis Obispo</b>	<b>\$60,691</b>	<b>14.8%</b>
Tract 105.03	\$48,625	14.3%
Tract 106.02	\$53,299	10%
Tract 106.03	\$51,406	15%
<i>Average</i>	<i>\$51,110</i>	<i>13.1%</i>

The affected tracts within the City show a slightly lower average median household income level (\$51,110) compared to the respective overall city data (\$51,338). The affected tracts' average median household income differs by \$228 compared to the rest of the City. With an average household size of three persons in the City, that income level is considered "very low income" (DHCD, 2017; see Table 3.12-1). The affected tracts have \$9,581 less than the overall County's median household income (\$60,691). Compared to the national poverty threshold, the affected tract's income level is \$32,239 above the three-person household poverty level.

The tract sets mentioned above also show they do not have a significantly higher percent of population living below poverty level than the City or County. The national poverty level or threshold is determined every year by the US Census Bureau. The City affected tracts have a percent of population living below the poverty level that is 0.2% higher than the overall city. The affected tracts have a percent of population living below poverty level that is 1.7% lower than the overall County.

## 3.12.2 Regulatory Framework

### Federal

NEPA and CEQA-Plus procedures outlined in the State Revolving Fund (SRF) financing guidelines include compliance with Executive Order 12898, which outlines federal actions to address environmental justice in minority populations and low-income populations.

Executive Order 12898 states agencies shall identify and address disproportionately high and adverse human health or environmental effects on minority and low-income populations. A new working group was created to develop strategies for programs and policies regarding minority and low-income populations to: promote enforcement of all health and environmental statutes, improve research and data collection in relation to health and environment, identify different patterns of consumption of natural resources, and ensure greater public participation.

### 3.12.3 Impacts and Mitigation Measures

#### Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to environmental justice in the project area. To maintain consistency with CEQA Plus Guidelines, the proposed project would have significant impact to environmental justice if it would:

- Affect the health or environment of minority or low-income populations disproportionately.

#### Methodology

The potential impacts related to environmental justice associated with the proposed project were evaluated on a qualitative and quantitative basis. The evaluation of impacts is based on professional judgment, the significance criteria established by the CEQA Plus Guidelines, and an analysis of the data provided by the U.S. Census Bureau, the California Department of Finance, and the California Department of Housing and Community Development.

#### Impact Analysis

**Impact 3.12-1: The aboveground facilities of the proposed project would not be located near communities that are disproportionately comprised of low income or minority populations. This impact would be Class III, Less than Significant.**

Based on all census data presented above, the proposed project components in the City and the County would not be located in areas with significantly large minority and low-income populations on average, relative to the overall characteristics of the City and County. The County and the City do not have substantially large low-income or minority populations. The County is made up of 69.8% white population and a median household income of \$60,691, while the City is comprised of 64.8% white population with a median household income of \$51,338. Both median household incomes are well above the national poverty threshold of \$18,871. The project components are located within three out of the four tracts located in the City, with a portion also in the County. The three City tracts have similar socioeconomic characteristics, all with 10% to 15% of the population below the poverty level, which also mirrors that for the County (Table 3.12-4). As shown in Table 3.12-3, two of the tracts (Tract 106.02 and Tract 106.03) are within a one percent difference of the Hispanic population for the overall City, while Tract 105.03 has six percent less than the City's Hispanic population of 19 percent. Similarly, two of the tracts are well below the Black population for the overall city while Tract 105.03 has two percent higher than the City's population (1.3 percent). Those data show each tract is equally diverse and there is not a significant minority population living near the proposed project components. As such, none

of the proposed project components could be located within a tract that would be substantially different with respect to income and poverty level. Generally, implementation of the proposed project would not disproportionately affect the health or environment of a minority or low-income population.

Viewed as specific proposed project components, the proposed raw wastewater and brine/wet weather discharge pipeline and the proposed IPR West pipeline would traverse residential areas along Main Street and Quintana Road and the proposed IPR East pipeline would traverse residential areas along Bolton Drive, Radcliff Avenue, Main Street, and Errol Street. Impacts from the construction of those pipelines would be short-term, temporary, and would not cause any permanent impacts to the residents. Once constructed, the pipelines would be below ground with the surface disturbance restored to pre-construction conditions. As such, the land value of the surrounding neighborhoods would not be affected, regardless of demographics or socioeconomic status.

The permanent aboveground facilities include the proposed WRF, lift stations, and injection wells. The proposed WRF would not cause a significant impact to a nearby residential community. The proposed WRF site is surrounded by agricultural rangeland and is approximately 360 feet from the Bayside Care Center. Farther south of the proposed WRF site, approximately 0.25 mile across Highway 41, there is a church, mobile home park, and mortuary. The land uses surrounding the proposed WRF site are not characterized by low-income or minority populations. The construction and operation of the proposed WRF would have no significant impacts to the environment and as such would not have adverse impacts to the health of neighboring residents. The neighboring land uses would be minimally impacted from the implementation of the proposed WRF.

The proposed lift station would be located adjacent to Morro Bay High School and existing Corporation Yard, while the proposed injection well sites would be located near either a closed power plant, an RV park, a mobile home park, or commercial sites. The proposed project facilities would small in scale and would not substantially alter the character of the neighborhood in which they would be located.

In addition, the locations for the proposed WRF site and proposed lift station, and pipelines have been based on criteria such as elevation and proximity and connectivity to existing facilities. The proposed pipeline routes have been determined based on preliminary screening criteria to minimize the distance between the proposed WRF site, lift station, and existing outfall and to locate facilities within existing utility easements or public right-of-ways. Those proposed locations allow for the efficient transport of water throughout the urbanized areas to be distributed to the service area. Therefore, the locations of the proposed facilities are constrained to some degree. When considered together with the demographic and income data presented above, the proposed project would not disproportionately affect the health or environment of a minority or low-income population.

### **Mitigation Measures**

None required.

## Significance Determination

Less than Significant

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## References

- California Department of Finance (CDOF), 2017. E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1, 2016 and 2017, May 2017.
- California Department of Housing and Community Development (DHCD), 2017. State Income Limits for 2017, June 9, 2017.
- U.S. Census Bureau, 2015. American Community Survey (ACS) 5-Year Estimates database, Available online at: <https://factfinder.census.gov>, Accessed on December 5, 2017.
- U.S. Census Bureau, 2015. Poverty Thresholds for 2015 by Size of Family and Number of Related Children Under 18 Years, Available online at: <https://census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html>, Accessed on December 6, 2017.



## 3.13 Public Services

This section identifies existing public services within the project area, analyzes potential impacts to these services associated with the development of the proposed project, and identifies mitigation measures that would avoid or reduce the significance of any identified impacts.

### 3.13.1 Environmental Setting

#### Fire Protection

##### ***County of San Luis Obispo***

The California Department of Forestry and Fire Protection (CAL FIRE) is a state agency that functions as the County Fire Department under a contract with the County of San Luis Obispo (County). The County Fire Department provides emergency services including planning for and taking actions to prevent and reduce the impact from emergencies, coordinating regional emergency response efforts, and educating the communities served for the unincorporated areas of the County (CAL FIRE, 2017a). Additionally, the County Fire Department provides fire services to the communities of Los Osos and Avila Beach and provides local contract fire services to the City of Pismo Beach and Cayucos community. The County Fire Department operates 21 fire stations throughout the County (CAL FIRE, 2017b). South Bay Fire Station is the closest fire station to the project located at 2135 Bayview Heights Drive in Los Osos which is approximately 3.95 miles south of the preferred WRF site.

##### ***City of Morro Bay***

The Morro Bay Fire Department is responsible for providing fire protection and emergency services to the City of Morro Bay (City). The Fire Department has one fully staffed fire station, Fire Station 53, and one non-staffed fire station, Fire Station 54 (City of Morro Bay, 2017a). Fire Station 53 located at 715 Harbor Street is the closest fire station to the preferred WRF site, which is approximately 1.25 miles west of the preferred WRF site.

#### Police Protection

##### ***County of San Luis Obispo***

The County Sheriff's Office provides law enforcement services to the unincorporated areas of the County. The County Sheriff's Office operates a County jail and provides coroner-public administrator duties, court services, and law enforcement services via one main office and three patrol stations across the county (SLO County Sheriff's Office, 2017). The Sheriff's Patrol Division is responsible for the first line law enforcement in the unincorporated areas of San Luis Obispo. The Coast Station located at 2099 10<sup>th</sup> Street in Los Osos is the nearest patrol station to the preferred WRF site, which is approximately 3.6 miles south of the preferred WRF site.

##### ***City of Morro Bay***

The Morro Bay Police Department (MBPD) provides law enforcement services to the City. The MBPD operates from one police station located at 850 Morro Bay Boulevard which is approximately 1 mile west of the preferred WRF site (City of Morro Bay, 2017b).

## **Schools**

### ***County of San Luis Obispo***

The County Office of Education promotes student success by supporting the work of local school districts, delivering specialized student services, and providing county-wide leadership and advocacy for the needs of all children (SLOCOE, 2017a). There are currently 10 school districts, three charter schools, and one community college within the County (SLOCOE, 2017b).

### ***City of Morro Bay***

San Luis Coastal Unified School District (SLCUSD) serves nearly 8,000 students in the City and the communities of Avila Beach, Edna Valley, Los Osos and San Luis Obispo (SLCUSD, 2017). SLCUSD consists of 16 schools for students from kindergarten through high school, as well as adult night school. The closest school to the proposed project is Morro Bay High School located at 235 Atascadero Road, which is adjacent to the proposed lift station Option 5A.

## **Parks**

The Morro Bay Recreation Services Department provides recreational services to the City and manages the 12 parks located throughout the City (City of Morro Bay, 2017c). Lila Keiser Park is the closest park to any aspect of the proposed project, located at 1 Park Street in Morro Bay, approximately 850 feet southeast of the proposed lift station Option 1A and along the proposed raw wastewater pipeline route.

## **Other Public Facilities**

### ***Hospitals***

Hospitals within the area of the proposed project include the Urgent Care Facility, located at 783 Quintana Road in Morro Bay, approximately two miles west of the preferred WRF site and the Sierra Vista Regional Medical Center is located at 1010 Murray Avenue in San Luis Obispo, approximately 10 miles southeast of the preferred WRF site. The Sierra Vista Regional Medical Center offers a wide variety of inpatient and outpatient services, from cancer care, high-risk pregnancy, trauma, laboratory tests and screening, to wound care (Sierra Vista Regional Medical Center, 2017).

### ***Libraries***

One public library is located within the City of Morro Bay and two public libraries are located nearby within unincorporated areas of the County. Morro Bay Library is located at 625 Harbor Street in Morro Bay, approximately 1.3 miles west of the preferred WRF site and 1.2 miles southeast from the proposed lift station sites. Cayucos Library is located at 310 B Street in Cayucos in unincorporated area of the County, approximately 5.7 miles northwest of the proposed lift station sites and Los Osos Library is located at 2705 Palisades Avenue in Los Osos in unincorporated areas of the County, approximately 3.7 miles south of the preferred WRF site.

## 3.13.2 Regulatory Framework

### State

#### ***California Fire Code and California Building Code***

The California Fire Code and various building trades codes, as adopted by the State Legislature, prescribe performance characteristics and materials to be used to achieve acceptable levels of fire protection. The City and County have also adopted those codes are required by state law.

#### ***California Occupational Safety and Health Administration***

In accordance with 8 California Code of Regulations sections 1270 “Fire Prevention” and 6773 “Fire Protection and Fire Equipment,” the California Occupational Safety and Health Administration (Cal OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include but are not limited to guidelines on the handling of highly combustible materials, fire hosing sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

#### ***California Health and Safety Code***

State fire regulations are set forth in Section 13000, *et seq.* of the California Health and Safety Code, which include regulations for building standards (as set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, high-rise building, childcare facility standards, and fire suppression training.

#### ***Leroy F. Greene School Facilities Act of 1998***

The California State Legislature enacted the Leroy F. Green School Facilities Act of 1998 (Senate Bill 50), which made significant amendments to existing state law governing school fees. Senate Bill 50 prohibited state or local agencies from imposing school impact mitigation fees, dedications, or other requirements in excess of those provided in the statute. The legislation also prohibited local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any project.

The County prepared a Public Facilities Financing Plan (PFFP) for the unincorporated portions of the County. The PFFP was most recently updated in 2011. In general, it addresses the link between new development and public infrastructure financing and sets fees to mitigated impacts associated with parks, law enforcement, fire protection, and other County services.

This 2011 PFFP documents the amount and cost of new capital facilities required to serve new development in unincorporated areas through the year 2025. One potential source of funding is public facilities fees, or impact fees, paid by new development to fund its fair share of facilities’ needs. The PFFP documents the maximum justified level of those fees, and is structured to address the following specific topics:

- Public Facilities Financing in California
- Fee Determination

- Facilities Costs and Fee Schedules
- Implementation and Administration
- Collection and Disbursement

As described in the PFFP, the public facilities fees are collected at time of building permit issuance, unless deferred to final building permit inspection according to an agreement pursuant to the Public Facilities Fees Ordinance. The fees will not be collected on vacant land until development occurs. Fees will only be collected on developed land if the existing structures are being expanded or otherwise modified to allow more intense use of the property.

Fee revenues for each facility area are collected in a separate trust account, and interest earned on fund balances are credited to that account. Funds will be transferred from that account to specific accounts for construction as needed to finance the facilities required to serve new development. These facilities are summarized in their respective chapters of this plan and in greater detail in specific master plans prepared by each department. The proposed facilities for each type of service are reflected as an attachment to the Resolution adopting the Public Facilities Financing Plan and will be reviewed and revised as needed through the annual review of the Public Facilities Fee program. The County uses the Capital Improvement Program to indicate the actual phasing and location of new facilities.

## **Local**

### ***City of Morro Bay General Plan Safety Element***

**Policy S-3:** The City will protect people and structures from injury and destruction from fire within the fiscal and physical limitations of the City.

## **3.13.3 Impacts and Mitigation Measures**

### **Significance Criteria**

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to public services in the project area. This Draft EIR assumes implementation of the proposed project would have a significant impact related to public services if it would:

1. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
  - a. Fire and Police protection
  - b. Schools
  - c. Parks or other public facilities

## Methodology

City and County General Plans, fire and police department websites, local school annual reports and websites, and State, city and County websites were consulted to obtain the information required for the environmental and regulatory setting. This impact analysis considers the potential public services impacts associated with the construction, operation, and maintenance of the proposed project.

## Impact Analysis

### ***Fire and Police Protection***

**Impact 3.13-1a: The number of workers required to construct and operate the proposed project would not be large enough to significantly affect the demand for housing. Thus, the proposed project would not affect service ratios or other performance objectives for fire and police protection. This impact would be Class III, Less than Significant.**

The proposed project does not include any new fire departments, police stations, or expansion of existing fire and police protection facilities. The proposed project would not significantly increase the need for public services such as fire and police protection. As discussed in greater detail in Chapter 5, *Growth Inducement*, the facilities would not induce substantial population growth in the City or County that would require expanded fire or police protection facilities. Construction of the proposed project would require construction workers ranging from 20 to 30 employees for the preferred WRF site, 15 to 20 employees for the pipeline installation, and four to eight employees for the injection wells. Operation of the proposed project would require about four new employees. However, employment opportunities associated with the construction and operation are assumed to be filled by the local workforce, and would not result in increased housing demand. Therefore, implementation of the proposed project would not require new fire or police facilities to maintain response ratios, service ratios, or other measures of performance.

In addition, the proposed project is replacing the existing WWTP with the new proposed WRF, moving the treatment plant facility to a new location. The closest police and fire stations are 1 and 1.25 miles, respectively, from the WRF site. In the event of a fire or other emergency at a project facility, existing fire protection and police services within the City and County would be able to sufficiently respond to emergency events with existing equipment and staffing capacities. Because the proposed project components would not result in the permanent increase in residences or population, no increase in the need for new fire or police protection facilities would occur. As a result, impacts would be considered less than significant to fire and police services.

### **Mitigation Measures**

None required.

### **Significance Determination**

Less than Significant

### ***Schools***

**Impact 3.13-1b: The proposed project would not induce population growth and would not require the construction of new schools. There would be no impact.**

The San Luis Coastal Unified School District (SLCUSD) serves the City. The proposed project includes the WRF, a lift station, groundwater injection wells, a raw wastewater and brine/wet weather discharge pipeline, and a recycled water pipeline. As mentioned above under Impact 3.13-1a, the construction and operation of those facilities would not result in population growth within the City or County. No new schools would need to be constructed in order to maintain acceptable performance objectives. As a result, the proposed project would not require the construction of new schools, and no impacts would occur.

#### **Mitigation Measures**

None required.

#### **Significance Determination**

No Impact

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### ***Parks and Public Facilities***

**Impact 3.13-1c: The proposed project would not induce population growth and would not require the construction of new parks or other public facilities. There would be no impact.**

There are several parks, three libraries, and two hospitals/urgent care facilities located within the City and surrounding unincorporated areas of the County. The proposed project is a wastewater treatment project and does not propose any new housing units or a substantial increase in new employment opportunities within the City; nor does the potential water that might be supplied by the WRF increase opportunities for additional residents or businesses in the City or County. As such, the proposed project would not induce population growth and would not necessitate the construction of additional parks, libraries, or hospitals within the City or County in order to meet performance objectives. Therefore, the proposed project would have no impacts associated parks, libraries, or hospitals.

#### **Mitigation Measures**

None required.

#### **Significance Determination**

No Impact

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## References

- CALFIRE, 2017a. San Luis Obispo County Fire Department, Available online at: <http://www.calfireslo.org/index.html>, Accessed on December 13, 2017.
- CALFIRE, 2017b. Fire Stations, Available online at: <http://www.calfireslo.org/operationsstations.html>, Accessed on December 13, 2017.
- City of Morro Bay, 1988. City of Morro Bay General Plan Safety Element, Published 1988.
- City of Morro Bay, 2017a. Fire Department: About the Department, Available online at: <http://www.morro-bay.ca.us/631/About-the-Department>, Accessed on December 13, 2017.
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- Sierra Vista Regional Medical Center, 2017. Our Locations in Your Area, Available online at: <https://www.sierravistaregional.com/our-locations/sierra-vista-regional-medical-center>, Accessed on December 13, 2017.

## 3.14 Transportation and Traffic

This section assesses potential impacts related to transportation and traffic that could result from project construction and implementation. Potential impacts addressed in this section are related to conflicts with applicable traffic plans, congestion management programs, and alternative traffic plans, air traffic patterns, transportation design hazards, and inadequate emergency access.

Information used in this section is from the Traffic Impact Study (TIS) prepared by Central Coast Transportation Consulting (CCTC) for the proposed project (CCTC, 2018), which is included as **Appendix H**.

### 3.14.1 Environmental Setting

#### Local Circulation System

The City of Morro Bay (City) is located along the coast in the western portion of San Luis Obispo County (County). Regional access to the City is provided via State Route 1 (SR 1), also known as Cabrillo Highway in this area of the state, and State Route 41 (SR 41), which turns into Morro Road in the City. Local access to or through the City is provided via collector or arterial roadways, Main Street, Morro Bay Boulevard, Beach Street, Quintana Road, and South Bay Boulevard. The following describes the roadways that provide access to the various project components:

**SR 1** is a major north-south state highway running along the Pacific coastline of California. It separates from the US 101 on Santa Rosa Street in San Luis Obispo and continues as a four-lane arterial known as the Cabrillo Highway. In the traffic study area, SR 1 is a four-lane freeway, with two lanes in each travel direction.

**SR 41** is a major east-west state highway that connects SR 1 in the City with Fresno and Yosemite Valley via the San Joaquin Valley. Within and around the City, SR 41 is a two-lane highway, one travel lane in each direction, with a central turning lane.

**South Bay Boulevard** is a north-south minor arterial with two travel lanes that connects Los Osos and Morro Bay. The SR 1 northbound and southbound on- and off-ramps connect to this road and provide access to the southern end of the city.

**Quintana Road** is an east-west major collector with two travel lanes. It parallels SR 1 and allows access to the residential and commercial areas from the highway.



## Existing Conditions at Study Area Intersections and Freeway Ramps

The study area established in the TIS included the following three study intersections and two freeway on- and off-ramps:

### Study Intersections

1. SR 1 North Bound (NB) Ramps / South Bay Boulevard
2. SR 1 South Bound (SB) Ramps / South Bay Boulevard
3. Quintana Road / South Bay Boulevard

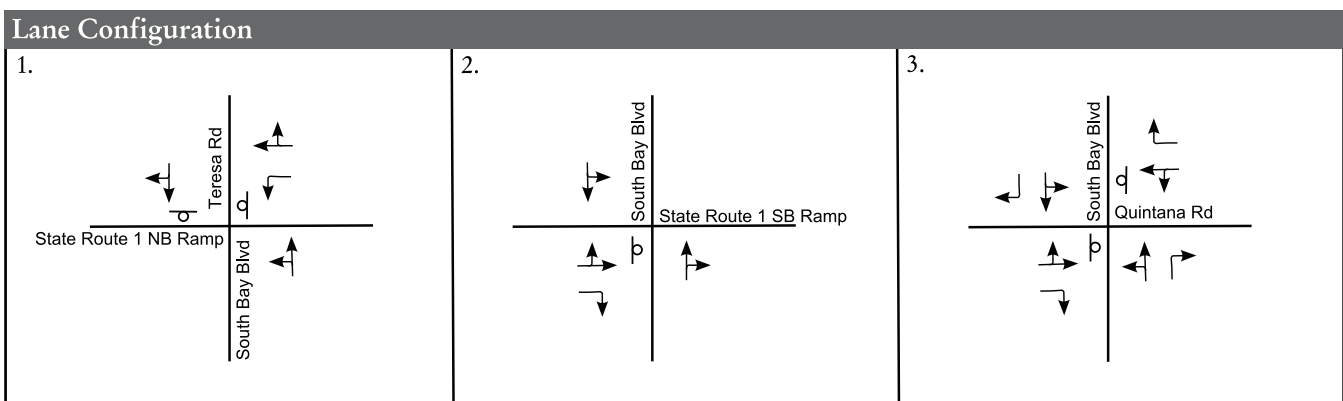
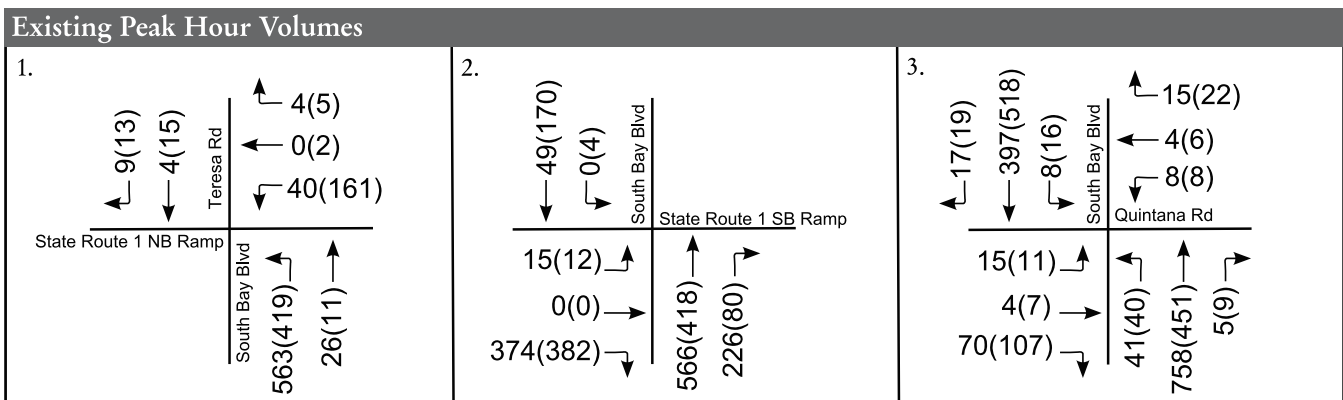
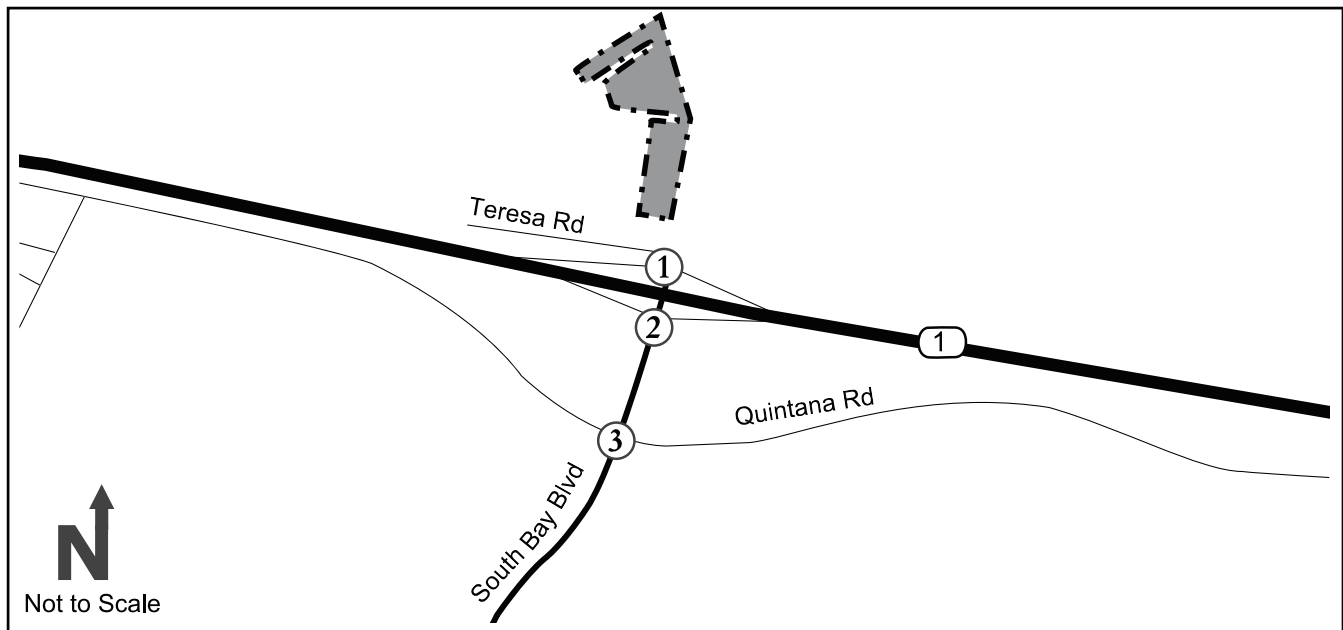
### Freeway Ramps

- 1a. SR 1 NB Off-Ramp / South Bay Boulevard
- 1b. SR 1 NB On-Ramp / South Bay Boulevard
- 2a. SR 1 SB Off-Ramp / South Bay Boulevard
- 2b. SR 1 SB On-Ramp / South Bay Boulevard

Existing weekday AM (7:00 a.m. to 9:00 a.m.) and PM (4:00 p.m. to 6:00 p.m.) peak-hour traffic counts were collected for the study area in February 2018. Mainline counts for SR 1 in both directions were conducted in 2016 and obtained from Caltrans (Campbell, 2018). In addition to the traffic counts, field observations were also conducted during the AM and PM peak hours to confirm the traffic counts accurately represented on-the-ground conditions. Based on the results of the field observations, queuing and delay levels are consistent with the traffic counts.

**Figure 3.14-1** shows the traffic study area, the lane configurations, and existing traffic volumes for the study intersections and freeway on- and off-ramps. **Table 3.14-1** shows the existing Level of Service (LOS) during the AM and PM peak hours for the three study intersections and four freeway on- and off-ramps. LOS is a qualitative measure that describes operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. LOS is described as a range between A and F, where LOS A represents a free-flowing system, and LOS F represents a highly congested, slow-moving system. Since the City has not established a minimum acceptable LOS for intersection operations within its jurisdiction, Caltrans LOS thresholds have been applied to the study intersection and freeway on- and off-ramps. Caltrans has established a minimum acceptable LOS of LOS C for intersections during peak-hour operations (*i.e.*, LOS D, LOS E or LOS F are unacceptable service levels). Additionally, Caltrans' guidance states, if an intersection is already operating at a deficient LOS (*i.e.*, LOS D, LOS E, or LOS F), then the existing service level should be maintained.

As shown in Table 3.14-1, below, all study intersections and freeway on- and off-ramps currently operate at LOS C or better in existing conditions, with the exception of the intersection of Quintana Road / South Bay Boulevard. The intersection of Quintana Road / South Bay Boulevard currently operates at LOS E during the AM peak hour, but operates at an acceptable LOS C during the PM peak hours.



#### Legend:

xx(yy) - AM(PM) Peak Hour Traffic Volumes

(x) - Study Intersection

■ - Project Site

⊥ - Stop Sign

**TABLE 3.14-1  
EXISTING LEVEL OF SERVICE CONDITION**

		AM Peak Hour		PM Peak Hour	
		Delay <sup>1</sup> (sec/veh) or Density <sup>2</sup>	LOS	Delay <sup>1</sup> (sec/veh) or Density	LOS
<b>Intersections</b>					
1	SR 1 NB Ramps / South Bay Boulevard	1.9 (7.9)	A	3.2 (8.9)	A
2	SR 1 SB Ramps / South Bay Boulevard	3.8 (12.0)	B	4.8 (12.8)	B
3	Quintana Road / South Bay Boulevard	<b>3.1 (46.1)*</b>	<b>E</b>	2.6 (20.3)	C
<b>Freeway On- and Off-Ramps</b>					
1a	SR 1 NB Off-Ramp / South Bay Boulevard	1.5	A	2.4	A
1b	SR 1 NB On-Ramp / South Bay Boulevard	10.5	B	8.7	A
2a	SR 1 SB Off- Ramp / South Bay Boulevard	1.0	A	0.6	A
2b	SR 1 SB On-Ramp / South Bay Boulevard	6.3	A	4.4	A

Notes:

\***Bold** indicates unacceptable operations

<sup>1</sup> HCM 6th average control delay in seconds per vehicle. For side-street-stop controlled intersections the worst approach's delay is reported in parentheses next to the overall intersection delay.

<sup>2</sup> Density in Ramp Influence Area reported in passenger cars per mile per lane.  
Source: CCTC, 2018.

## Public Transportation

The San Luis Obispo Regional Transit Authority (SLORTA), in coordination with Morro Bay Transit (MBT), provide transit services within the City via Routes 12 and 15. Route 12 runs north to south along South Bay Boulevard, connecting Baywood Park in Los Osos to Morro Bay while Route 15 runs north to south from the north end of the City to the town of San Simeon (SLORTA, 2018). According to the Morro Bay Transit Map, there are numerous bus stops in the vicinity of the proposed project components primarily along Quintana Road, between Morro Bay Boulevard and Main Street, and Atascadero Road, between SR 1 and Embarcadero. Route 12 provides public transit service to the proposed WRF and O&M Facilities; the nearest bus stop is located south of the Quintana Road/South Bay Boulevard intersection.

## Bicycles and Pedestrian Facilities

As described in the City's Bicycle and Pedestrian Master Plan, there are many different types of bike paths and sidewalks for cyclists and pedestrians to use within the City. Bicycle transportation facilities are categorized into three different classes: Class I, II, and III. Class I bike paths provide a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow by motorists minimized. Class II bike lanes provide a striped lane for one-way bike travel on a street or highway. Class III bike routes provide for shared use with pedestrian and/or motor vehicle traffic. According to the City's Bike Map, Class II bike lanes are provided along the entire lengths of Quintana Road and South Bay Boulevard, a recreational bike route is provided along Atascadero Road and Embarcadero, a Class I bike path is located off of Main Street north along SR 1 to Atascadero Road, and a Class II bike path is located along Main

Street north of Quintana Road within the vicinity of the proposed project components (see **Figure 3.14-2**). In addition, the Pacific Coast Bike Route is located along SR 1. In addition to the bicycle facilities near the project components, there are also sidewalks along Atascadero Road, near the existing WWTP and the proposed lift station and IPR injection and monitoring well areas.

## 3.14.2 Regulatory Framework

### Federal

#### ***Highway Capacity Manual***

The Highway Capacity Manual (HCM), prepared by the Transportation Research Board, is the result of a collaborative multi-agency effort between the Transportation Research Board, Federal Highway Administration, and American Association of State Highway and Transportation Officials. The HCM contains concepts, guidelines, and procedures for computing the capacity and level of service of various transportation facilities, including freeways, signalized and unsignalized intersections, and rural highways, and the effects of transit, pedestrians, and bicycles on the performance of these systems.

#### ***Moving Ahead for Progress in the 21st Century Act***

The Moving Ahead for Progress in the 21st Century Act (MAP-21) revised the policy and programmatic framework for investments meant to guide the nation's surface transportation system's growth and development. MAP-21 establishes a streamlined and performance-based surface transportation program, which builds upon many of the highway, transit, bike, and pedestrian programs and policies established by the Intermodal Surface Transportation Efficiency Act of 1991.

### State

#### ***California Department of Transportation***

California Department of Transportation (Caltrans) is responsible for planning, designing, building, operating, and maintaining California's transportation system. Caltrans sets standards, policies, and strategic plans that aim to do the following: 1) provide the safest transportation system for users and workers, 2) maximize transportation system performance and accessibility, 3) efficiently deliver quality transportation projects and services, 4) preserve and enhance California's resources and assets and 5) promote quality service. Caltrans has the discretionary authority to issue special permits for the use of State highways for other than normal transportation purposes. Caltrans also reviews all requests from utility companies, developers, volunteers, nonprofit organizations, and others desiring to conduct various activities within the State Highway right-of-way.

The following California regulations apply to potential transportation and traffic impacts associated with the proposed project:

#### **California Vehicle Code (CVC), division 15, chapters 1 through 5 (Size, Weight, and Load).**

Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways.



SOURCE: City of Morro Bay

Morro Bay Water Reclamation Facility Project . 150412

**Figure 3.14-2**

Existing Bicycle and Pedestrian Facilities

**California Street and Highway Code (S&HC) sections 660-711.** Caltrans encroachment regulations would apply to construction of the proposed pipelines within and immediately adjacent to roadways, as well as the transportation of construction crews and construction equipment throughout the proposed project area. Caltrans requires permits be obtained for transportation of oversized loads, certain materials, and construction-related traffic disturbance.

### ***Statewide Transportation Improvement Program***

The California Statewide Transportation Improvement Plan (STIP) is a multiyear, intermodal program of transportation projects that is consistent with the statewide transportation planning processes, metropolitan plans, and Title 23 of the Code of Federal Regulations (CFR). The STIP is prepared by Caltrans in cooperation with the Metropolitan Planning Organizations (MPOs) and the Regional Transportation Planning Agencies. In San Luis Obispo County, the MPO and Regional Transportation Planning Agency is the San Luis Obispo Council of Governments (SLOCOG). The STIP contains all capital and non-capital transportation projects or identified phases of transportation projects for funding under the Federal Transit Act and Title 23 of the CFR, including federally funded projects.

## **Regional**

### ***San Luis Obispo Council of Governments***

SLOCOG is a joint powers authority with a goal of facilitating cooperative regional and subregional planning, coordination, and technical assistance on issues of mutual concern. SLOCOG is the County's designated Regional Transportation Planning Agency and thereby responsible for all regional transportation planning and programming activities, including developing a Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to guide transportation policy which is updated every five years.

### ***Regional Transportation Plan/Sustainable Communities Strategy***

SLOCOG, in coordination with the cities of Arroyo Grande, Atascadero, Grover Beach, Morro Bay, Paso Robles, Pismo Beach, and San Luis Obispo, prepares and updates the RTP/SCS every five year. Currently SLOCOG is in the process of preparing the 2019 RTP, which is anticipated to be adopted in June 2019; however, since the 2019 RTP has not been publically released, the 2014 RTP/SCS is the applicable regulatory traffic document for the region. The 2014 RTP/SCS delineates a set of regional transportation goals, policies, and actions intended to guide development of the multimodal transportation systems in the region. Further, the 2014 RTP/SCS integrates the new requirements of Senate Bill 375 in order to address the interrelationship of land use and transportation policies and practices.

### ***San Luis Obispo County General Plan***

The County most recently updated its General Plan in 2011. The General Plan's Circulation Element works in conjunction with the Circulation Chapters of the Land Use Element Area Plans. The proposed WRF site would be located within a portion of the Estero Planning Area in the County of San Luis Obispo which occupies a narrow strip along the coast north of the City of Morro Bay and south of the unincorporated community of Los Osos. The County has established

the Level of Service (LOS) standard on roads serving urban areas of the unincorporated county as LOS “D” and LOS “C” in urban areas of the incorporated county.

## **Local**

### ***City of Morro Bay General Plan***

The City Council adopted its General Plan in 1988, which is currently in the process of being updated. The General Plan’s Circulation Element is a long-range plan that addresses the attributes and issues associated with automobiles, trucks, transit, bicycles, and pedestrian travel within the City. The Circulation Element includes goals and policies to help guide the City in its transportation planning efforts for all modes of travel. The Circulation Element does not include a formal LOS threshold for assessing the adequacy of roadway operations and does not designate any specific roadways as construction haul routes.

### ***2011 Morro Bay Bicycle and Pedestrian Master Plan***

The Morro Bay Bicycle and Pedestrian Master Plan (Bicycle and Pedestrian Master Plan) provides the City’s vision to increase bicycle and pedestrian facilities within the City to enhance the quality of life for residents and tourists alike. The Bicycle and Pedestrian Master Plan includes a variety of strategic approaches, goals, and objectives to improve the experience of bicycling and walking around the City.

## **3.14.3 Impacts and Mitigation Measures**

### **Significance Criteria**

**Appendix G** of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to transportation and traffic in the project area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to transportation and traffic if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment);
- Result in inadequate emergency access; or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

## Methodology

This impact analysis considers the potential transportation impacts associated with the construction, operation, and maintenance of the proposed project. The analysis is based on the information provided in the TIS prepared by CCTC for the proposed project (CCTC, 2018), which is included as Appendix H of this draft EIR, as well as from data obtained from the County, SLORTA, and the City's General Plan and transportation plans, as appropriate.

### ***Intersection Level of Service Analysis Methodologies***

The LOS thresholds for intersections and freeway merge/diverge segments, based on the 6<sup>th</sup> Edition Highway Capacity Manual (HCM), are presented in **Table 3.14-2** below. The study intersections were analyzed with the Synchro 10 software package applying the 6th Edition HCM methodology. However, operations at Intersection #1 (SR 1 NB Ramps/South Bay Boulevard) could not be analyzed using HCM methodologies due to its stop sign configuration. The SimTraffic microsimulation software was used to estimate delay at this intersection. In addition, the freeway merge and diverge segments are analyzed with Highway Capacity Software version 7, using the 6th Edition HCM methodology.

**TABLE 3.14-2**  
**LEVEL OF SERVICE THRESHOLDS**

Stop Controlled <sup>1</sup>		Freeway Merge/Diverge Segments <sup>2</sup>	
Control Delay (sec/veh)	LOS	Density <sup>2</sup>	LOS
≤ 10	A	≤ 10	A
>10-15	B	>10-20	B
>15-25	C	>20-28	C
>25-35	D	>28-35	D
>35-50	E	>35	E
>50 or v/c > 1	F	v/c > 1	F

<sup>1</sup> Source: Exhibits 20-2 and 21-8 of the 6th Edition Highway Capacity Manual.

<sup>2</sup> Source: Exhibit 14-3 of the 6th Edition Highway Capacity Manual.

<sup>3</sup> Demand in units of passenger car/mile/lane.

SOURCE: CCTC, 2018.

## Impact Analysis

### ***Circulation System and Congestion Management***

**Impact 3.14-1: Construction of the proposed project would result in partial lane closures, which could significantly impact the operations of the local and regional circulation systems. However, implementation of a Traffic Control Plan would reduce impacts to a less than significant level. This impact would be Class II, Less than Significant with Mitigation.**



## WRF

In order to evaluate the proposed project's impacts to the traffic study area, the TIS analyzed the addition of truck trips generated from construction and operation of the WRF with the existing local and regional circulation system in two scenarios: Existing plus Construction Conditions and Existing plus Project Conditions. Each scenario is based on three factors: trip generation, trip distribution, and trip assignment. Trip generation refers to the total number of trips generated by the site; trip distribution identifies the general origins and destinations of these trips; and trip assignment specifies the routes taken to reach these origins and destinations. Further detail on trip generation, trip distribution, and trip assignment is provided in Appendix H.

### Existing plus Construction Conditions

**Table 3.14-3** shows the trip generation used to assess the proposed project's traffic impacts during construction of the WRF. The construction trip generation assumed a worst case scenario where construction phases and operational activities overlap, with multiple types of deliveries arriving and departing during the same hour periods. Trip distribution and assignment for the construction trips were estimated based on observed traffic patterns, the locations of complementary land uses, and knowledge of local traffic patterns. Typical traffic volumes would likely be lower than what are shown in Table 3.14-3.

**TABLE 3.14-3  
PROJECT CONSTRUCTION TRIP GENERATION**

	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
<b>Deliveries</b>						
<i>Truck Deliveries</i>	8	8	16	8	8	16
Truck Deliveries PCE <sup>1</sup>	21	21	42	21	21	42
<b>Total</b>	<b>21</b>	<b>21</b>	<b>42</b>	<b>21</b>	<b>21</b>	<b>42</b>
<b>Worker Commutes</b>						
Employee Commutes	30	0	30	0	30	30
<b>Total</b>	<b>30</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>30</b>
<b>Total PCE</b>	<b>51</b>	<b>21</b>	<b>72</b>	<b>21</b>	<b>51</b>	<b>72</b>

Notes:

<sup>1</sup> PCE - Passenger Car Equivalent of 2.67 used. Actual PCE varies by intersection based on existing heavy vehicle percentage.  
Source: CCTC, 2018.

**Table 3.14-4** shows the study intersection and freeway on- and off-ramps operations throughout the AM and PM peak hours during construction of the WRF. **Figure 3.14-3** also illustrates the peak hour traffic volumes for Existing plus Construction Conditions. As shown in Table 3.14-4, all study intersections and freeway on- and off-ramps would operate at an acceptable LOS in the Existing plus Construction Conditions scenario, with the exception of the intersection at Quintana Road / South Bay Boulevard. However, as shown in Table 3.14-1, this intersection is already operating at LOS E in existing conditions in the AM peak hours, where the project's contribution to traffic volumes would increase delay by less than one second per vehicle, which is considered insignificant. In addition, to further minimize the proposed project's effects on the local and regional circulation systems, heavy truck trips during construction would aim to be scheduled to occur outside of the AM and PM peak hours. Therefore, the proposed project's contribution to traffic volumes during construction of the WRF would not create a significant impact to the local or regional circulation systems. Impacts would be less than significant under the Existing plus Construction Conditions scenario.

**TABLE 3.14-4**  
**EXISTING PLUS CONSTRUCTION LEVEL OF SERVICE CONDITIONS**

		AM Peak Hour		PM Peak Hour	
		Delay <sup>1</sup> (sec/veh) or Density <sup>2</sup>	LOS	Delay <sup>1</sup> (sec/veh) or Density	LOS
<b>Intersections</b>					
1	SR 1 NB Ramps / South Bay Boulevard	2.2 (6.8)	A	3.0 (7.8)	A
2	SR 1 SB Ramps / South Bay Boulevard	4.0 (12.3)	B	5.0 (13.0)	B
3	Quintana Road / South Bay Boulevard	<b>3.1 (46.9)*</b>	<b>E</b>	2.6 (20.5)	C
<b>Freeway On- and Off-Ramps</b>					
1a	SR 1 NB Off-Ramp / South Bay Boulevard	1.5	A	2.4	A
1b	SR 1 NB On-Ramp / South Bay Boulevard	10.5	B	8.8	A
2a	SR 1 SB Off- Ramp / South Bay Boulevard	1.0	A	0.6	A
2b	SR 1 SB On-Ramp / South Bay Boulevard	6.4	A	4.7	A

Notes:

\***Bold** indicates unacceptable operations

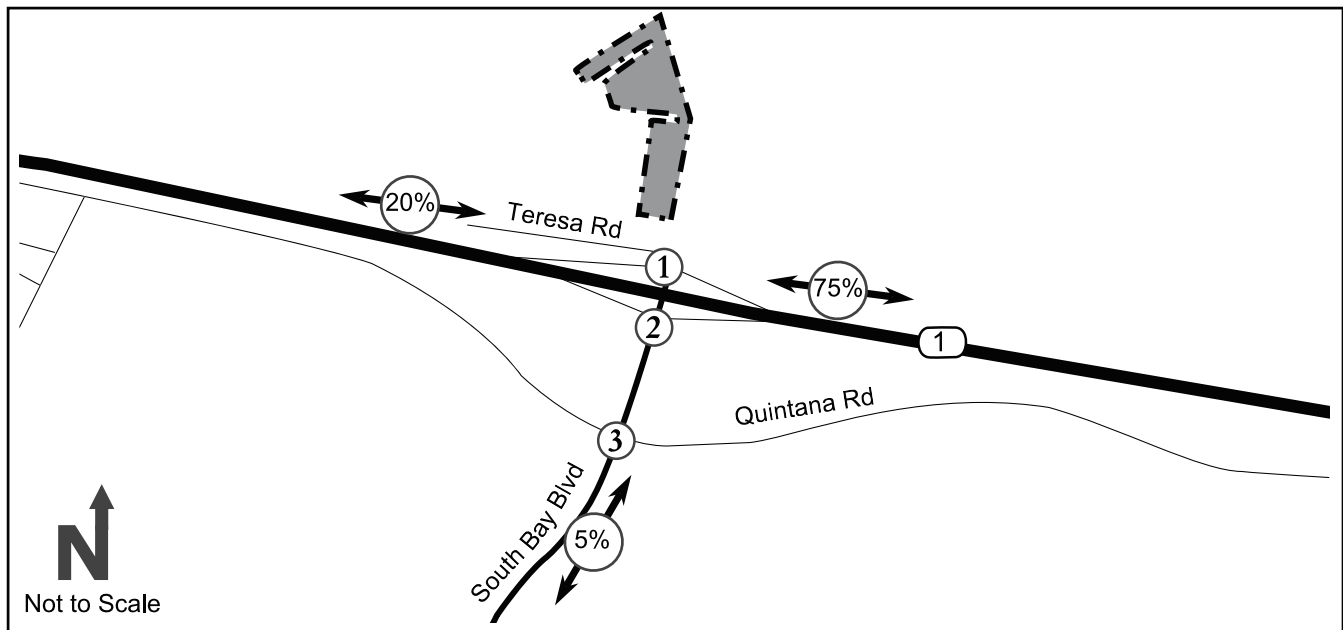
<sup>1</sup> HCM 6th average control delay in seconds per vehicle. For side-street-stop controlled intersections the worst approach's delay is reported in parentheses next to the overall intersection delay.

<sup>2</sup> Density in Ramp Influence Area reported in passenger cars per mile per lane.

Source: CCTC, 2018.

### Existing plus Project Conditions

**Table 3.14-5** shows the trip generation used to assess the proposed project's traffic impacts during operation of the WRF. The operational trip generation assumed a worst case scenario where multiple types of deliveries occur during the same hour periods. Typical traffic volumes during operation of the WRF would be lower than what's included in Table 3.14-5.



Construction Trip Assignment		
1.	2.	3.
<p>Diagram 1: Construction Trip Assignment at State Route 1 NB Ramp. Shows traffic volumes for Teresa Rd, State Route 1 NB Ramp, and South Bay Blvd.</p>	<p>Diagram 2: Construction Trip Assignment at State Route 1 SB Ramp. Shows traffic volumes for South Bay Blvd, State Route 1 SB Ramp, and Quintana Rd.</p>	<p>Diagram 3: Construction Trip Assignment at Quintana Rd. Shows traffic volumes for South Bay Blvd, Quintana Rd, and State Route 1.</p>

Existing Plus Construction Peak Hour Volumes		
1.	2.	3.
<p>Diagram 1: Existing Plus Construction Peak Hour Volumes at State Route 1 NB Ramp. Shows existing and total peak hour volumes for Teresa Rd, State Route 1 NB Ramp, and South Bay Blvd.</p>	<p>Diagram 2: Existing Plus Construction Peak Hour Volumes at State Route 1 SB Ramp. Shows existing and total peak hour volumes for South Bay Blvd, State Route 1 SB Ramp, and Quintana Rd.</p>	<p>Diagram 3: Existing Plus Construction Peak Hour Volumes at Quintana Rd. Shows existing and total peak hour volumes for South Bay Blvd, Quintana Rd, and State Route 1.</p>

#### Legend:

xx(yy) - AM(PM) Peak Hour Traffic Volumes

(x) - Study Intersection

- Project Site

- Project Trip Distribution Percentage

**TABLE 3.14-5  
PROJECT OPERATION TRIP GENERATION**

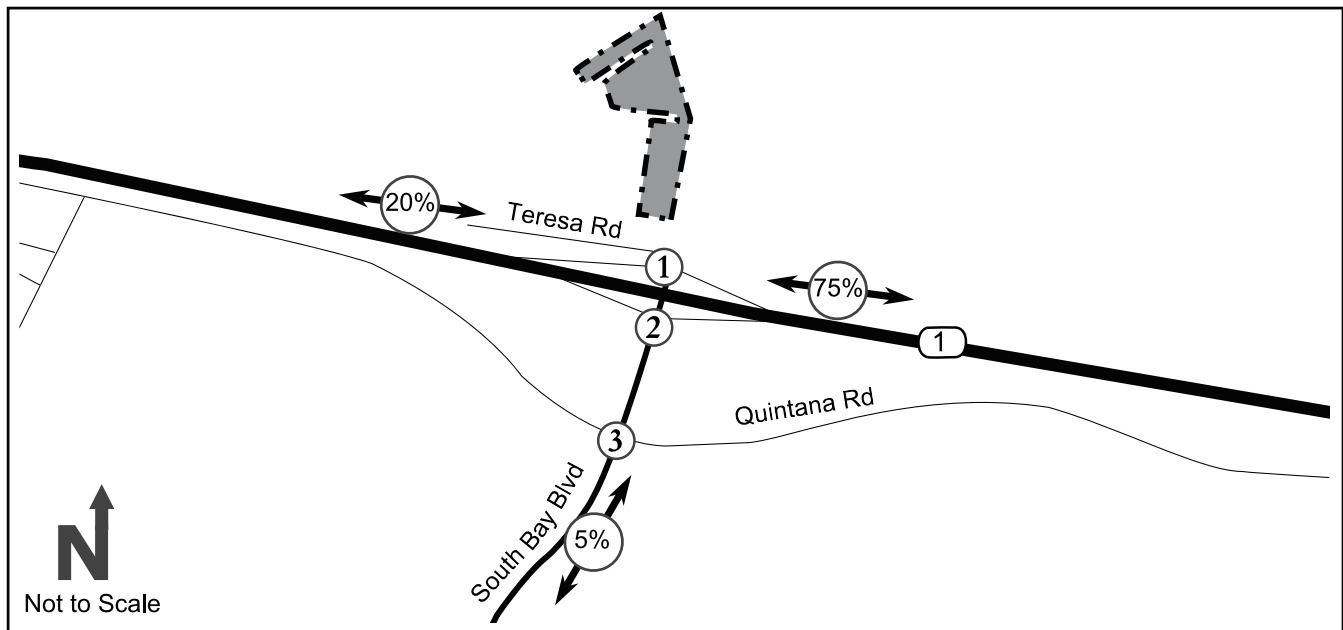
	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
<b>WRF</b>						
Truck Deliveries	3	3	6	3	3	6
Truck Deliveries PCE <sup>1</sup>	8	8	16	8	8	16
Employee Commutes	4	0	4	0	4	4
Maintenance Vehicles	0	2	2	2	0	2
<b>Total</b>	<b>12</b>	<b>10</b>	<b>22</b>	<b>10</b>	<b>12</b>	<b>22</b>
<b>O&amp;M Buildings</b>						
Employee Commutes	3	0	3	0	3	3
Maintenance Vehicles	0	3	3	3	0	3
<b>Total</b>	<b>3</b>	<b>3</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>6</b>
<b>Total PCE</b>	<b>15</b>	<b>13</b>	<b>28</b>	<b>13</b>	<b>15</b>	<b>28</b>

Notes:

<sup>1</sup> PCE - Passenger Car Equivalent of 2.67 used. Actual PCE varies by intersection based on existing heavy vehicle percentage.

Source: CCTC, 2018.

**Table 3.14-6** shows the study intersection and freeway on- and off-ramps operations throughout the AM and PM peak hours during operation of the WRF. **Figure 3.14-4** also illustrates the peak hour traffic volumes for Existing plus Project Conditions. As shown in Table 3.14-6, all study intersections and freeway on- and off-ramps would operate at an acceptable LOS in the Existing plus Project Conditions scenario, with the exception of the intersection at Quintana Road / South Bay Boulevard. However, as shown in Table 3.14-1, this intersection is already operating at LOS E in existing conditions in the AM peak hours, where the project's contribution to traffic volumes would increase delay by less than one second per vehicle, which is considered insignificant. In addition, to further minimize the proposed project's effects on the local and regional circulation systems, heavy truck trips during operation would be scheduled to occur outside of the AM and PM peak hours, to the extent feasible. Therefore, the proposed project's contribution to traffic volumes during operation of the WRF would not result in a significant impact to the local or regional circulation systems. Impacts would be less than significant under the Existing plus Project Conditions scenario.



Project Trip Assignment		
1.	2.	3.

Existing Plus Project Peak Hour Volumes		
1.	2.	3.

#### Legend:

xx(yy) - AM(PM) Peak Hour Traffic Volumes

(x) - Study Intersection

- Project Site

- Project Trip Distribution Percentage

**TABLE 3.14-6  
EXISTING PLUS PROJECT LEVEL OF SERVICE CONDITIONS**

		AM Peak Hour		PM Peak Hour	
		Delay <sup>1</sup> (sec/veh) or Density <sup>2</sup>	LOS	Delay <sup>1</sup> (sec/veh) or Density	LOS
<b>Intersections</b>					
1	SR 1 NB Ramps / South Bay Boulevard	2.0 (6.9)	A	3.1 (8.2)	A
2	SR 1 SB Ramps / South Bay Boulevard	3.9 (12.1)	B	4.9 (13.0)	B
3	Quintana Road / South Bay Boulevard	<b>3.1 (46.9)*</b>	<b>E</b>	2.6 (20.5)	C
<b>Freeway On- and Off-Ramps</b>					
1a	SR 1 NB Off-Ramp / South Bay Boulevard	1.5	A	2.4	A
1b	SR 1 NB On-Ramp / South Bay Boulevard	10.5	B	8.8	A
2a	SR 1 SB Off- Ramp / South Bay Boulevard	1.0	A	0.6	A
2b	SR 1 SB On-Ramp / South Bay Boulevard	6.4	A	4.5	A

Notes:

\***Bold** indicates unacceptable operations

<sup>1</sup> HCM 6th average control delay in seconds per vehicle. For side-street-stop controlled intersections the worst approach's delay is reported in parentheses next to the overall intersection delay.

<sup>2</sup> Density in Ramp Influence Area reported in passenger cars per mile per lane.

Source: CCTC, 2018.

In summary, construction and operation of the WRF would not significantly increase existing traffic volumes and would not cause a significant increase in delay times. Impacts to the local and regional circulation system would be less than significant.

### Collection System and IPR Injection and Monitoring Wells

The proposed project would construct a new lift station near the existing WWTP, a raw wastewater and brine/wet weather discharge pipeline from the proposed lift station to the proposed WRF site, and IPR injection and monitoring wells with a proposed recycled water pipeline to the preferred WRF site. Construction of those project components would not substantially increase traffic levels or travel times on the surrounding circulation systems, as construction trips would be generated by trucks bring materials to and from the construction sites and daily construction worker vehicle trips over an approximately three-year period. Although construction of those proposed project components would temporarily generate additional truck and vehicle trips within the local and regional circulation systems, traffic levels would be temporary in nature as traffic levels would return to pre-construction conditions once construction is complete. While local drivers could experience increased travel times if they were traveling behind a heavy truck due to slower movement and turning radii compared to passenger vehicles, those delays would be intermittent throughout the day and would cease once construction activities are completed. Further, all construction trucks traveling on Caltrans facilities would be required to comply with CVC, division 15, chapters 1 through 5 (Size, Weight, and Load) and S&HC sections 660-711, as applicable, to minimize impacts to roadway operations.

Even though construction of these project components would not significantly increase the number of trucks and vehicles on the local and regional circulation systems, construction activities within roadways may require partial closure of traffic lanes, which could significantly impact the performance of applicable roadways. This would be a potentially significant impact.

In order to reduce impacts to roadway performance during construction of the lift station, conveyance facilities, and the IPR injection and monitoring wells, the City would be required to prepare and implement a Traffic Control Plan. The Traffic Control Plan would include, but not be limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City Traffic Engineer. Approximately two to four construction workers would be required to implement the traffic control plan during construction. With implementation of the Traffic Control Plan, as required by **Mitigation Measure TRAF-1**, impacts to the local and regional circulation systems during construction of the lift station, conveyance facilities, and the IPR injection and monitoring wells would be reduced to less-than-significant levels.

Once constructed, the conveyance pipelines and IPR injection and monitoring wells would be contained entirely underground and would require minimal maintenance. In addition, the lift station would require occasional maintenance, which could generate a few vehicle trips annually. Thus, operation of the lift station, conveyance facilities, and the IPR injection and monitoring wells would not affect the performance of the local or regional circulation systems and impacts would be less than significant.

### **Decommissioning of Current WWTP**

The decommissioning of the existing WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure such as the piping located four to five feet below grade. Based on preliminary estimates for material haul-off and backfill import, approximately 6,519 cubic yards of material would be required to be hauled off and 5,726 cubic yards of import would need to be brought on site for backfilling. Assuming an average truck capacity of 10 cubic yards, approximately 652 truck trips would be required for hauling demolished materials offsite and approximately 573 truck trips would be needed to import material for backfilling the site over a three-month period. The average daily number of trucks trips generated would be approximately 14 truck trips, which would not substantially increase traffic levels on the local and regional circulation systems. Although decommissioning the existing WWTP would temporarily generate additional truck and vehicle trips within the local and regional circulation systems, traffic levels would be temporary in nature as traffic levels would return to pre-construction conditions once the decommissioning process is complete. While local drivers could experience increased travel times if they were traveling behind a heavy truck due to slower movement and turning radii compared to passenger vehicles, these delays would be intermittent throughout the day and would cease once construction activities are completed. Further, all construction trucks traveling on Caltrans facilities would be required to comply with CVC, division 15, chapters 1 through 5 (Size, Weight, and Load) and S&HC

sections 660-711, as applicable, to minimize impacts to roadway operations. Thus, impacts to the local and regional circulation systems during decommissioning would be less than significant.

Upon completion of demolition work and upgrades to facilities, which are to remain, the WWTP site would be graded to fit the basic drainage pattern of the surrounding facility and would be surfaced with a thin layer of gravel. The WWTP site would remain vacant and undeveloped until the City's approves a new use of the site; however, at this time there is no substantial evidence that the City has any planned uses for the site in the foreseeable future. Since the site would remain undeveloped, no vehicle trips would be generated from this site and no impact would occur to the local and regional circulation systems.

### Mitigation Measure

**TRAF-1: Traffic Control Plan.** Prior to the start of construction of project components that would occur within a roadway right-of-way, the City shall require the construction contractor to prepare a Traffic Control Plan. The Traffic Control Plan will show all signage, striping, delineated detours, flagging operations and any other devices that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City's Public Works Director and Fire and Police Chiefs. When construction activities disrupt travel on major collectors or arterials, electronic signing shall be used to provide the public, on all transportation modes, with current construction information and the availability of alternate travel routes.

The Traffic Control Plan will be prepared in accordance with the City's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties, and that emergency access will not be restricted. Additionally, the Traffic Control Plan shall also include a scheduling plan showing the hours of operation to minimize congestion during the peak hours and special events. The scheduling plan will ensure that congestion and traffic delay are not substantially increased as a result of the construction activities. Further, the Traffic Control Plan will include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks.

In addition, the City shall provide written notice at least two weeks prior to the start of construction to owners/occupants along streets to be affected during construction. During construction, the City will maintain continuous vehicular and pedestrian access to any affected residential driveways from the public street to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, the City shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure.

The Traffic Control Plan shall include provisions to ensure that the construction of the lift station, conveyance pipelines, and the IPR injection and monitoring wells do not interfere unnecessarily with the work of other agencies such as mail delivery, school buses, and municipal waste services.

The City shall also notify local emergency responders of any planned partial or full lane closures or blocked access to roadways or driveways required for construction of the



proposed project facilities. Emergency responders include fire departments, police departments, and ambulances that have jurisdiction within the proposed project area. Written notification and disclosure of lane closure location must be provided at least 30 days prior to the planned closure to allow for emergency response providers adequate time to prepare for lane closures.

**Significance Determination:**

Less than Significant with Mitigation.

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***Air Traffic Patterns***

**Impact 3.14-2: Since there are no public or private airports within the City limits, implementation of the proposed project would not result in a change in air traffic patterns, including either an increase in air traffic levels or a change in location that results in substantial safety risks. There would be no impact.**

There are no public or private airports in the City; the closest public airport is the San Luis County Regional Airport, located approximately 14.5 miles to the southeast. Therefore, construction and operation of the proposed project would not result in a change in air traffic patterns at this airport, including either an increase in air traffic levels or a change in location that results in substantial safety risks. No impact would occur.

**Mitigation Measure**

None required.

**Significance Determination**

No impact.

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***Hazardous Design Features***

**Impact 3.14-3: Construction of the proposed project would require temporary partial lane closures, which could affect roadway safety or create a hazardous design feature. However, implementation of the Traffic Control Plan would minimize the effects of the partial lane closures on roadway safety to a less than significant level. This impact would be Class II, Less than Significant with Mitigation.**

**WRF**

Construction of the proposed WRF would develop a new wastewater treatment plant in an area surrounded by open rangeland and at a distance from residential and commercial uses. The proposed WRF does not include the construction of a new public roadway; however, the WRF's driveway would be designed and constructed in compliance with all applicable City and County

codes to ensure traffic operations at that entry point are consistent with City and County standards to ensure it does not create a safety hazard. Therefore, compliance with applicable engineering and design standards would minimize the potential for the proposed WRF to create a hazardous design feature from its driveway with South Bay Boulevard. Impacts related to hazardous design features would be less than significant.

### **Collection System, Lift Station and IPR Injection and Monitoring Wells**

Construction of the proposed project would develop water infrastructure facilities within the City and would be located within areas designated for such facilities. The proposed project does not include the construction of a new roadway or intersection, which could be determined to be a hazardous design feature. Additionally, construction of the proposed project would include the use of construction trucks to bring construction materials to and from the proposed project area. While local drivers could experience increased travel times, if they were traveling behind a heavy truck due to slower movement and turning radii compared to passenger vehicles, those delays would be intermittent throughout the day and would cease once construction activities are completed. Further, heavy trucks are typically present on public roadways and are not considered a roadway hazard. Construction of the lift station, conveyance facilities, and IPR injection and monitoring wells could require partial lane closures, which could introduce roadway hazards to passing motorists. This would be a potentially significant impact.

As described previously, implementation of a Traffic Control Plan as mitigation for roadways which require partial closures during construction would minimize the effects on roadway safety. The Traffic Control Plan would include signage, striping, delineated detours, flagging operations and other devices to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City of Morro Bay Traffic Engineer. With implementation of the Traffic Control Plan, as required by Mitigation Measure TRAF-1, construction of the proposed project would not result in a hazardous design feature. Impacts during construction would be less than significant with mitigation.

Operation of the proposed project would not involve operation any new intersections or roadways and as such would not result in a hazardous design feature. Impacts during operation of the lift station, conveyance pipelines, and IPR injection and monitoring wells would be less than significant.

### **Decommissioning of Current WWTP**

Decommissioning the existing WWTP would involve removing the facilities that are currently located onsite and would not include the construction of any additional roadways, or intersections. Upon completion of demolition work and upgrades to facilities which are to remain, the WWTP site would be graded to fit the basic drainage pattern of the surrounding facility and would be surfaced with a thin layer of gravel. The WWTP site would remain vacant and undeveloped until the City and Cayucos Sanitary District approves a new use of the site; however, at this time there is no substantial evidence there are any planned uses for the site in the foreseeable future. For those reasons, the decommissioning of the existing WWTP would not result in a hazardous design feature or an incompatible use. No impact would occur.

### **Mitigation Measure**

Implementation of TRAF-1

### **Significance Determination:**

Less than Significant with Mitigation.

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### **Emergency Access**

**Impact 3.14-4: Construction of the proposed project would include temporary partial lane closures, which could significantly impact emergency access in proximity to the project components. However, implementation of the Traffic Control Plan would require coordination with emergency responders, which include the fire department, police department, and ambulances to ensure adequate emergency access is provided. This impact would be Class II, Less than Significant with Mitigation.**

### **WRF**

The WRF is proposed to be constructed at a preferred site that is near eastern terminus of South Bay Boulevard and would not be located around other developments. Construction trucks and vehicles would access the preferred WRF site intermittently throughout the day and would not interfere with the use of roadways for emergency access. Further, all construction trucks and vehicles would adhere to all applicable roadway regulations and standards related to emergency access. Therefore, adequate emergency access would be provided during construction of the proposed WRF.

After construction is completed and the facility is commissioned and operating, there would be operational traffic associated with worker commute, chemical deliveries, screenings removal, and biosolids removal. Approximately four workers could be working at one time at the facility, resulting in an estimated eight employee commutes per day, and assuming two workers utilize maintenance vehicles for offsite work, four maintenance vehicle trips per day. Employee commutes and maintenance vehicle trips are anticipated to result in approximately 320 vehicle trips per month. While these operational activities would generate additional truck trips on the surrounding local and regional circulation system, the addition of these trucks and vehicles would not be substantial. Further, all drivers would be required to comply all applicable roadway regulations and standards related to emergency access. Therefore, operation of the proposed WRF would not result in inadequate emergency access. Impacts would be less than significant.

### **Collection System and IPR Injection and Monitoring Wells**

As described in Impact 3.14-1, construction of the conveyance pipelines would not substantially increase traffic levels or travel times on the surrounding circulation systems, as construction trips would be generated by trucks bring materials to and from the construction sites and daily construction worker vehicle trips. However, while construction of the collection system and IPR injection and monitoring wells wouldn't significantly increase the amount of trucks and vehicles

on the local and regional circulation systems, construction activities within roadways would require partially closure of traffic lanes, which could interfere with emergency access.

In order to reduce impacts to emergency access during construction of the conveyance facilities, the City would be required to implement Mitigation Measure TRAF-1, which would require the preparation and implementation of a Traffic Control Plan. The Traffic Control Plan would include, but not limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the appropriate local jurisdiction.

Approximately two to four construction workers would be required to implement the traffic control plan during construction. The Traffic Control Plan would be coordinated with emergency responders, which include the fire department, police department, and ambulances that have jurisdiction within the proposed project area. Therefore, with implementation of Mitigation Measure TRAF-1, impacts to emergency access during construction of the collection system and IPR injection and monitoring wells would be reduced to less than significant.

Once constructed, all conveyance pipelines and the IPR injection and monitoring wells would be contained entirely underground and would not interfere with emergency access. In addition, the lift station would require occasional maintenance, which could generate a few vehicle trips annually. However, due to the relatively limited amount of vehicle trips associated with operation and maintenance of the lift station, it is reasonable to assume these trips would not interfere with emergency access. Thus, impacts to emergency access would be less than significant.

### **Decommissioning of Current WWTP**

The decommissioning of the existing WWTP would occur over a three month period and would require approximately 652 truck trips for hauling demolished materials offsite and approximately 573 truck trips to import material for backfilling the site. The average daily number of trucks trips generated would be approximately 14 truck trips, which would not substantially increase traffic levels on the local and regional circulation systems. Construction trucks and vehicles would access the existing WWTP site via Atascadero Road intermittently throughout the day and would not interfere with the use of roadways for emergency access. Further, all construction trucks and vehicles would adhere to all applicable roadway regulations and standards related to emergency access. Therefore, adequate emergency access would be provided during the decommissioning of the existing WWTP.

Upon completion of demolition work and upgrades to facilities which are to remain, the WWTP site would be graded to fit the basic drainage pattern of the surrounding facility and would be surfaced with a thin layer of gravel. The WWTP site would remain vacant and undeveloped until the City's approves a new use of the site; however, at this time there is no substantial evidence that the City has any planned uses for the site in the foreseeable future. Since the site would remain undeveloped, no vehicle trips would be generated from this site which could interfere with emergency access. No impact to emergency access would occur.

### **Mitigation Measure**

Implementation of TRAF-1

### **Significance Determination:**

Less than Significant with Mitigation.

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### ***Public Transportation and Pedestrian Facilities***

**Impact 3.14-5: Construction of the proposed project would include temporary partial lane closures, which could significantly impact alternative transportation routes around the project components. However, implementation of the Traffic Control Plan would require include detours or alternative routes for transit, bicyclists using on-street bicycle lanes, and for pedestrians using adjacent sidewalks. This impact would be Class II, Less than Significant with Mitigation.**

### **WRF**

Figure 3.14-2 shows the bicycle and pedestrian facilities in proximity to the preferred WRF site. A Class II bicycle lane is located along South Bay Boulevard and the Pacific Coast Bike Route is located along SR 1. While construction and operation of the WRF would require heavy trucks and passenger vehicles to utilize the local and regional circulation systems, the presence of these heavy trucks and passenger vehicles would not interfere with the existing operation of the surrounding bicycle lanes and sidewalks. Furthermore, construction and operation of the WRF would not inhibit existing transit routes or block bus stops as all trucks and vehicles would be parked onsite or within designated loading and/or parking areas. Therefore, implementation of the WRF would not conflict with alternative transportation. Impacts would be less than significant.

### **Collection System and IPR Injection and Monitoring Wells**

Figure 3.14-2 shows the bicycle and pedestrian facilities in proximity to the lift station, conveyance pipelines, and IPR injection and monitoring wells. Class II bike lanes are provided along the entire lengths of South Bay Boulevard, Quintana Road, and Main Street to Highway 41; a recreational bike route is provided along Atascadero Road and Embarcadero; a Class I bike path is located west of Highway 1 adjacent to the Power Plant and across Morro Creek to Atascadero Road. The Pacific Coast Bike Route is located along SR 1. In addition to the bicycle facilities near the project components, there are also sidewalks along Atascadero Road, near the proposed lift station and IPR injection and monitoring well areas. Further, there are numerous bus stops in the vicinity of these proposed project components primarily along Quintana Road, between Morro Bay Boulevard and Main Street, and Atascadero Road, between SR 1 and Embarcadero.

While construction of the lift station, conveyance pipelines, and IPR injection and monitoring wells wouldn't significantly increase the amount of trucks and vehicles on the local and regional circulation systems, construction activities within roadways would require partial closure of traffic lanes, which would significantly impact bicycle lanes within the ROW, sidewalks, and transit routes and bus stops. Construction of the raw wastewater/brine pipeline and IPR West pipeline would directly impact the Class I bike path that runs between Main Street and Morro

Creek to the west of SR 1. Pipelines would be installed at an average rate of 150 feet per day, as mentioned in Chapter 2, Project Description, so the length of time particular bike paths and pedestrian facilities would be affected would be short in duration. However, this would be a potentially significant impacts.

In order to reduce impacts to alternative transportation facilities during construction of the conveyance facilities, the City would be required to implement a Traffic Control Plan, which includes measures specifically for alternative transportation facilities. The Traffic Control Plan would include, but not limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the appropriate local jurisdiction. In addition, the Traffic Control Plan would include detours or alternative routes for bicyclists using on-street and off-street bicycle lanes as well as for pedestrians using adjacent sidewalks. Therefore, with implementation of the Traffic Control Plan, as required by Mitigation Measure TRAF-1, impacts to alternative transportation facilities during construction of the lift station, conveyance pipelines, and IPR injection and monitoring wells would be reduced to less than significant.

Once construction is complete, alternative transportation facilities would return to pre-construction conditions as the conveyance pipelines and IPR injection and monitoring wells would be underground and the lift station would not be located within roadway rights-of-way. Operation and maintenance of these facilities would be minimal and would not interfere with alternative transportation facilities. Therefore, impacts to alternative transportation facilities during operation of the lift station, conveyance pipelines, and IPR injection and monitoring wells would be reduced to less than significant.

### **Decommissioning of Current WWTP**

Figure 3.14-2 shows the bicycle and pedestrian facilities in proximity to the existing WWTP. A recreational bike route is provided along Atascadero Road and Embarcadero, a Class I bike path is located west of SR 1 between Main Street and Atascadero Road, and the Pacific Coast Bike Route is located along SR 1. In addition to the bicycle facilities, there are also sidewalks along Atascadero Road and bus stops along Atascadero Road, between SR 1 and Embarcadero. While decommissioning of the existing WWTP would require heavy trucks and passenger vehicles to utilize the local and regional circulation systems, the presence of these heavy trucks and passenger vehicles would not interfere with the existing operation of the surrounding bicycle lanes and sidewalks. Furthermore, decommissioning of the existing WWTP would not inhibit existing transit routes or block bus stops as all trucks and vehicles would be parked onsite or within designated loading and/or parking areas. Therefore, decommissioning of the existing WWTP would not conflict with alternative transportation. Impacts would be less than significant.

Upon completion of demolition work and upgrades to facilities which are to remain, the WWTP site would be graded to fit the basic drainage pattern of the surrounding facility and would be surfaced with a thin layer of gravel. The WWTP site would remain vacant and undeveloped until the City's approves a new use of the site; however, at this time there is no substantial evidence

that the City has any planned uses for the site in the foreseeable future. Since the site would remain undeveloped, no vehicle trips would be generated from this site which could interfere with alternative transportation. No impact to alternative transportation would occur.

### **Mitigation Measure**

Implementation of TRAF-1

### **Significance Determination:**

Less than Significant with Mitigation.

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## References

- Campbell, Liam, Caltrans District 5 Project Engineer, email communication, March 21, 2018.
- City of Morro Bay, 2012. 2011 City of Morro Bay Bicycle and Pedestrian Master Plan. <http://www.morro-bay.ca.us/DocumentCenter/View/1420>. Accessed March 15, 2018.
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- Central Coast Transportation Consulting (CCTC), 2018. City of Morro Bay Water Reclamation Facility Draft Transportation Impact Study.
- County of San Luis Obispo, 2011. County of San Luis Obispo General Plan. <http://www.slocounty.ca.gov/Departments/Planning-Building/Forms-Documents/Plans/General-Plan.aspx>. Accessed March 14, 2018.
- San Luis Obispo Regional Transit Authority (SLORTA), 2018. SLORTA Route 12 – SLO, Cuesta College, Morro Bay, and Los Osos. <http://www.slorta.org/schedules-fares/route-12-2/#>. Accessed March 16, 2018.

## 3.15 Tribal Cultural Resources

This section provides an assessment of potential impacts related to tribal cultural resources that could result from implementation of the proposed project. Tribal cultural resources are analyzed in a standalone chapter of this Draft EIR, separate from other types of cultural resources (i.e., historical, archaeological, paleontological, human remains, which are addressed in Chapter 3.5 “Cultural Resources”), in accordance with the revisions to CEQA Guidelines Appendix G, as approved by the Office of Administrative Law on September 27, 2016. This chapter recognizes that California Native American Tribes have expertise concerning identification, evaluation, and mitigation of their tribal cultural resources.

“Tribal cultural resources” are defined as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” that are either included or determined to be eligible for inclusion in the California Register of Historical Resources (California Register) or included in a local register of historical resources, or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant (Public Resources Code [PRC] subdivision 21074(a)). A cultural landscape that meets these criteria is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. A historical resource, unique archaeological resource, or non-unique archaeological resource may also be a tribal cultural resources if it meets these criteria.

The analysis in this section is based, in part, on the results of Sacred Land Files (SLF) searches from the California Native American Heritage Commission (NAHC) and outreach with California Native American Tribes.

### 3.15.1 Environmental Setting

#### **Ethnographic Setting**

At the time of European contact, the preferred and proposed project sites were occupied by two Native American groups: the Chumash and the Salinan. Detailed descriptions of the Chumash and Salinan groups are provided in the following paragraphs.

#### ***Chumash***

Kroeber (1925) identifies the Chumash as “predominantly a coast people” who “were more nearly maritime in their habits than any other Californian group.” Chumash territory included the Topanga and Malibu areas in the south, north to the approximate location of Morro Bay and east across the coastal range toward the San Joaquin Valley. The Santa Barbara Channel Islands (San Miguel, Santa Rosa, Santa Cruz, and Anacapa) were also included within Chumash territory. Chumash living near the preferred and proposed project areas were known, by Europeans, as Obispeño Chumash, after the Mission San Luis Obispo to which many of them were relocated in the 18<sup>th</sup> century (Greenwood, 1978).



Chumash society consisted of tribal groups lead by a single chief who was responsible for the management and distribution of tribal resources. Chumash settlement sites included established village sites with large, circular residential huts of willow or pole construction and covered with tule mats or thatch. Also present within a Chumash village was a large ceremonial lodge or sweathouse. Along with more permanently settled villages, temporary short-term camps were established by the Chumash for use during resource foraging excursions.

The Chumash were a complex society with a strict social order, a well-established and prosperous system of trade, and standardized money exchange in the form of shell beads. With settlements along the Channel Islands, the Chumash were master maritime navigators, having developed the *tomol*, a wooden plank canoe, to ferry people and trade goods between the islands and the mainland. Other key cultural items representative of the Chumash are finely crafted basketry of all forms, sizes, and decorations. Chumash peoples made use of their diverse environment, capitalizing upon a wide range of natural and animal resources for food and as raw material for the crafting of function tools and non-functional, ornamental items (Kroeber, 1925). Burial practices of the Chumash involved mourning ceremonies and permanent cemeteries near to villages in which the remains were buried. Personal items of the deceased, as well as other offerings or objects, were placed into the grave, prior to the completion of burial.

### **Salinan**

Far less studied than the Chumash are their northern neighbors, the Salinan. Salinan territory extended between the Pacific Ocean and the South Coast Ranges from the Salinas River Valley near the Mission Soledad on the north to the vicinity of Morro Bay on the south (Hester, 1978). There were two major divisions of Salinan: the Antoniaños on the north, and the Migueleños on the south, both named, by the Europeans, for the Spanish missions with which they became associated. The Salinan language had similarities to the Chumash language (as both are of Hokan stock), but is completely unrelated to neighboring Yokuts and Costanoan languages (Kroeber, 1925).

As with other central Californian groups, subsistence was based on the gathering of plant foods such as acorns, wild oats, sage seeds, berries, and fruits, and the hunting of small game. Material culture was typified by basketry, stone artifacts such as projectile points and grinding stones, bone and shell fishhooks, and some wooden implements. Houses were square, domed structures constructed of wooden poles and covered with tule or other grass. Autonomous villages were the primary sociopolitical unit, each ruled by a chief, and descent was primarily patrilineal. About 20 villages are known ethnographically; while many cannot be accurately mapped, the nearest known Salinan villages to the project area were located near Santa Margarita and San Simeon.

Juan Rodriguez Cabrillo's 1542 expedition, the first recorded visit by Europeans to the California coast, did not record the presence of Native Americans along the Salinan Coast. The first description of Chumash and Salinan villages comes some two centuries later, with the expeditions of Don Gaspar de Portolá in 1769. Records describe about 10 different towns along the coast between what are now the cities of San Luis Obispo and Monterey, with population estimates of between 30 and 400 residents per village. That territory would have included Salinan, Chumash, Esselen, and Costanoan villages (Kroeber, 1925).

After the arrival of the Spanish and the establishment of the missions, disease and hard labor took a toll on the native populations. The Salinan population, estimated at 3,000 at the time of Spanish contact, dropped to fewer than 700 by 1831, and the Chumash population fell from 8,000 to 2,500 in the same period (Hester, 1978). After secularization, populations dropped even faster, with only three Salinan families being reported by early 20<sup>th</sup>-century anthropologists. In addition, native economies were disrupted, trade routes were interrupted, and native ways of life were significantly altered.

## Identification of Tribal Cultural Resources

### ***Sacred Lands File Search***

The NAHC conducted SLF searches for the proposed project on September 9, 2016 and February 15, 2017. The SLF search results indicated “sites” are present within the preferred and proposed project areas, but did not provide further details as to the location or types of sites identified. The NAHC indicated the San Luis Obispo County Chumash Council, and Salinan Tribe of Monterey and San Luis Obispo Counties should be contacted for additional information. The NAHC also included a list of Native American groups and individual affiliated with the proposed project area, and indicate that all groups on the list should be contacted. On March 6, 2018 an email was sent to the NAHC requesting an updated search of the SLF for the proposed project. To date, no response has been received.

### ***Native American Outreach***

Native American outreach was conducted with all groups identified by the NAHC. Letters were sent via certified mail, regular mail, and/or email in September 2016, February-March 2017, and March 2018. Follow-up phone calls were conducted in September-October 2016 and February-March 2017. **Table 3.15-1** summarizes the results of outreach conducted to date. Additional information from respondents who provided detailed responses follows the table.



**TABLE 3.15-1  
NATIVE AMERICAN OUTREACH**

Name	Affiliation/Role	Date Letters Sent	Date Letters Received	Date Letter Emailed	Date of Follow-up Phone Calls	Response	Comments
Altarmirano, Gino	Coastal Band of the Chumash Nation	-	-	9/14/2016	-	None	-
Banuelos, Raudel Joe Jr.	Barbareno/Ventureno Band of Mission Indians	9/14/2016	9/17/2016	-	-	None	-
Castro, Gregg	Salinan Nation Cultural Preservation Association/Administrator	9/14/2016	9/16/2017	9/14/2016	-	None	-
Collins, Fred	Northern Chumash Tribal Council/Spokesperson	9/14/2016	9/19/2016	9/14/2016	-	None	-
		3/1/2017	3/6/2017	3/2/2017	-	Mr. Collins expressed concerns about the project, which are extremely sensitive. He requested a meeting with City and County representatives.	The City met with Mr. Collins on May 4, 2017.
		3/23/2018	-	3/26/2018	-	None	-
Duckworth, Robert	Salinan Nation Cultural Preservation Association/Environmental Coordinator	9/14/2016	9/15/2016	-	-	None	-
Dunton, Patti	Salinan Tribe of Monterey, San Luis Obispo Counties/Tribal Administrator	9/14/2016	9/19/2016	9/14/2016	9/16/2016	Indicated that no known sacred sites are within the project area. Expressed concerns about culturally sensitive areas, indicated preferences for locating components. Requested to be kept informed of project updates and that a tribal monitor be present for ground disturbance.	-
		3/1/2017	3/6/2017	2/21/2017	2/21/2017	Provided information about known burials and recommendations for avoiding resources.	-
		3/23/2018	-	3/26/2018	-	None	-

Name	Affiliation/Role	Date Letters Sent	Date Letters Received	Date Letter Emailed	Date of Follow-up Phone Calls	Response	Comments
Eddy, Johnny	Xolon-Salinan Tribe/ Council Chairperson	-	-	9/14/2016	-	None	-
Goldman, Matthew Darian	Chumash	9/14/2016	-	-	9/27/2016	None	Letter returned; unable to leave VM
Grindstaff, Judith Bomar	Salinan	9/14/2016	9/16/2016	-	-	None	-
Kahn, Kenneth	Santa Ynez Band of Mission Indians/Chairperson	9/14/2016	9/19/2016	9/14/2016	-	None	-
		3/1/2017	3/6/2017	3/2/2017	3/13/2017	Mr. Freddie Romero is the point of contact for the tribe.	See Freddie Romero
		3/23/2018	-	3/26/2018	-	None	-
Lopez, Mia	Coastal Band of the Chumash Nation/Chairperson	-	-	9/14/2016	-	None	-
		-	-	3/2/2017	3/13/2017	None	Left VM
		-	-	3/23/2018	-	None	-
Odom, Lei Lynn	Chumash	9/14/2016	9/17/2016	-	-	None	-
Odom, Peggy	Chumash	9/14/2016	9/17/2016	-	-	None	-
Pappo, Kathleen	Barbareno/Ventureno Band of Mission Indians	9/14/2016	9/20/2016	-	-	None	-
Romero, Freddie	Santa Ynez Band of Mission Indians	-	-	9/14/2016	9/27/2016	Stated that his group would defer to local Tribes, but requested to be notified of any project updates.	-
		-	-	3/2/2017	3/13/2017	No additional comments provided.	-
		-	-	3/23/2018	-	Deferred to local Tribes.	-
Salinan Nation Cultural Preservation Association	-	9/14/2016	-	-	-	None	Letter returned; no email/phone number provided
Santa Ynez Tribal Elders Council	-	9/14/2016	9/19/2016	-	-	None	See Freddie Romero

Name	Affiliation/Role	Date Letters Sent	Date Letters Received	Date Letter Emailed	Date of Follow-up Phone Calls	Response	Comments
Segobia, Fred	Salinan Tribe of Monterey, San Luis Obispo	9/14/2016	9/29/2016	-	10/4/2016	Expressed concerns about the project' potential to impact cultural resources. Recommended monitoring of ground disturbance.	-
Tucker, Mona Olivas	yak tityu tityu - Northern Chumash Tribe/Chairperson	9/2/2016	-	9/14/2016	-	None	Previously requested to be kept informed of the project.
		3/1/2017	-	3/2/2017	3/13/2017	None	Left VM
		3/23/2018	-	3/26/2018	-	None	-
Tunamait-Stennslie, Julie Lynn	Barbareno/Ventureno Band of Mission Indians/Chairperson	9/14/2016	-	9/14/2016	-	None	Letter returned
		3/1/2017	-	3/2/2017	-	Deferred to the Northern Chumash and Chairperson Tucker	-
		3/23/2018	-	3/26/2018	-	None	-
Vigil, Mark Steven	San Luis Obispo County Chumash Council/Chief	9/14/2016	-	-	-	None	Letter returned
		3/2/2017	3/4/2017	N/A	2/21/2017	None	Left VM
		3/23/2018	-	-	-	None	-
White, Karen	Xolon-Salinan Tribe/Chairperson	9/14/2016	9/16/2016	9/14/2016	-	None	-
		3/1/2017	3/6/2017	3/2/2017	-	Requested copies of CHRIS site records and link to the EIR	Sent site records and NOP on 3/13/2017
		3/23/2018	-	3/26/2018	-	None	-
Xielolixii	Salinan-Chumash Nation	9/14/2016	-	-	-	None	Letter returned

VM = Voicemail  
Source: Far Western



**Salinan Tribe of Monterey, San Luis Obispo Counties**

Patti Dunton, the Tribal Administrator for the Salinan Tribe of Monterey and San Luis Obispo Counties, was contacted via telephone on September 16, 2016, and February 22, 2017. As part of the September 2016 contact, Ms. Dunton stated she knows of no sacred sites located in or adjacent to the preferred WRF site, but recommended the pipelines associated with the proposed facility be installed within the northern portion of the Highway 1 right-of-way where prior construction has been conducted to reduce the potential for encountering cultural deposits. Ms. Dunton indicated if the pipelines are placed south of Highway 1, then it would be a point of concern for her and the Tribe due to the high sensitivity for cultural resources in the vicinity of Chorro Creek and the Morro Bay Estuary. Ms. Dunton also requested she be updated as additional proposed project plans become available. In an email dated October 3, 2017, Ms. Dunton reiterated her concerns and stated she preferred the pipelines be placed in areas that have been previously disturbed to avoid disturbing potential human burials. She also requested all ground-disturbing activities be monitored by her Tribe's cultural monitor.

As part of the February 2017 contact regarding the pipeline alignment, Ms. Dunton stated a Native American cemetery is present in the vicinity of the proposed project and a known burial is within the project's proposed pipeline alignment. Ms. Dunton stated her group opposes the proposed project construction in Lila Keiser Park and adjacent portions of Morro Creek and recommended the pipeline alignment bypass the park by continuing north along the pedestrian walkway on the park's eastern margin to Atascadero Road.

**Northern Chumash Tribal Council**

Fred Collins, Spokesperson for the Northern Chumash Tribal Council, responded via a telephone call on March 21, 2017, and expressed concerns about potential impacts of the proposed pipeline alignment within and adjacent to Lila Keiser Park and suggested rerouting the alignment to avoid the park and Morro Creek. Mr. Collins requested an in-person meeting with the City and County.

A representative of the City, John Rickenbach, met with Mr. Collins and his representative, Barry Price of Applied Earthworks, on May 4, 2017. They discussed the proposed project and potential concerns Mr. Collins might have with the proposed project. Mr. Collins expressed concerns with proposed pipeline routes, which are near very sensitive areas with known resources. He recommended realigning the proposed pipeline to more closely follow the freeway in certain locations. He expressed preference for the western (roadway) alignment in Quintana Road, since it was more likely to avoid known and unknown resources, as well as avoidance of the area near the State Route 1 and State Route 41 interchange. He was unsure about the proposed eastern alignment, since it traverses undisturbed areas in places. Mr. Collins requested an update on the status of formal consultation under AB 52 and continued dialogue with the City.

***Assembly Bill 52 Consultation***

Mona Tucker, Chairperson of yak tityu tityu - Northern Chumash Tribe, has previously requested to be notified of City projects that have the potential to affect tribal cultural resources, in accordance with Assembly Bill (AB) 52. No other Native American groups or individuals culturally affiliated with the proposed project area have requested notification.



A notification letter was sent on September 2, 2016, inviting Chairwoman Tucker to consult with the City regarding the proposed project pursuant to PRC subdivision 21080.3.1(d). Additional outreach was also conducted in an attempt to reach Chairperson Tucker. Chairperson Tucker did not respond to request consultation pursuant to AB 52 within 30 days, nor has she responded to 2016 to 2018 outreach efforts to date.

## 3.15.2 Regulatory Framework

### State

AB 52 was approved by California State Governor Edmund Gerry “Jerry” Brown, Jr. on September 25, 2014. The act amended California PRC section 5097.94, and added PRC sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation (NOP) or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC subdivisions 21074(a)(1) and (2) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe” that are either included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the *CEQA Guidelines*, which was approved by the Office of Administrative Law on September 27, 2016.

PRC section 21080.3.1 requires, within 14 days after a lead agency determines an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency must provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC section 21073) and who have requested in writing to be informed by the lead agency (PRC subdivision 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days after receipt of the lead agency’s formal notification and the lead agency must begin consultation within 30 days after receiving the tribe’s request for consultation (PRC subdivisions 21080.3.1(d) and (e)).

PRC subdivision 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary, the significance of tribal cultural resources, the significance of the project’s impacts on the tribal cultural resources, project alternatives or appropriate measures for preservation, and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC subdivision 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to PRC section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with PRC subdivision 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, then the lead agency may certify an EIR or adopt an MND without further requirements for consultation. (PRC subdivisions 21082.3(d)(2) and (3)).

PRC subdivision 21082.3(c)(1) states any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, then that information shall be published in a confidential appendix to the environmental document, unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

### 3.15.3 Impacts and Mitigation Measures

#### Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to tribal cultural resources in the project area. Those same criteria are provided below. This Draft EIR evaluates whether implementation of the proposed project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC subdivision 5020.1(k), or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC section 5024.1. In applying the criteria set forth in subdivision (c) of PRC section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

#### Impact Analysis

##### *Historical Resources*

**Impact 3.15-1: The proposed project would not cause a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources. There would be no impact.**

##### *Construction*

No tribal cultural resources as defined in PRC section 21074 were identified within the project area. Chairperson Tucker did not respond to the City's notification letter to request consultation

pursuant to AB 52. Other outreach with Native American representatives did not identify any tribal cultural resources. No impact would occur.

### ***Operation***

As noted under construction, no tribal cultural resources were identified within the project area. No impact would occur.

### **Mitigation Measure**

None required.

### **Significance Determination**

No Impact

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## ***Tribal Cultural Resources***

**Impact 3.15-2: The proposed project would not cause a substantial adverse change to a tribal cultural resource. There would be no impact.**

### ***Construction***

No tribal cultural resources as defined in PRC section 21074 were identified within the preferred and proposed project areas. Chairperson Tucker did not respond to the City's notification letter to request consultation pursuant to AB 52. Other outreach with Native American representatives did not identify any tribal cultural resources. No impact would occur.

### ***Operation***

As noted under construction, no tribal cultural resources were identified within the project area. No impact would occur.

### **Mitigation Measure**

None required.

### **Significance Determination**

No Impact

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## **References**

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## 3.16 Utilities and Service Systems

This section provides an overview of the existing utility setting, regulatory framework, and analysis of potential impacts to the services that would result from implementation of the proposed project. Utility systems in the project area include water, wastewater, stormwater, and solid waste facilities.

### 3.16.1 Environmental Setting

#### Water Supply

According to the San Luis Obispo Integrated Regional Water Management Plan (IRWMP), the entire proposed and preferred project sites are located within the Morro Bay Water Planning Area (WPA) (SLORWMG, 2014). The WPA includes the City of Morro Bay (City), the Chorro Valley Water System (California Men's Colony, Cuesta College, Camp San Luis Obispo, County Operations Center/Office of Education), and agricultural and other rural overlying users. Groundwater supplies in the WPA include the Morro and Chorro Valley Groundwater Basins. Surface water supply sources include the State Water Project (SWP), Whale Rock Reservoir, and Chorro Reservoir (SLORWMG, 2014). Other water supply sources include future recycled water for irrigation from the proposed Cayucos WWTP (Firma, 2017) and proposed Morro Bay WRF, as well as ocean water desalination from the City of Morro Bay (SLORWMG, 2014). The existing and projected water supplies and demands in the WPA are shown in **Table 3.16-1**.

**TABLE 3.16-1  
EXISTING AND PROJECTED WATER SUPPLY AND DEMAND COMPARISON FOR THE MORRO BAY WATER  
PLANNING AREA (AFY)**

	2010	2035*
<b>Supplies</b>		
Groundwater	328	4,193
Surface water	2,508	2,948
Reuse/Recycled water	200	200
Desalinated water	258	645
<b>Supply Total</b>	<b>3,294</b>	<b>7,896</b>
<b>Demands</b>		
Urban	2,747	3,532
Rural	120	205
Agricultural	1,923	2,065
<b>Demand Total</b>	<b>4,790</b>	<b>5,802</b>

\*Projections for 2035 were made near the time of the IRWMP publication in 2014.

SOURCE: SLORWMG, 2014

As shown in **Table 3.16-1**, above, demand exceeded supply in 2010. Total water supplies in the Morro Bay WPA are projected to exceed water demand by 2,094 AFY in 2035. Water demand and supply projections were based on multiple assumptions, and do not represent guaranteed amounts of water (SLORWMG, 2014). The water supply portfolio demonstrates water supply reliability for the Morro Bay WPA due to the diversity of water sources.

For water supply, the City relies primarily on imported water purchased from the SWP per a contract with the San Luis Obispo Flood Control and Water Conservation District. The City also is able to receive water from groundwater and the Morro Bay Desalination Plant during SWP water shortages. The City has an entitlement to receive 1,313 AFY plus an additional 174 percent drought buffer of approximately 2,290 AFY from the SWP. The City also uses local groundwater for water supplies from the Chorro Valley and Morro Valley groundwater basins, from which the City has been assigned 1,142.5 AFY and 581 AFY in their groundwater permits, respectively (City of Morro Bay, 2016). Both Chorro Valley and Morro Valley groundwater basins have the management challenges regarding low storage, low recharge, salinity and nitrates, meeting demands, and basin levels (SLORMGW, 2014). Water from the Chorro Valley groundwater basin currently exceeds State maximum contaminant levels for nitrates; since the City does not treat pumped groundwater water for nitrates, Chorro Valley groundwater wells currently are not used for water supply (DWR, 2004a; GSI, 2017). The safe yields of Chorro Valley and Morro Valley groundwater basins are 2,210 AFY and 1,500 AFY, respectively; groundwater is used by urban agriculture and rural users (SLORWMG, 2014). (DWR, 2004b). **Table 3.16-2** provides the projected water supply within the City of Morro Bay through 2035 according to the City's Urban Water Management Plan.

**TABLE 3.16-2**  
**EXISTING AND PROJECTED WATER SUPPLY AND DEMAND COMPARISON FOR THE CITY OF MORRO BAY –**  
**NORMAL WATER YEAR (AFY)**

	2020	2025	2030	2035
<b>Supplies</b>				
Groundwater	1,724	1,724	1,724	1,724
Surface water	1,313	1,313	1,313	1,313
Recycled water	0	650	650	650
Desalinated water	645	645	645	645
<b>Supply Total</b>	<b>3,682</b>	<b>4,332</b>	<b>4,332</b>	<b>4,332</b>
<b>Demands</b>				
Single Family	683	699	718	738
Multi-Family	156	159	164	168
Commercial	304	311	320	328
Institutional/Governmental	118	121	124	127
<b>Demand Total</b>	<b>1,298</b>	<b>1,977</b>	<b>2,013</b>	<b>2,048</b>

SOURCE: City of Morro Bay, 2016

As shown in Table 3.16-1, above, total water supplies are estimated to exceed total water demand within the City through 2035. The water supply portfolio demonstrates water supply reliability for the Morro Bay WPA due to the diversity of water sources that can be used to meet demand during normal years and multiple dry years when imported water through the SWP is restricted. The City is estimated to have adequate water supply to meet demand in dry years through 2035 (City of Morro Bay, 2016).

## **Wastewater Collection**

The proposed project is within the City's wastewater service area (SLORWMG, 2014). Currently, as described in Chapter 1, the City jointly owns a wastewater treatment plant (WWTP) with the Cayucos Sanitary District. The WWTP supplies wastewater collection services to approximately 13,300 people in both communities and has an average daily wastewater collection flow of 1.089 million gallons per day. The WWTP satisfies secondary treatment requirements for all constituents except suspended solids and biochemical oxygen demand during extreme wet weather events (City of Morro Bay, 2017a).

## **Stormwater Conveyance**

The San Luis Obispo Flood Control and Water Conservation District (District) is responsible for managing, planning and maintaining drainage and flood control facilities in unincorporated areas of San Luis Obispo County (County) where no agency has assumed an active role in such activities. The District can also work with individual cities or communities to manage drainage and flood control facilities (SLOCWR, 2017).

Stormwater in the City is collected by storm sewer infrastructure installed throughout the City, including storm drains, culverts municipal storm sewer pipelines, private or highway storm sewer pipelines, and open channels (City of Morro Bay, 2015). The City's Public Works Department is responsible for storm drain maintenance (City of Morro Bay, 2011). The Engineering Division of the City's Public Works Department is responsible for ensuring storm drainage is designed and constructed in a manner consistent with City and other applicable codes and standards (City of Morro Bay, 2017b).

## **Solid Waste Collection**

The San Luis Obispo County Integrated Waste Management Authority (IWMA) is the waste agency for the City and the County (SLOIWMA, 2017). The two closest landfills to the proposed project site that accept construction materials are the Chicago Grade Landfill and the Cold Canyon Landfill. The Chicago Grade landfill in Templeton has a ceased operation date of 2039 and a remaining capacity of 6,022,396 cubic yards (CalRecycle, 2017a). The Cold Canyon Landfill in San Luis Obispo has a ceased operation date of 2040 and a remaining capacity of 14,500,000 cubic yards (CalRecycle, 2017b).

## 3.16.2 Regulatory Framework

### Federal

#### ***Title 40 of the Code of Federal Regulations Part 503 – Biosolids Rule***

The federal biosolids regulations are contained at 40 Code of Federal Regulations (CFR) Part 503, as Standards for the Use or Disposal of Sewage Sludge. Known as the Part 503 Rule, those regulations apply to any person who prepares sewage sludge, applies sewage sludge to the land, or fires sewage sludge in a sewage sludge incinerator and to the owner/operator of a surface disposal site, as well as the exit gas from a sewage sludge incinerator stack. The regulations establish standards consisting of general requirements, pollutant limits, management practices, and operational standards for the final use or disposal of sewage sludge generated during the treatment of domestic sewage. Pathogen and alternative vector attraction reduction requirements for sewage sludge applied to the land or placed on a surface disposal site are also included. The regulations also detail monitoring and recordkeeping requirements when sewage sludge is applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator. Also included are reporting requirements for Class I sludge management facilities, publicly owned treatment works (POTWs) with a design flow rate equal to or greater than one million gallons per day, and POTWs that serve 10,000 people or more (USEPA 2017).

### State

#### ***Regulations Related to Recycled Water***

Titles 17 and 22 of the California Code of Regulations (CCR) include regulations specific to recycled water. Those regulations detail the approved uses of recycled water, treatment requirements, and water system protection (SWRCB, 2014).

#### ***California Green Building Standards Code Construction Waste Management Requirements***

California's Green Building Standards Code (CALGreen) requires the diversion of at least 65 percent of the construction waste generated during most permitted non-residential "new construction" projects. Submittal of a construction waste management plan or utilization of a waste management company may be required (CalRecycle, 2016).

### Local

#### ***San Luis Obispo County Interim Biosolids Ordinance***

To address the application of biosolids in the County, it created a Treated Sewage Sludge/Biosolids Land Application Task Force and interim ordinance pertaining to the land application of biosolids (SLOPHD, 2002). The County is currently in the process of creating a permanent ordinance to protect County lands and assure safety of County residents. Those regulations will manage and closely monitor the use of treated sewage sludge/biosolids on lands within the County as a soil amendment and prohibit biosolids use in areas with high public contact, on certain food crops such as carrots and potatoes, and on inappropriate or sensitive ecological areas. Each potential application site will have site-specific requirements including the testing of soils and biosolids before and after use, nutrient management plans, disclosure to the



public and land owner, detailed monitoring and reporting and county-led inspections (SLOPHD, 2017).

### ***San Luis Obispo County Liquid Waste Hauler Vehicle Permit and Inspections***

To haul liquid waste (including portable toilet waste), businesses must obtain a Liquid Waste Hauler Vehicle Permit from the County. That requires completion of an application that details information on the business, disposal sites, and vehicles to be used in accordance with San Luis Obispo County Code §8.12.501. Permits must be renewed every year (San Luis Obispo County, 2017a). Liquid waste collection vehicles must also pay a fee to be inspected annually in order to comply with annual health permit requirements (San Luis Obispo, 2017b).

### ***City of Morro Bay Construction and Demolition Ordinance***

The City includes a Construction and Demolition Debris Recycling Ordinance in the Morro Bay Municipal Code (MBMC) (Chapter 14.75) that applies to construction projects with a valuation of \$50,000 or greater. A recycling plan must be submitted as part of the building permit application submitted to the City that specifies: 1) the estimated volume of construction and demolition debris, 2) how much can be diverted via reuse and recycling, 3) where the recycled material will be collected, and 4) how much construction and demolition debris will be landfilled.

## **3.16.3 Impacts and Mitigation Measures**

### **Significance Criteria**

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to utilities and service systems in the proposed project area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to utilities and service systems if it would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Not have sufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanded entitlements are needed
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments
- Not be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs
- Not comply with federal, state, and local statutes and regulations related to solid waste

## Methodology

Water district urban water management plans, and State, City and County websites were consulted to obtain the information required for the environmental and regulatory setting. This impact analysis considers the potential utilities and service systems impacts associated with the construction, operation, and maintenance of the proposed project.

## Impact Analysis

### *Wastewater Treatment Requirements*

**Impact 3.16-1: Once operational, the proposed WRF would provide tertiary treatment and advanced treatment of wastewater, thereby exceeding the secondary treatment requirements mandated by the Central Coast Regional Water Quality Control Board. This would be a Class IV beneficial impact.**

### *Construction*

Wastewater generated by construction workers during the 24-month construction period would be collected by portable toilet facilities. All waste generated in portable toilets would be collected by a County-permitted portable toilet waste hauler and appropriately disposed of at pre-designated liquid waste disposal stations. Designated liquid waste disposal stations have been appropriately permitted by their RWQCB to receive and treat liquid waste. Therefore, there would be no impact to wastewater treatment exceedance requirements during proposed project construction.

### *Operation*

The proposed project is intended to provide opportunities for the City to produce and beneficially reuse advanced treated recycled water and would meet or exceed all recycled water treatment requirements of Titles 17 and 22 of the CCR. Once operational, the proposed project would provide tertiary treatment and advanced treatment of wastewater, thereby exceeding the secondary treatment requirements mandated by the RWQCB and allowing the discontinuance of the Section 301(h) modified NPDES permit. Therefore, beneficial impacts would result during proposed project operation with regard to the compliance with wastewater treatment requirements.

### **Mitigation Measures**

None required.

### **Significance Determination**

Beneficial.

### ***Construction of Treatment Facilities***

**Impact 3.16-2: The proposed project includes the construction of a new wastewater treatment facility, which has been evaluated throughout the Draft EIR. No additional water or wastewater treatment facilities would be required to operate the proposed project. This would be a Class III impact, Less than Significant.**

The proposed project itself includes the construction and operation of a new WRF. The environmental effects associated with the proposed project have been evaluated throughout this Draft EIR. No water treatment facilities would be installed as part of the proposed project. The recycled water proposed to be used for groundwater replenishment would be extracted via existing production wells and would be treated at the City's existing Brackish Water Reverse Osmosis (BWRO) treatment plant. The City may evaluate whether improvements to the BWRO treatment plant are necessary once the proposed project is operational. No improvements are currently planned or required to operate the proposed project. Therefore, there would be no additional impacts associated with construction of new water or wastewater treatment facilities.

#### **Mitigation Measures**

None required.

#### **Significance Determination**

Less than Significant

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### ***Stormwater Facilities***

**Impact 3.16-3: Proposed project construction and operation would not generate excessive stormwater runoff such that new or expanded stormwater drainage facilities are required. This impact would be Class III, Less Than Significant.**

New or expanded stormwater drainage facilities would be required if the proposed project would generate excessive stormwater runoff. As described in **Impact 3.9-4** in Chapter 3.9, Hydrology and Water Quality, the proposed project would not generate stormwater runoff during its construction or operation that would exceed the capacity of existing stormwater drainage systems. The proposed WRF would be required under the NPDES General Industrial Permit for WWTPs and the City's SWMP to implement BAT and BCT design measures to control both the quality and quantity of stormwater runoff from the site. The City would be required to submit a new Notice of Intent to comply with the General Industrial Permit for the proposed new facility following completion of the proposed project. Prior to proposed project approval, the WRF design would be required to include drainage control features that would minimize the potential for erosion or siltation and provide the volume control to ensure that post-project flows do not exceed existing runoff volumes. The other proposed facilities, such as the lift station, injection and monitoring wells, and pipelines, would not affect significantly stormwater runoff due to their size and/or design. As such, the proposed project would not require the construction of additional offsite stormwater drainage facilities. Impacts would be less than significant.

### **Mitigation Measures**

None required.

### **Significance Determination**

Less than Significant

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### ***Water Supply Entitlements***

**Impact 3.16-4: Operation of the proposed project would allow for the development of 650 to 825 AFY of advanced treated recycled water for indirect potable reuse, thereby enhancing water supplies in the project area and providing water supply reliability with a new local renewable water supply. This would be a Class IV beneficial impact.**

### ***Construction***

Water needs during construction of the proposed project facilities would be relatively minor and temporary, limited to only the period of construction. Construction of all of the proposed facilities would require approximately 22 AF (4.2 AF for the lift station and associated pipelines, 2.6 AF for wells and the recycled water pipelines, and 15 AF for the WRF). Water would be used for activities including dust control and testing of hydraulic structures and pipelines. Since water supply is expected to be adequate to meet demand during normal and dry years through 2035 within both the Morro Bay WPA and the City, existing local water resources would be sufficient to meet the proposed project's construction water needs. Therefore, impacts related to sufficient water supplies during project construction would be less than significant.

### ***Operation***

The proposed WRF facility would require very little water to operate. The proposed lift station, wells, recycled water distribution system, and conveyance pipelines would move water, but would be unmanned and would not generate water demand during operation. At the preferred WRF site, the proposed Operations and Maintenance buildings would require potable water for sinks, showers, and toilet flushing, minor laboratory use, and emergency eyewash stations. The existing WWTP, which has a similar operational potable water demand to the proposed WRF facility, would be decommissioned concurrently with commencement of operation of WRF facility operation. That would result in approximately a zero net increase in water demand in the area of the proposed project. Recycled water produced during operation of the proposed WRF facility would be used for onsite landscape irrigation and the majority of the process water needs, thereby further offsetting the operational water demand of the proposed project. Operation of the proposed project would enable the use of 650 to 825 AFY of advanced treated recycled water for indirect potable reuse, thereby enhancing water supplies in the project area and providing water supply reliability with a new local renewable water supply. The new water supply would more than offset the water requirements of the proposed project at the WRF. Therefore, impacts to existing water supplies or entitlements during proposed project operation are considered beneficial.

### **Mitigation Measures**

None required.

### **Significance Determination**

Beneficial

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### ***Wastewater Treatment Capacity***

**Impact 3.16-5: The proposed WRF will be designed to accommodate the City's projected wastewater treatment capacity needs in the future based on buildout projections under the General Plan Update. The proposed WRF infrastructure would be more reliable than the existing WWTP, thereby reducing potential service interruptions. This would be a Class IV beneficial impact.**

### ***Construction***

Construction of the proposed project facilities would result in the generation of wastewater associated with construction workers; such waste would be disposed of through the use of portable toilets. Given the relatively small construction workforce (approximately 20-30 workers onsite daily for the 24-month construction period), this amount of waste would be minimal, and as discussed in Impact 3.16-1, liquid waste would be disposed of at a designated liquid waste disposal facility approved by the RWQCB for liquid waste treatment. Other than portable toilet waste, construction of the proposed project facilities is not anticipated to result in wastewater requiring treatment. Therefore, impacts would be less than significant.

### ***Operation***

The proposed project includes the construction of the WRF, which would provide advanced treatment to wastewater generated within the City's service area. The proposed WRF would treat a maximum peak daily flow of 2.75 million gallons per day (MGD) and maximum average annual daily flow rate of 0.97 MGD. That treatment capacity is based on current and projected population growth rates in the City's service area. The draft Facility Master Plan assumed a population growth rate of 0.62 percent per year for the years 2016 to 2040 and an estimated population of 12,000 at buildout in 2040 (Black & Veatch, 2016). Those population projections are consistent with estimates made by SLOCOG and the City as part of its 2014-2019 Housing Element Update and its General Plan Update (See Chapter 5, Growth Inducement, for additional discussion about population projections). Accordingly, the size of the proposed WRF treatment facilities were designed to be commensurate with anticipated population projections and associated waste streams. Therefore, the proposed project itself would provide the City and its future growth-related projects with sufficient wastewater treatment capacity. Newer wastewater treatment facilities would also be more modern and reliable, thereby reducing the chance of interruptions in wastewater treatment services caused by equipment malfunctions. Impacts from project operation would be beneficial.

### **Mitigation Measures**

None required.

## Significance Determination

Beneficial

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### ***Landfill Capacity and Solid Waste Regulation***

**Impact 3.16-6: The proposed project would generate solid waste that could require disposal at a landfill, including construction debris and biosolids during WRF operation. Existing landfills have sufficient remaining capacity to accommodate construction-related solid waste; biosolids would be reused by a biosolids management firm rather than disposed at a landfill. The proposed project would comply with all federal, state, and local statutes and regulations related to solid waste. This impact would be Class III, Less Than Significant.**

### ***Construction***

Construction of the proposed WRF and other project facilities would generate construction debris requiring disposal. As stated in Chapter 2, Project Description, construction of the proposed WRF would require disposal of approximately 26,650 cubic yards of soil that would be disposed onsite or hauled offsite to an acceptable disposal location, which may include a landfill. Project construction would occur within the County. Although there are no County-related waste diversion requirements, construction of the proposed WRF would require a building permit; therefore, WRF construction would comply with CALGreen requirements by diverting a minimum of 65 percent of construction-related waste from landfill disposal via reuse or recycling. In addition, the proposed lift station, conveyance pipelines, and wells would be located within the City, and as such, would comply with the City's Construction and Demolition Debris Recycling Ordinance, which requires preparation of a recycling plan that identifies materials to be diverted from landfills via recycling and reuse. Further, the nearby Chicago Grade and Cold Canyon landfills would continue to operate until 2039 and 2040, respectively, and both have sufficient remaining capacity to accommodate waste from project construction. Therefore, impacts would be less than significant.

### ***Operation***

During operation, the proposed lift station, conveyance pipelines, and wells would not generate solid waste. The primary solid waste associated with the proposed WRF operation would be biosolids as byproducts of wastewater treatment. After biosolids are dewatered, they would be reused by a contracted biosolids management firm. A third-party would haul the proposed WRF biosolids to offsite facilities for composting; therefore, landfills would not be required for biosolids disposal. The proposed WRF would comply with federal regulations pertaining to the use and disposal of sewage sludge (40 CFR Part 503) when disposing biosolids offsite. Impacts related to compliance with all applicable solid waste regulations during project operation would be less than significant.

The proposed WRF would also generate a minimal solid waste associated with the personal trash of WRF workers. Based on the continued operation of nearby landfills through 2039 and 2040

and their remaining capacity levels, worker waste generated during WRF operation would be accommodated. Impacts would be less than significant.

### **Mitigation Measures**

None required.

### **Significance Determination**

Less than Significant

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# CHAPTER 4

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## Cumulative Impacts

### 4.1 Introduction

CEQA requires an EIR assess the cumulative impacts of a project with respect to past, current, and probable future projects within the region. The *CEQA Guidelines* (Section 15355) define cumulative effects as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impact from several projects is the change in environment, which results from the incremental impact of the proposed project when added to other closely related and reasonably foreseeable future projects. Pertinent guidance for cumulative impact analysis is given in Section 15130 of the *CEQA Guidelines*:

- An EIR shall discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable," (*i.e.*, the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of current projects, and the effects of probable future projects, including those outside the control of the lead agency, if necessary).
- An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR.
- A project's contribution is less than cumulatively considerable, and thus not significant, if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.
- The discussion of impact severity and likelihood of occurrence need not be as detailed as for effects attributable to the project alone.

The analysis of cumulative effects in this Draft EIR focuses on the effects of concurrent construction and operation of the proposed project with other spatially and temporally proximate projects as described below. As such, this cumulative analysis relies on a list of related projects that have the potential to contribute to cumulative impacts in the proposed project areas.

## 4.2 Related Projects

### 4.2.1 Geographic Scope

The geographic area affected by cumulative projects varies depending on the environmental topic. For example, construction noise impacts would be limited to areas directly affected by construction noise, whereas the area affected by a project's air emissions generally includes the entire air basin, and impacts associated with aesthetics would include the affected viewshed.

Geographically, the proposed project is located in the Estero Bay planning area of unincorporated San Luis Obispo County (County) and the City of Morro Bay (City). This chapter considers the potential cumulative effects of the project in combination with development and public works projects occurring in and around Estero Bay, in the City, and the unincorporated communities of Cayucos, Los Osos and other nearby unincorporated County areas. Those projects are listed in **Table 4-1**.

### 4.2.2 Project Timing

As noted, projects considered in this analysis include those that have recently been completed, are currently under construction, or were recently approved. A project's schedule is particularly relevant to the consideration of cumulative construction-related impacts because construction impacts tend to be relatively short-term. However, for probable future projects, construction schedules are often broadly estimated and can be subject to change. Although the timing of the probable future projects described in Chapter 4.2.4 are likely to fluctuate because of schedule changes or other unknown factors, this analysis assumes these projects would be implemented concurrently with construction of the proposed project, between 2019 and 2022.

### 4.2.3 Types of Projects Considered

As described in Chapter 3 of this Draft EIR, some impacts associated with implementation of the proposed project are short-term and related to construction, while others are long-term and related to operation. Therefore, the proposed project could contribute to cumulative effects when considered in combination with impacts of other construction projects in the region. For this analysis, other past, present, and reasonably-foreseeable future construction projects, particularly other infrastructure and commercial projects, in the area have been identified. Long-term cumulative impacts due to operation of the proposed project in conjunction with the other projects in the area are assessed as well.

### 4.2.4 Description of Select Cumulative Projects

Table 4-1 lists current and future projects that could potentially result in impacts similar to the proposed project, contribute to similar cumulative impacts within the project area. **Figure 4-1** displays the locations of the 27 projects listed in the table below in relation to the proposed project facilities.

**TABLE 4-1  
CUMULATIVE PROJECTS LIST**

Project Number	Project Name	Project Location	Project Type	Project Description	Status
<b>City of Morro Bay</b>					
1	Tank Demolition - 3300 Panorama Drive, #CP-500 & UP0-440	3300 Panorama Drive	Demolition	Demolition and removal of two large holding tanks used to store jet fuel, one 131,600 gal. water tank, all piping attached, pumps, and approx. 24 yards of shot-crete. Residential land use and single family zoning could accommodate 25 potential homes.	In environmental review process
2	Sonic Restaurant	1840 Main Street	Commercial Development	Construction of a 1,400 sf drive-thru, drive-up restaurant with canopied parking and associated site improvements and removal of major vegetation.	Under building Plan Check. Anticipated construction to begin August 2018.
3	Morro Bay High School	235 Atascadero Road	Upgrade to existing facilities, removal of buildings, new buildings, and landscape improvements	Modernization of various facilities through 52-acre high school campus including, new pool facility building, new student services building and landscaping, addition to Performing Arts Center, new entry tower features, upgraded to running track and bleachers, remodeling of building interiors, and upgrades to parking areas and paths.	Construction of short-term facilities including pool and upgraded facilities completed. Construction of other facilities planned for future.
4	Black Hill Villas	485 & 495 South Bay Blvd	Residential Development	Development of 16 single family homes. Grading has been completed and the home in Plan Check. The first 10 homes will be built in Phase 1 then the remaining 6 homes in Phase 2.	Under building Plan Check. Anticipated construction to begin May to June 2018. Grading currently in progress.
5	Sunset Townhomes	1899 Sunset	Residential development	Six townhomes, each 1,500 – 1,800 SF	Under construction. Anticipated occupancy May 2018
6	Morro Bay Landing	1215 Embarcadero	Commercial Development	Demolition and reconstruction of a 7,000 SF visitor-serving commercial building.	Under building Plan Check. Anticipated construction to begin April 2018.

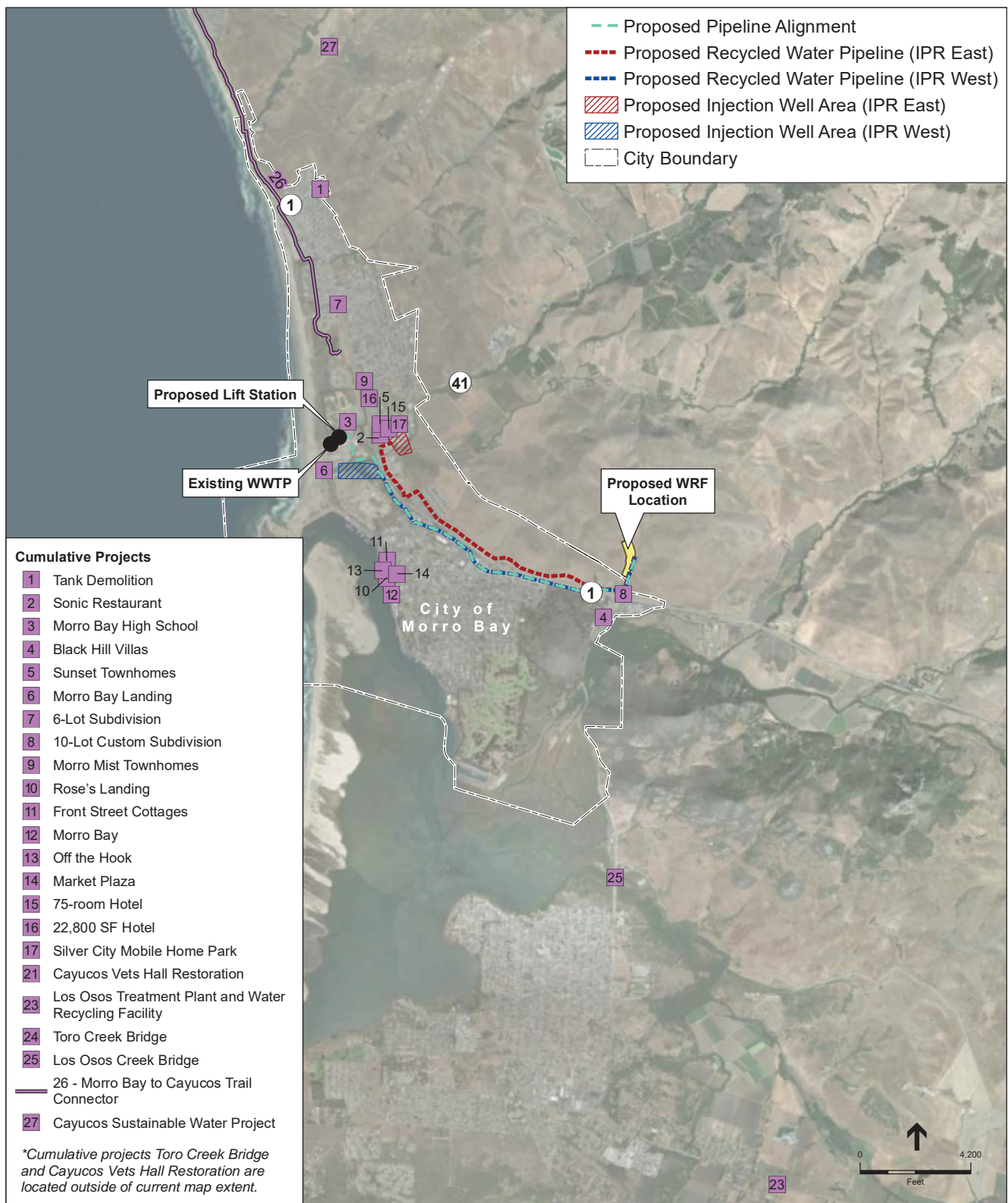
Project Number	Project Name	Project Location	Project Type	Project Description	Status
7	6-Lot Subdivision	Southwest corner of Highway 1 and San Jacinto Street	Residential Development	Construction of single family homes on a 6-lot subdivision	In planning process
8	10- Lot custom subdivision	1305 Teresa Drive/Subdivision street name is 361 Sea Shell Cove	Residential development	Single family homes.	Lot 1 in Planning Permit stage. No anticipated timeline for other 9 lots.
9	Morro Mist Townhomes	2400 Main St.	Residential development	Subdivision 23 lot community housing project	Grading permit issued. Anticipated construction to begin April to May 2018
10	Rose's Landing	725 Embarcadero	Commercial development	Conversion of second floor restaurant to 10-unit hotel lodging.	In Planning permits process. Anticipated construction to begin in 2019.
11	Front Street Cottages	1170 Front Street	Hotel	Construction of 6 unit hotel.	Permitted and building permit recently issued. Under construction (grading stage).
12	Morro Bay Aquarium	595 Embarcadero	Commercial development	Demolition and reconstruction of new 2 story expanded aquarium, visitor serving facility.	Not yet applied for Planning permit, but consent of landowner received from City for Embarcadero lease site location. Applying for USDA small communities funding grant.
13	Off the Hook	833 Embarcadero	Commercial development	Demolish existing visitor-serving commercial retail two-story building and reconstruct as 1500 SF restaurant, 1500 SF retail, and 7-unit second-story boutique hotel.	In planning process. Permit has not been approved.
14	Market Plaza	781 Market Street	Commercial development	100 room hotel, 2000 SF restaurant, and 2000 SF retail space	In planning process.
15	75-room Hotel	Atascadero Road/Hwy 1/Hwy 41	Hotel	Potential 75-room hotel at northeast corner of intersection of Hwy 41 and Hwy 1.	In planning process.
16	22,800 SF Hotel	2130 Main Street	Commercial development	Approx. 22,800 SF new hotel with potential 34 suites	In design phase.
17	Silver City Mobile Home Park	500 Atascadero	RV park	32 RV spaces added	Planning permit received.
18	One Water Plan		Management Plan	Integrated approach for the City's water, wastewater, and stormwater master planning.	

Project Number	Project Name	Project Location	Project Type	Project Description	Status
<b>County of San Luis Obispo</b>					
19	Airport Land Use Plan Update	County of San Luis Obispo	Plan Update	Update Airport Land Use Plan for the San Luis Obispo County Regional Airport	In planning process
20	Los Osos Community Plan Update	County of San Luis Obispo	Community Plan Update	Update the Los Osos Community Plan of the County's General Plan and Local Coastal Plan which is the official plan for land use and transportation in Los Osos.	Draft Environmental Impact Report in progress but not completed
21	Cayucos Vets Hall Restoration	10 Cayucos Drive Cayucos, California	Restoration	Reconstruction and restoration of the existing Cayucos Vets Hall to update safety standards.	Project design and environmental review in progress. Anticipated construction to begin in 2019.
22	Los Osos Wastewater Project	Throughout Los Osos	Wastewater Treatment System	Develop a wastewater treatment system in Los Osos to solve Level III water resource shortage and groundwater pollution	Implementation and construction of Phase 2 of Lateral Connections and Septic System Reuse
23	Los Osos Treatment Plant and Water Recycling Facility	2270 Los Osos Valley Road, Los Osos, CA 93402	Wastewater Treatment Plant		Built
24	Toro Creek Bridge	Toro Creek Road and Toro Creek	Bridge	Replace 1-lane bridge with 2-lane bridge over Toro Creek	In design process.
25	Los Osos Creek Bridge	South Bay Blvd over Los Osos Creek	Bridge	Replacement of 2-lane bridge.	In right of way stage
<b>San Luis Obispo County Parks</b>					
26	Morro Bay to Cayucos Trail Connector	Route between Morro Bay and Cayucos along Highway 1	Bicycle Path and Pedestrian corridor	Construction of a scenic and safe bicycle and pedestrian corridor separate from highway traffic. Includes new bridge over Toro Creek.	In final design and engineering phase

Project Number	Project Name	Project Location	Project Type	Project Description	Status
<b>Cayucos Sanitary District</b>					
27	Cayucos Sustainable Water Project	8 acre parcel on Toro Creek Road and within public right of ways	Wastewater treatment project – tertiary treatment	Construction of an 8-acre Water Resource Facility and related conveyance infrastructure to serve Cayucos. Project will provide recycled water for municipal irrigation and future direct potable reuse.	Beginning construction

## SOURCES:

Beard, 2017; Cayucos Sanitary District, 2017; County of San Luis Obispo, 2017; County of San Luis Obispo Parks & Recreation, 2017; County of San Luis Obispo Department of Planning & Building, 2017a; County of San Luis Obispo Department of Planning & Building, 2017b; County of San Luis Obispo Department of Planning & Building, 2017c; Immel, 2017; Kavanagh, 2017; Jacinth, 2017a; Jacinth, 2017b; Jacinth, 2018a; Jacinth, 2018b.



SOURCE: ESRI

Morro Bay Water Reclamation Facility Project. 150412

**Figure 4-1**  
Cumulative Projects



## 4.3 Impacts and Mitigation Measures

### Aesthetics

**Impact 4-1: Concurrent construction and operation of the proposed project and related projects in the vicinity of the WRF, lift station, and wells would not result in cumulatively considerable impacts to aesthetics. This impact would be Class III, Less than Significant.**

The geographic scope for potential cumulative impacts to aesthetics includes foreground views immediately surrounding project components, as well as the long-distance viewshed of the volcanic Morros (including Morro Rock), and the Pacific Ocean adjacent to the City. In open space areas, such as the vicinity of the proposed project, the texture of landscape features such as hilly and coastal areas as well as built elements may be noticeable and appear prominent depending on the vantage point. The proposed project area includes the City and unincorporated areas of the County, which include urbanized areas surrounding Highway 1, and undeveloped portions of the County in the east and northern portions of the proposed project areas. Proposed project components would be constructed within both developed and undeveloped areas as shown on **Figure 2-2**.

Construction activities associated with development of the proposed project facilities and nearby cumulative projects (see **Table 4-1** above) would temporarily alter the visual character and quality of the construction areas. Temporary visual impacts would be associated with construction of those cumulative projects, which could include exposed building pads, staging areas, onsite storage, use of large equipment, temporary storage areas, and stockpiles. Because these effects would be temporary, they would not significantly degrade the visual character or quality of the area. Therefore, impacts of the proposed project would not combine with those of cumulative projects to result in a significant impact associated with aesthetics during construction activities.

As described in Chapter 3.1, Aesthetics, proposed pipelines would be underground and would have no long-term visual impacts. The existing WWTP facilities would be demolished, removing built features from the landscape. No new aboveground facilities are planned for the existing WWTP at this time. The proposed lift station and groundwater wells would be constructed within areas that are already developed and therefore would not substantially contrast with the visual character of the area. However, those facilities would be located adjacent to areas with scenic views depending on the vantage point of motorists or pedestrians. While visible in the foreground, those facilities would not impact distant views of the surrounding hillsides and Morro Rock. The proposed WRF would be constructed on a preferred site in undeveloped open space along a hillside within an unincorporated area of the County. Local hills make up the viewshed along the outskirts of the City. However, with the application of architectural treatments that would apply rural agricultural building design themes to the proposed WRF buildings, the view of the proposed WRF from public vantage points and motorists traveling along Highway 1 would not significantly alter scenic vistas or visual character.

Cumulative projects listed above (**Table 4-1**) have the potential to affect key views and sensitive aesthetic resources in the geographic scope. One example is cumulative project 8, which includes a residential subdivision occurring along the undeveloped low-lying hillside within the proposed project area, just south of the preferred WRF site. The nature of a residential project in an undeveloped area would be visible to affected viewers in the geographic scope. Depending on the proposed project element and viewing location, mitigating landscape elements, and other factors, such as the presence of vegetation, screening could minimize the actual visibility. Given the pace and extent of planned development within the proposed project area within the last 20-30 years, those visual changes could result in a significant cumulative visual impact because the City is primarily built-out and the City and County have strict development standards in order to preserve open spaces and the overall aesthetic of the project area. For those reasons, the combined visual effects from cumulative projects within the geographic scope would be considered cumulatively considerable.

When added to the cumulative scenario described above, however, the effects of the proposed project would not contribute incrementally to cumulative impacts on aesthetic resources. The WRF would blend in the agricultural aesthetic of built structures along the Highway 1 corridor, and be largely shielded from view or otherwise be subordinate to foreground development when viewed from major public transportation corridors such as Highway 1. The effects of the proposed project would not combine with other development to compound and create cumulative impacts to visual resources. Impacts would be less than significant.

### ***Mitigation Measures***

None required.

**Significance Determination:** Less than Significant

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## Agriculture and Forestry Resources

**Impact 4-2: Concurrent implementation of the proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to agriculture. This impact would be Class III, Less than Significant.**

As described in Chapter 3.2, forest land would not be impacted by the proposed project. The proposed project components would be built primarily on land designated as Urban and Built-up Land, while some parcels are designated as important farmland such as Prime Farmland, Unique Farmland, Farmland of Local Potential, and Grazing land. The preferred WRF site is located on Farmland of Local Potential and Grazing Land. In addition, portions of the proposed recycled water pipeline (IPR East) would traverse Farmland of Local Potential and Grazing Land and portions of the proposed recycled water pipeline (IPR West) and proposed raw wastewater pipeline would traverse Farmland of Local Potential when it exits the preferred WRF site. The proposed IPR East wellfield area also includes a small area of Prime Farmland. However, siting up to five wells and monitoring wells within 1.26 acres of Prime Farmland would be a less than

significant impact according to the LESA model. The proposed project would construct and operate the WRF as a Public Utility Facility on lands designated for Agriculture, in accordance with the requirements of the County Coastal Land Use Ordinance. The proposed WRF would be designed to minimize the facility footprint and would only affect approximately 4% of the parcel currently used as rangeland for cattle grazing. The remainder of the parcel would continue to be available for agricultural uses, such as grazing. Impacts related to conversion of agricultural lands would be less than significant.

The geographic scope for potential cumulative impacts related to agriculture and forestry resources includes all lands directly affected by, or adjacent to, projects listed in Table 4-1, as well as agricultural resources within the City and adjacent unincorporated areas. The proposed project included in the cumulative scenario (see **Table 4-1**) that has the potential to affect agricultural resources is the Cayucos Sustainable Water Project. The Final EIR for the Cayucos Sustainable Water Project included a significant and unavoidable impact for the conversion of 8 to 9 acres of Prime Farmland to non-agricultural use. The proposed site for the Cayucos Sustainable Water Project is Prime Farmland, and mitigation commitments included an agricultural conservation easement at a 2:1 ratio. The Final EIR also concluded a cumulatively considerable impact due to the permanent loss of important agricultural soils in the County, where trends in agricultural crop production has been declining and approximately 4,411 acres of important farmland was lost between 2008 and 2012 due to urbanization (Firma Consultants, 2017).

The proposed project would not convert prime farmland or important farmland to non-agricultural uses, with the potential exception of wells to be located in the IRP East wellfield area. That potential conversion of farmland would be negligible, since the proposed wells would occupy small footprints of 200 square feet, and less than significant. The proposed project would be located primarily within the City with the exception of the preferred WRF site, which is rangeland that is used for cattle grazing. Approximately 96% of the preferred WRF site would continue to be available as rangeland for cattle grazing. As such, the proposed project's contribution to cumulative impacts to agricultural resources or the conversion of farmland to non-agricultural resources would be less than significant.

### **Mitigation Measures**

None required.

**Significance Determination:** Less than Significant

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## Air Quality

**Impact 4-3: Concurrent construction of the mitigated proposed project and related projects in the South Central Coast Air Basin would not result in cumulatively considerable impacts to air quality. This impact would be Class III, Less than Significant.**

Cumulative air quality impacts are both localized as well as regional. For localized impacts such as health risk from exposure to diesel exhaust and nuisance impacts from fugitive dust, the geographic scope would be the immediate vicinity of the project site. Because the geographic scope includes the South Central Coast Air Basin and air shed, cumulative regional impacts could also be realized as the project would be constructed and operated concurrent with other projects in the area which together contribute to the air quality of the South Central Coast Air Basin and its attainment status with respect to the state and federal ambient air quality standards. So, as long as the area is designated as non-attainment with respect to ozone and particulate matter standards, all air pollutants emissions generated in the air basin could be considered to be contributing to a significant cumulative impact. However, just like the project, all cumulative projects would also be subject to analysis as detailed in the Air Quality Handbook (SLOAPCD 2012) and required mitigation measures would be implemented to reduce the impact to the extent feasible. Mitigation measures include SLOAPCD recommended standard mitigation measures as well as off-site mitigation which identifies improvements that will help reduce some of the cumulative air quality impacts. All cumulative projects must comply with SLOAPCD rules and regulations that include air emission reduction strategies for the basin. These, in concert with individual project mitigation measures, will help reduce both local and regional air quality impacts.

As discussed in Section 3.3, *Air Quality*, the proposed project would result in less than significant air quality impacts with the implementation of mitigation measures during construction as the mitigated emissions would be below the applicable SLOAPCD thresholds. The proposed project would also result in less than significant operational impacts. A project that does not exceed applicable SLOAPCD thresholds and is consistent with the 2001 CAP would not be considered to significantly contribute to a cumulative impact on the air shed. Conversely, a project that exceeds applicable SLOAPCD significance thresholds or is found to be inconsistent with the CAP would result in significant cumulative impacts. As discussed in Section 3.3, *Air Quality*, the proposed project is consistent with the 2001 CAP and would not exceed SLOAPCD construction (with mitigation) and operational thresholds. The implementation of Mitigation Measure AQ-1a, AQ-1b, AQ-1c, and AQ-1d would reduce the project's contribution to cumulative air quality impacts. As such, the mitigated proposed project's contribution to cumulative impacts on air quality of the region would be less than significant.

### Mitigation Measures

None required.

**Significance Determination:** Less than Significant

## Biological Resources

**Impact 4-4: Concurrent construction and operation of the mitigated proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to biological resources. This impact would be Class III, Less than Significant.**

The geographic scope for potential cumulative impacts to biological resources includes the open-space areas within the City and surrounding environs that support native habitats and plant and wildlife species. The region is located where the Santa Lucia range meets the Pacific Ocean and the region as a whole has historically supported numerous special status, or rare, plant communities and species of plants and animals.

Development and grazing in the region has substantially altered native habitats and adversely affected native plant and wildlife. Those disturbances have resulted in the loss of open space and the degradation of natural areas that historically supported populations of unique or rare species and habitats. The majority of projects listed in **Table 4-1** are located in areas that are already substantially developed, or the sites have previously been altered due to grading or agricultural practices, and would not contribute significantly to direct impacts to biological resources. Project 22, the Cayucos Sustainable Water Project, is the only other major project that is occurring in undeveloped habitat. However, design features and mitigation measures for that project would reduce impacts to special-status species, such as California red-legged frog, nesting and migratory birds, and the club-haired mariposa lily (Firma Consultants, 2017). As such, the collective impact of those projects would not be considered cumulatively considerable.

When added to the cumulative scenario described above, the effects of the proposed project would contribute incrementally to the cumulative impacts on biological resources. Only the WRF treatment facility would represent a permanent incremental change that would alter the existing natural habitat in the hillsides surrounding Morro Bay. The majority of the other proposed project components would be constructed within developed areas and consist of pipelines that would be constructed underground and would have no long-term impacts. The proposed pipeline along Morro Creek could have temporary impacts to riparian habitat. The proposed injection and monitoring wells could have relatively small impacts to wetland and riparian habitat that could be avoided with implementation of siting criteria or mitigated with compensatory restoration. The implementation of **Mitigation Measures BIO-1** through **BIO-10** would reduce the proposed project's contribution to cumulative biological resources impacts. Therefore, when the mitigated proposed project is considered in addition to the anticipated impacts of other projects in the cumulative scenario, the proposed project's incremental contribution to biological resources impacts would be less than significant.

### ***Mitigation Measures***

None required.

**Significance Determination:** Less than Significant

## Cultural Resources

**Impact 4-5: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative long-term impacts to cultural resources. This impact would be Class I, Significant and Unavoidable.**

The geographic scope for potential cumulative impacts to prehistoric cultural resources and human remains includes the proposed project area and the coastal portions of the ethnographic territory of the Salinan and Northern Chumash (from a point just south of Lucia, California to the southern boundary of the County), which contains similar resources to those found within and near the proposed project area. The geographic scope for potential cumulative impacts to historic-era cultural resources includes the proposed project area, the City, and general vicinity, which share a common history and heritage. The geographic scope for potential cumulative impacts to paleontological resources includes the proposed project area, the City, and general vicinity, which contains similar geologic units and has similar paleontological sensitivity. The temporal scope for cumulative impacts to cultural resources encompasses both short-term and long-term cumulative impacts of the proposed project, in conjunction with other cumulative projects in the area.

The proposed project area is located in the City and an unincorporated area of the County. The proposed project area and surrounding vicinity have been inhabited by Native Americans since at least the Paleo-Indian Period (ca. 10,000 years ago) and contains a significant archaeological record with a number of important resources that represent the cultural traditions of Native American Tribes. Those resources include village sites, aboriginal cemeteries, house floors, well-developed middens, lithic procurement stations/quarries, and flaked and ground stone scatters, and contribute to our understanding of substance, settlement, and ecology in prehistoric times. Human burials recovered from a site on the Pecho Coast represent some of the oldest human remains encountered in California. Historic-era exploration of the central coast and Morro Bay began in 1542 with permanent occupation of Morro Bay beginning in 1864. Historic-era resources include those related to historical land uses of the region and the founding of Morro Bay. Resources related to early settlement, agricultural grazing, sea-faring commerce, commercial fishing, tourism, and military uses contribute to our understanding of historic-era exploration and occupation of the region. Geologic units underlying the project area and vicinity have low or no paleontological sensitivity, however, some sediments (alluvial gravel [Qa] and beach and dune sand [Qs]) increase in sensitivity at depth where older fossil-bearing sediments could be encountered.

Many of the cultural resources within the geographic scope have already been subjected to impacts as a result of past projects, including the introduction of residential and commercial development; energy, military, and recreational facilities; and wastewater treatment and other infrastructure. Projects undertaken before environmental laws such as CEQA were in place may not have considered, or mitigated, significant impacts to cultural resources, and may have resulted in damage to important cultural resources, including prehistoric, historic-era, and paleontological

resources, and human remains. Projects that have recently been completed, are currently under construction, or are foreseeable at or near the project area, may impact cultural resources. The majority of projects listed in **Table 4-1** would include some level of ground disturbance and would have the potential to impact cultural resources. A number of prehistoric archaeological resources have been documented within the geographic scope of this analysis. The coastline contains known prehistoric resources with significant cultural constituents and human remains, some of which may be impacted by past, present, and future projects. There is also the potential for unknown prehistoric, historic-era, and paleontological resources, and human remains, to be disturbed during project-related ground disturbance of past, present, and future projects. Those projects may also bring additional people (*e.g.*, work crews, residents, tourists) into the area that may result in increased rates of vandalism that may directly or indirectly impact resources.

When considered in combination with the impacts of other projects in the cumulative scenario, the proposed project's incremental contribution to impacts on historical resources, unique archaeological resources, and human remains would be cumulatively considerable and therefore significant. Although **Mitigation Measures CUL-1** through **CUL-9** and **CUL-14**, which are described in detail in Section 3.5, "Cultural Resources," would reduce the significance of the impacts to the degree feasible, the only method to fully mitigate those impacts would be complete avoidance of any future project activity; therefore, no feasible mitigation exists that would reduce the proposed project's contribution to less than significant.

Impacts to unique paleontological resources or geologic features would be reduced to less than significant with the implementation of **Mitigation Measures CUL-10** through **CUL-13**, which require retention of a Qualified Paleontologist, construction worker paleontological resources sensitivity training, and paleontological resources monitoring below 5 feet within paleontologically sensitive sediments. Since it can reasonably be presumed other current and foreseeable projects would be subject to CEQA and would have similar mitigation measures, the proposed project's contribution to cumulative impacts to paleontological resources would not be cumulatively considerable. However, for the reasons outlined in the preceding paragraphs, the overall combined impacts on cultural resources in the geographic scope would be cumulatively considerable even after implementation of mitigation. The proposed project's contribution to this significant cumulative cultural impact would remain significant and unavoidable.

### ***Mitigation Measures***

Implement Mitigation Measures CUL-1 through CUL-14.

**Significance Determination:** Significant and Unavoidable

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## Geology, Soils, and Seismicity

**Impact 4-6: Concurrent construction and operation of the proposed project and related projects in the geographic scope would result in site-specific impacts related to geology, soils, and seismicity, however, when considered together, would not combine to create cumulatively considerable impacts. This impact would be Class III, Less than Significant.**

The geographic scope for potential cumulative impacts to geology, soils, and seismicity includes the proposed project area and areas immediately adjacent. The proposed project area is located in the City and an unincorporated area of the County. The topography of the proposed project area varies from relatively flat near the coast and Highway 1 within the City with occasional drainages, to the foothill and open hillside areas within the unincorporated County portions of the proposed project area. The proposed project area is considered a seismically active region. The Cambria Fault is the dominant seismic feature in the project area; however, this fault is not designated as active (see **Figure 3.6-1**). The proposed WRF site is located in a State-identified landslide hazard zone (see **Figure 3.6-2**) and all other proposed components are located in liquefaction zones. As described in Chapter 3.6, *Geology, Soils, and Seismicity*, construction of the proposed facilities involves excavation and grading that would disturb soils and potentially expose them to erosion or topsoil loss. The proposed facilities may also be located on expansive soils, which could damage aboveground structures.

Projects in the cumulative scenario listed above (Table 4-1) are similarly subject to the same seismic hazards as the proposed project, such as ground shaking and liquefaction, and other geologic hazards associated with soil instability such as landslides. Based on a comparison of the project locations identified on **Figure 4-1** and the geological hazards within the proposed project area identified on **Figure 3.6-2**, many of the projects located within the geographic scope for geology would be located within a State-identified liquefaction zone. However, the impacts associated with geology, soils and seismicity are site-specific and only affect the site itself and the immediately adjacent areas; as such impacts associated with geology, soils and seismicity for related projects would not combine to create greater cumulative impacts.

Similarly, the impacts of the proposed project associated with geologic conditions are site specific. Preparation of site-specific geotechnical investigations for the proposed project and each cumulative project, as required by the California Building Code, would result in recommendations for structural design criteria to be incorporated into the design of each project facilities, such that geologic hazards would not result in damage to buildings or risk of injury to employees at manned facilities such as the proposed WRF. When considered together with related projects, these site-specific impacts would not combine to create greater cumulative impacts due to geology, soils, or seismicity. Therefore, the proposed project's impacts to geology and soils would not be cumulatively considerable. Impacts would be less than significant.

### ***Mitigation Measures***

None required



**Significance Determination:** Less than Significant

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## Greenhouse Gases and Energy

**Impact 4-7: Concurrent construction and operation of the proposed project and related projects would not result in global cumulative impacts to greenhouse gas emissions and energy. This impact would be Class III, Less than Significant.**

The geographic scope for greenhouse gas emissions is global. The geographic scope for energy includes the service areas for the energy providers within the proposed project area. Please refer to Chapter 3.7, Greenhouse Gas Emissions and Energy, for a cumulative analysis of GHG impacts, which are by definition cumulative. Regarding energy usage, the proposed project would result in minimal demand for gasoline and diesel resources relative to the State's annual fuel usage for construction.

When combined, all of the projects identified within **Table 4-1** could contribute to the geographic scope for energy. All of the projects in the geographic scope would require energy for construction and/or operation. For these reasons, the combined effects from all projects within the geographic scope related to energy could be cumulatively considerable.

When added to the cumulative scenario, the effects of the proposed project would not contribute incrementally to cumulative impacts on energy. Although the proposed project would involve the use of increased electricity and fuel during construction and operation, the amounts would be accommodated by existing service providers and would result in a minimal increase in gas and diesel demand compared to the State's annual fuel usage program. The Proposed Program would be consistent with State and federal energy standards and would not result in wasteful, inefficient, and unnecessary consumption of energy or transportation fuel. Therefore, impacts would not be cumulatively considerable. Impacts would be less than significant.

### ***Mitigation Measures***

None required.

**Significance Determination:** Less than Significant.

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## Hazards and Hazardous Materials

**Impact 4-8: Concurrent construction and operation of the mitigated proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to emergency response plans. This impact would be Class III, Less than Significant.**

The geographic scope for potential cumulative impacts related to hazards and hazardous materials includes the existing WWTP site, the preferred WRF site, and the areas for the potential alignments for the collection and distribution systems; the immediate area surrounding these locations; and the area within 0.25 mile of a school that would also be within 0.25 mile of one of the listed above facilities. Asbestos-containing materials (ACM) and lead-based paint (LBP) have been determined to present in the existing WWTP facility and would be required to be removed prior to demolition in accordance with 8 CCR sections 1529 and 1532.1. Based on the results of the database searches, there are 13 Leaking Underground Storage Tank (LUST) sites designated as completed; one military evaluation site undergoing annual inspection; and one completed cleanup program site (SWRCB, 2017; DTSC, 2017a). There are currently no open active cases within the proposed project area or within 0.25-mile of the proposed project area. Six schools and five daycares are located within 0.25-mile of the proposed project facilities, with the closest school being Morro Bay High School and the closest daycare being the Morro Bay United Methodist Center. The City does not have a local airport or private airstrip within its boundaries and, as such, is not included in an airport land use compatibility plan. Further, the City is not located in a very high fire hazard severity zone and does not contain the type of vegetation that present a fire risk; therefore, the potential for wildfire is relatively low. The City, in coordination with the County, has the Multi-Hazard Emergency Response Plan in place, which includes emergency evacuation plans and routes, to be implemented in the event of an emergency.

As described in Chapter 3.8, Hazards and Hazardous Materials, compliance with applicable hazardous material laws and regulations during construction, and implementation of a hazardous materials business plan (HMBP) during operation would reduce potential impacts related to the transport, use and disposal of hazardous materials, as well as the accidental release of hazardous materials resulting from the proposed project to a less than significant level. During construction, the proposed project would comply with all pertinent hazardous waste regulations to avoid potential hazardous material releases that could be harmful to nearby schools and daycares, especially to Morro Bay High School and the Morro Bay United Methodist Center. Since the City is not included in an airport compatibility land use plan nor located in a designated very high fire hazard severity zone, implementation of the proposed project would not result in significant impacts related to airports or wildfires. However, construction of the proposed project facilities would occur within or adjacent to roadways, which could affect ingress and egress such that an emergency response plan is impacted. Implementation of **Mitigation Measure TRAF-1** would require the preparation and implementation of a Traffic Control Plan, where construction contractors would be required to notify emergency responders including the City's fire department, police department and ambulances of planned road closures and roadway blockages.

Projects in the cumulative scenario listed above in Table 4-1 have the potential to be affected by

or compound the effects of hazards and hazardous materials within the geographic scope. Projects that would be located directly adjacent to the proposed project facilities and could result in cumulative hazards impacts include cumulative projects 2, 3, 5, 6, 8, 15, 17, and 22. Similar to the proposed project, construction of those projects in the cumulative scenario would temporarily require the transport, use, and disposal of hazardous materials including gasoline, diesel fuel, hydraulic fluids, paint, and other similarly related materials, which could occur within 0.25-mile of a school or daycare. However, those cumulative projects would be required to comply with the same applicable federal, State and local regulations regarding the handling, storage, transportation, and disposal of hazardous materials and proper handling of such materials near schools and daycares. In addition, since the City is not included in an airport compatibility land use plan nor located in a designated very high fire hazard severity zone, implementation of these cumulative project in combination would not result in significant cumulative impacts related to airports or wildfires. However, given the urban nature of the proposed project area and the close proximity of the listed above projects, construction of those projects have the potential to require roadway closures or block roadways and/or driveways and collectively interfere with emergency response plans. When considered together, the related projects' contribution to the cumulative scenario could be cumulatively considerable.

When added to the cumulative scenario described above, the effects of the proposed project would contribute incrementally to the cumulative impacts related to hazards and hazardous materials. Construction of some of the proposed project facilities would require lane closures and could block roadway or driveway access. However, **Mitigation Measures TRAF-1** would require timely notification of local emergency responders regarding any planned lane closures or blocked access to roadways or driveways. That mitigation measure would ensure construction of the proposed project facilities does not significantly interfere with an existing emergency response plan and would reduce the proposed project's contribution to the cumulative scenario to less than significant.

### ***Mitigation Measures***

None required.

**Significance Determination:** Less than Significant

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## Hydrology and Water Quality

**Impact 4-9: Concurrent construction and operation of the proposed project and related projects in the Morro Creek and Morro Bay watersheds and Morro Valley Groundwater Basin would not result in cumulatively considerable impacts. This impact would be Class III, Less than Significant.**

The geographic scope for the cumulative analysis of hydrology and water quality is the Morro Creek and Morro Bay Watersheds for surface water and the Morro Valley Groundwater Basin for groundwater. Concurrent construction of the proposed project with the identified cumulative

projects located within this hydrologic basin could result in temporary impacts to hydrology and water quality through increased erosion and subsequent sedimentation, with impacts to local drainages and/or storm drain capacity, or to groundwater supply or water quality, if not managed appropriately. Impacts to surface water quality from construction activities that result in the inadvertent release of fuels or other hazardous materials to stream channels or storm drains, or discharge from excavation dewatering activities are discussed above in Hazards and Hazardous Materials. Other ground disturbing projects in the watershed that could impact hydrology and water quality during construction activities include the various residential and commercial development projects listed in **Table 4-1**, above, as well as the Morro Bay High School modifications and projects associated with the Cayucos Sustainable Water Project.

As described in Chapter 3.9, Hydrology and Water Quality, the City would be required to develop and implement a SWPPP in compliance with the SWRCB NPDES General Construction Permit for construction storm water runoff and comply with SWRCB Low-Threat General WDRs for discharge of construction dewatering, including development of a discharge monitoring plan (DMP). The SWPPP, General WDRs, and DMP would include BMPs to reduce the impact of construction of the proposed project to surface water and groundwater quality to less than significant levels. Similarly, the current and future projects that would disturb more than one acre, would also be required to comply with the NPDES General Construction Permit requirements and any applicable WDRs to mitigate the effects of construction activities to surface water and groundwater. In addition, the proposed project and all other ground disturbing projects in Morro Bay would be subject to the BMPs contained in the City's Storm Water Management Plan (SWMP). Those construction permit requirements are designed to protect water quality on a watershed basis and as such, the contribution of the proposed project to short-term hydrology and water quality impacts is not cumulatively considerable.

Likewise, once constructed, all of the cumulative projects would be subject to the same drainage control requirements as the proposed project to ensure any potential sources of stormwater runoff pollution are addressed through onsite drainage control features which could include treatment prior to offsite discharge. Implementation of those drainage control requirements, which include the regionally based SWMP to comply with the NPDES MS4 permit, would ensure new or replaced impervious surfaces associated with the cumulative projects would require drainage control requirements that effectively reduce water quality impacts to less than significant levels. Therefore, the proposed project's contribution would not be considered cumulatively considerable.

The proposed project includes the injection of advanced treated recycled water into the aquifer in the Morro Valley Groundwater Basin. Cumulative Project 22, Los Osos Wastewater Project, is not located in the Morro Valley Groundwater Basin and, therefore, could not result in cumulative impacts when combined with the proposed project. Cumulative Project 27, Cayucos Sustainable Water Project, is located within the Morro Valley Groundwater Basin and does include treating and recycling wastewater. However, the Cayucos Sustainable Water Project would use the water for surface irrigation and does not include the subsurface injection of treated water into the aquifer. Therefore, the Cayucos Sustainable Water Project could not result in cumulative impacts when combined with the proposed project. None of the other cumulative projects include the

injection of water into the aquifer. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the proposed project's incremental contribution to impacts related to the injection of treated water would not be cumulatively considerable.

The proposed project would reduce the volume of wastewater from the current levels discharged to the ocean outfall. In addition, in the event wet weather conditions prevent the injection of the advanced treated recycled water into the aquifer and require discharge to the ocean outfall, the discharge water would be tertiary treated recycled water. The water discharged by the proposed project would be of better water quality than the currently discharged wastewater that is treated only to secondary levels, and at peak flows a blend of primary and secondary treated wastewater. Therefore, the proposed project would result in a beneficial impact related to discharge to the outfall and cannot contribute to cumulatively considerable impacts when considered in addition to the anticipated impacts of other projects in the cumulative scenario.

### ***Mitigation Measures***

None required.

**Significance Determination:** Less than Significant

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## Land Use and Planning

**Impact 4-10: Concurrent construction and operation of the proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to land use and planning. This impact would be Class III, Less than Significant.**

The geographic context for the cumulative analysis of impacts to land use and planning is the City and County and generally within the immediate vicinity of the proposed project. In order to contribute to a cumulative impact that would physically divide an established community, the other projects would need to be immediately adjacent and constructed in a way that would create a linear physical barrier that would divide the community. While there are a variety of cumulative projects identified in **Table 4-1**, very few are located within the immediate vicinity of the proposed project sites and none are located immediately adjacent or in a configuration that would create any physical barriers that would divide an established community.

In addition, development projects would be required to be consistent with the existing General Plan and Local Coastal Program land use designations and applicable zoning designations. The City and the County would review each cumulative project as part of their individual development review processes to ensure there is no conflict with the applicable policies of their General Plan, Local Coastal Program and Zoning Ordinances unless there is a proposed amendment to the General Plan, Local Coastal Program or Zoning Ordinance submitted with the project application. At the time an amendment to the General Plan, Local Coastal Program or

Zoning Ordinance is submitted, the City and County would need to evaluate if the proposed change would result in environmental impacts. With the safeguard of the development review process, the cumulative projects, in conjunction with the proposed project, would not result in foreseeable environmental impacts associated with creating conflicts with applicable land use plans, policies or regulations. Impacts would be considered less than significant.

### ***Mitigation Measures***

None Required.

**Significance Determination:** Less Than Significant.

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## Noise and Vibration

**Impact 4-11: Concurrent construction and operation of the mitigated proposed project and adjacent related projects would not combine to create cumulatively considerable impacts to noise and vibration. This impact would be Class III, Less than Significant.**

The geographic context for changes in the noise and vibration environment due to development of the proposed project would be localized in urban, commercial and industrial areas of the City and open space in the County. In order to contribute to a cumulative construction noise and vibration impact, another project in close proximity would have to be constructed at the same time as the proposed project. There are numerous projects in several locations near the proposed project, currently in the planning stages that could be constructed in the foreseeable future. The largest projects near the proposed project area are the Morro Bay High School Project, Sonic Restaurant Project, Sunset Townhomes Project, Morro Creek Bridge Project and 10-Lot Subdivision Project.

As discussed in Chapter 3.11, Noise and Vibration, construction activities related to the proposed project would not expose off-site sensitive receptors to vibration levels that would result in either human annoyance or building damage. In order for a cumulative vibration impact to occur, equipment used to construct the proposed project would have to operate within at least 100 feet of a neighboring project's construction equipment. The proposed project construction areas are not within 100 feet of any known cumulative projects and by itself would not expose nearby sensitive receptors to excessive vibration levels. Therefore, the proposed project would result in a less than significance cumulative impact related to construction vibration.

As discussed in Chapter 3.11, Noise and Vibration, construction activities associated with the construction of the proposed injection wells in IPR East and IPR West could expose nearby sensitive receptors to noise levels that could exceed noise standards found in the City's code or result in a substantial, temporary or periodic noise increase. If project-related activities were to coincide with construction of another cumulative project shown in **Figure 4-1** development, then the combined effect could result in the exposure of off-site sensitive receptors to higher noise levels than what was predicted under each of the proposed project components. As shown in

**Figure 4-1**, the Sonic Restaurant, Sunset Townhomes, 75-Room Hotel, Silver City Mobile Home Park Morro Bay Landing project could be under construction in the vicinity of the injection well areas (*i.e.*, IPR East and IPR West). Although construction noise is temporary in nature, it is reasonably foreseeable those cumulative projects could occur in the vicinity of the proposed project areas simultaneously. Noise resulting from simultaneous construction of those projects could be a potentially significant cumulative impact. Given the size and scale of the proposed project, construction activities associated with the proposed project could have a cumulative considerable contribution to the impact, and the cumulative impact could be potentially significant.

However, with implementation of **Mitigation Measure 3.11-1** the project's impact would be reduced to a less than significant level by requiring the City to prepare a Construction Noise Reduction Plan. In addition, as discussed in Chapter 3.11, construction of injection and monitoring wells require 24/7 drilling. None of the proposed cumulative projects shown in **Figure 4-1** are expected to require 24-hour construction. As such the proposed project's impacts would not combine to create cumulatively considerable impacts due to 24-hour construction.

The proposed project components are either located underground or distant from sensitive receptors, with the exception of the lift station and injection/monitoring wells. Those facilities would be designed to meet the City's standards for operational daytime and nighttime noise levels at the property boundary. In addition, implementation of **Mitigation Measure 3.11-2** would ensure testing is conducted to ensure the injection wells do not exceed such applicable noise standards. With that mitigation, the proposed project would not have a considerable contribution to the cumulative noise environment. Impacts would be considered less than significant.

### ***Mitigation Measures***

None required

**Significance Determination:** Less than Significant

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## Public Services

**Impact 4-13: Concurrent construction and operation of the proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to public services. This impact would be Class III, Less than Significant.**

The geographic scope for the proposed project is the City and an unincorporated area of the County and associated fire and police protection, schools, hospitals, and parks. The proposed project would construct and operate a WRF, lift station, groundwater injection wells, and conveyance pipelines within the City and an unincorporated area of the County. As described in Chapter 3.13 Public Services, implementation of the proposed project would not involve the construction or operation of new residential or commercial uses, where those uses could directly

or indirectly generate population growth within the City or County and, therefore, would not increase the need for fire or police protection services or increase the usage of schools, libraries, hospitals, and parks. Therefore, development of the proposed project would not cause an adverse effect on public services within the City and unincorporated areas of the County.

When combined, projects in the cumulative scenario listed above in Table 4-1 have the potential to increase demand and usage of public services and recreational facilities in the City. Development of residential uses, such as Projects 4, 5, 7, 8, and 9, within the proposed project area would generate population growth, which in turn would increase the need and usage of fire and police protection, schools, hospitals, parks and recreational facilities. Development of commercial uses would not directly result in population growth, which would increase the need for additional schools, hospital, and parks, but may require additional fire and police protection services to ensure the safety of the facilities. Thus, impacts to public services due to related projects could be cumulatively considerable. However, given the proposed project would not involve construction or operation of new residential or commercial uses and would not increase the need or usage of public services and recreational facilities, the proposed project's contribution to cumulative impacts to public services would not be cumulatively considerable. Impacts would be considered less than significant.

### ***Mitigation Measures***

None required

**Significance Determination:** Less than Significant.

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## Traffic and Transportation

**Impact 4-14: Concurrent construction of the mitigated proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to traffic and transportation. This impact would be Class III, Less than Significant.**

The geographic scope for potential cumulative impacts to traffic and transportation is the regional circulation system and local roadways within the City. That includes public rights-of-way and bicycle facilities, including bike paths, lanes, and trails. The geographic scope includes regional roadways, consisting of SR 1 and SR 41 and the local roadways within the City, which pass through the proposed project area. The primary local roadways which serve the proposed project area include South Bay Boulevard, Quintana Road, and Atascadero Road. Additionally, a network of bicycle lanes extends throughout the geographic scope and provides travel corridors for alternative transportation and pedestrians, as shown on **Figures 3.14-2**. The proposed project includes the construction and operation of a new WRF, collection and conveyance facilities, a lift station, IPR injection and monitoring wells, and the decommissioning of the existing WWTP, where some of those features would affect or intersect with the local and regional transportation networks. As discussed in Section 3.4, Transportation and Traffic, while construction activities



associated with the proposed WRF and the decommission of the WWTP would generate additional truck and vehicle trips on the regional and local roadways, the increase to existing traffic volumes would not be substantial and would not cause a significant increase in delay times. However, construction of proposed project's collection and conveyance facilities and IPR injection and monitoring wells would occur within public rights-of-way, which would temporarily impede traffic flow through road closures. With required lane closures, construction of the proposed project collection and conveyance facilities and IPR injection and monitoring wells could introduce roadway hazards to passing motorists, as well as delay emergency vehicle response times or otherwise disrupt delivery of emergency services that use the regional and local roadways. Furthermore, regarding public transit and bicycle transportation, construction of the proposed project's collection and conveyance facilities and IPR injection and monitoring wells could also disrupt the existing public transit routes and could result in bicycle lane closures within the City.

Similar to the proposed project, the projects listed in **Table 4-1** would also have the capability to generate additional truck and vehicle trips on the regional and local circulation systems within the City. The amount of traffic that could be generated depends on the type and size of the project. The majority of the cumulative projects listed in **Table 4-1** consist of residential and commercial projects, which would consistently contribute large amounts of additional vehicles to the regional and local circulation systems during construction and operation. Given the different types and size of the projects included in the cumulative scenario, it is reasonable to assume that when considering the amounts of additional truck and vehicle trips generated by all of the cumulative projects during construction and operation, a potentially significant cumulative impact could occur to the local and regional circulation systems. In addition, with the contribution of additional trips added by each project, existing transit routes could experience increased congestion and slower overall travel times. Furthermore, if any of the listed cumulative projects involve partial or full lane closures, then a significant cumulative impact could occur if multiple projects required simultaneous lane closures, which would adversely affect traffic volume levels resulting in increased congestion, and could restrict or block emergency responders, transit routes, and bicycle lanes within the City. As a result, the combined effects from the construction or operation of projects within the City related to traffic and transportation would be considered cumulatively significant.

When added to the cumulative scenario described above, construction and operation of the proposed project would not substantially increase traffic volumes within the City. While the proposed project would temporarily generate additional truck and vehicle trips within the regional and local circulation systems during construction of the proposed project facilities, traffic levels would not substantially increase and would be temporary in nature as traffic levels would return to pre-construction conditions once construction is complete. Although operational activities would generate additional truck trips on the surrounding local and regional circulation system, the number of truck trips during operation would be minimal and would not cause a significant impact, as described in Section 3.14, Transportation and Traffic. Since the number of truck trips would be minimal during operation of the proposed project, the effects on the surrounding circulation system would be negligible and would not cause existing roadway levels of operation to decrease. Additionally, the proposed project would be required to implement **Mitigation**

**Measure TRAF-1** to reduce all effects to the regional and local circulation system, including existing transit routes, bicycle lanes, and emergency response access, during lane closures to the lowest extent feasible. Therefore, the proposed project's contribution to cumulative impacts to traffic and transportation would not be cumulatively considerable. Impacts would be less than significant.

### ***Mitigation Measures***

None required

**Significance Determination:** Less than Significant

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## Tribal Cultural Resources

**Impact 4-15: The proposed project would not affect a Tribal Cultural Resource and when considered together with related projects, would not result in a cumulatively considerable impact to Tribal Cultural Resources. There would be no impact.**

The geographic scope for potential cumulative impacts to tribal cultural resources includes the project area and the coastal portions of the ethnographic territory of the Salinan and Northern Chumash (from a point just south of Lucia, California to the southern boundary of San Luis Obispo County), which contains similar resources to those found within and near the project area. The temporal scope for cumulative impacts to cultural resources encompasses both short-term and long-term cumulative impacts of the proposed project, in conjunction with other cumulative projects in the area.

As discussed in Chapter 3.15, Tribal Cultural Resources, no tribal cultural resources as defined in Public Resources Code Section 21074 were identified within the project area. No impact would occur and the proposed project would not cause or contribute to any potential significant cumulative impact to such resources.

### ***Mitigation Measures***

None required

**Significance Determination:** No Impact

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## Utilities and Service Systems

**Impact 4-16: Concurrent construction and operation of the proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to utilities and service systems. This impact would be Class III, Less than Significant.**

The geographic scope for potential cumulative impacts related to utilities and service systems includes all projects within same utility service areas as the proposed project. The proposed project is located within Morro Bay Water Planning Area (WPA) and the City wastewater service area. The San Luis Obispo Flood Control and Water Conservation District and City handle storm drains in the project area. The County Integrated Waste Management Authority (IWMA) collects solid waste in the area; the Chicago Grade Landfill and Cold Canyon Landfill are the closest landfill facilities to the proposed project site. The proposed project would result in less than significant impacts to wastewater treatment; all portable toilet waste generated during construction would be appropriately collected and treated; and the proposed WRF would comply with all wastewater treatment regulations during operation. The proposed project would not result in significant impacts to stormwater drainage facilities; the WRF would be designed to minimize stormwater runoff during operation in accordance with CCRWQCB post-construction stormwater management requirements (R3-2013-0032) and the City's SWMP. The proposed project would require minimal water demand during construction, which would be offset by the new water supply provided by the WRF. Compliance with CalGreen and City of Morro Bay construction waste diversion requirements would result in less than significant impacts to landfill capacity and solid waste regulation.

When combined, projects in the cumulative scenario listed above (**Table 4-1**) have the potential to affect utilities and service systems in the geographic scope. All projects in **Table 4-1** except Project 23, 25, and 27 would be located within the Morro Bay WPA. All projects would be located within the service area of the San Luis Obispo IWMA and in vicinity of the Chicago Grade and Cold Canyon landfills. Similar to the proposed project, all portable toilet waste generated during construction would be appropriately collected and treated, and projects would be required to secure an agreement from the City to ensure their wastewater demand would be accommodated. Project 27 is the only cumulative project that would involve future construction of a wastewater treatment facility, the impacts of which have been analyzed per CEQA requirements. Similar to the proposed project, all development projects could have a substantial impact on stormwater drainage facilities but be designed to minimize stormwater runoff during operation in accordance with CCRWQCB post-construction stormwater management requirements (R3-2013-0032). With the exception of the proposed bridges (Projects 24 and 25) and the bicycle path and pedestrian corridor (Project 26), all projects, especially construction and residential projects, would likely generate operational water demand. However, supplies in both the Morro Bay WPA and the City are expected to exceed demand in the future. Estimated water demand was calculated with the accommodation of anticipated future development, some of which is represented by the projects in Table 4-1. Similar to the proposed project, compliance with applicable solid waste regulations including CalGreen and City construction waste diversion requirements would result in less than significant impacts to landfill capacity and solid waste regulations. Thus, the combined utility and service system effects from other projects within the geographic scope of the utilities and service systems analysis would not be cumulatively considerable.

When added to the cumulative scenario described above, the effects of the proposed project would not contribute incrementally to the cumulative impacts on utilities and service systems. Impacts would be considered less than significant.

## **Mitigation Measures**

None required.

**Significance Determination:** Less than significant

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## References

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# CHAPTER 5

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## Growth Inducement

### 5.1 Introduction

Subdivision 15126.2(d) of the *CEQA Guidelines* requires an EIR evaluate the growth inducing impacts of a proposed action. The subdivision states:

*Discuss the way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

A project can have direct or indirect growth inducement potential. Direct growth inducement would result if a project involved construction of new housing. A project can have indirect growth inducement if it would establish substantial new permanent employment opportunities (e.g., commercial, industrial or governmental enterprises) or if it would involve a substantial construction effort with substantial short-term employment opportunities and indirectly stimulate the need for additional housing and services to support the new employment demand. A project would also have an indirect growth inducement effect if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service.

The proposed project does not include the construction of new housing. As such, the proposed project would not have direct growth inducement potential. The proposed project does have the potential to result in indirect growth inducement effects based on the removal of an obstacle to growth, either wastewater treatment capacity or water supply, both of which are required public services. As such, based on the CEQA definition above, assessing the growth-inducement potential of the proposed project involves answering the question: “Will implementation of the proposed project indirectly support economic or population growth, or the construction of additional housing?”

Water supply and wastewater treatment capacity are two of the chief, though not the only, public services needed to support growth and development. A water or wastewater treatment service

capacity limitation could constrain future development, particularly if coupled with strong community policy. The proposed project would provide wastewater treatment services for the City of Morro Bay (City) and potentially, though not anticipated, additional surrounding communities or customers. The existing wastewater treatment facility, the Morro Bay-Cayucos WWTP, would be replaced by the proposed project, the WRF. The WRF would treat a maximum peak daily flow of 2.75 million gallons per day (MGD) and maximum average annual daily flow rate of 0.97 MGD. The WRF would produce recycled water to be used for replenishment of the groundwater basin in the Morro Valley, and could be used to augment existing water supplies to serve future development under the City's General Plan. The size of the proposed project has been designed to meet the future needs of development under the General Plan, and would not be oversized to accommodate additional unplanned growth. While adequate wastewater treatment capacity and water supply play a role in supporting growth in the City, it would not be the single impetus to such growth. Factors such as the General Plan and policies of the City and the availability of public schools and transportation services also influence business and residential or population growth in the planning area. Economic factors, in particular, greatly affect development rates and locations. The proposed project is not anticipated to promote growth beyond what is already described and accounted for in the City's current General Plan or the completely revised General Plan being processed by the City.

## **5.2 Methodology**

As indicated in the *CEQA Guidelines* excerpt above, growth inducement itself is not necessarily an adverse impact. Rather, it is the potential consequences of growth, the secondary effects of growth, which may result in environmental impacts. Potential secondary effects of growth include increased demand on other public services, increased traffic and noise, degradation of air quality, loss of plant and animal habitats and the conversion of agriculture and open space to developed uses. Growth inducement may result in adverse impacts if the growth is not consistent with local land use plans and growth management plans and policies for the area; this "disorderly" growth could indirectly result in additional adverse environmental impacts. Thus, it is important to assess the degree to which the growth accommodated by a project would or would not be consistent with applicable land use plans.

This section analyzes the nature and extent of growth inducement potential for the proposed project. The analysis includes an assessment of existing and projected population levels, existing and projected water supply and demand, and existing and projected wastewater flows and treatment capacity, as well as a discussion of conformance with pertinent general plans and City policies. Growth inducement potential is then assessed.

## **5.3 Population Projections**

### **5.3.1 City of Morro Bay Measure F**

In 1984, the City passed Measure F, a voter initiative that limited residential building permits to 70 permits a year and set a population limit of 12,200. Under the measure, development was subject to availability of water resources both in quantity and quality, through the adoption of an

Urban Water Management Plan (UWMP). If water and wastewater treatment capacities become available, then the measure allowed for population increases beyond 12,200, subject to a vote. The measure was passed under the belief the population limit would be reached by the year 2000. The City's population reached 10,350 residents in 2000 and slightly increased to approximately 10,380 residents in 2015 (City of Morro Bay, 2016).

### 5.3.2 San Luis Obispo Council of Governments Projections

The proposed project is located within the City and in unincorporated area of the County of San Luis Obispo (County) adjacent to the City boundaries. The proposed project is located within the jurisdiction of the San Luis Obispo Council of Governments (SLOCOG), which is comprised of the County and the cities of Arroyo Grande, Atascadero, Grover Beach, Morro Bay, Paso Robles, Pismo Beach, and San Luis Obispo. The most recent comprehensive regional planning document SLOCOG adopted was the 2014 Regional Transportation Plan/Sustainable Communities Strategy (2014 RTP/SCS) in April 2015. The 2014 RTP/SCS serves as the blue print for the region's transportation system and strives to further enhance the quality of life, promote sustainability, and offer more mobility options for people and goods within the region over the next 20 years. In preparation for the 2019 update of the 2014 RTP/SCS, SLOCOG conducted and published the 2050 Regional Growth Forecast for the County in June 2017, which includes three growth scenarios (low, medium/most likely, and high) for the individual member jurisdictions and the county overall. In order to forecast the individual member jurisdictions' anticipated population growth, the County's anticipated population growth was first modeled, then portions were allocated to each city within the County using autoregressive forecast models. That method allows a city's shares of that growth to be estimated as a system, as opposed to estimating each city's share of countywide population independently. Table 5-1 lists the medium/most likely scenario population projections for the City, unincorporated portions of the County, and the County overall over the next 30 years.

According to the 2050 Regional Growth Forecast for the County, the County's total population grew by 31,296 persons from 2000 to 2016, from 246,681 people to 277,977 people, a 12.7 percent increase during that time. That represents an approximate annual growth rate of 0.79 percent. As shown in Table 5-1, the County's total population is anticipated to experience a slightly higher growth rate from 2015 through 2050, with a forecasted total growth of 16 percent over the period. That translates to an increase of approximately 44,110 residents within the region over the next 30 years. As shown on Table 5-1, unincorporated areas of the County are forecasted to experience a slightly higher percentage of growth compared to the City over the next 30 years.

According to the 2050 Regional Growth Forecast for the County, the City experienced minimal growth from 2000 with a population of 10,350 people to a population of 10,722 people in 2016, which represents a 3.6 percent increase. As shown in Table 5-1, the City is projected to continue to experience slow growth until 2050, with a forecasted total growth of 15.2 percent over the period, where annual growth would be around 0.5 percent. The growth anticipated for the City is slightly lower than the County overall.



**TABLE 5-1**  
**SLOCOG POPULATION PROJECTIONS (MEDIUM/MOST LIKELY SCENARIO)**

	2015	2020	2025	2030	2035	2040	2045	2050	% Change 2015-2050
City of Morro Bay	10,640	11,025	11,401	11,715	11,961	12,092	12,169	12,261	15.2%
Unincorporated San Luis Obispo County	118,950	123,597	128,279	132,066	134,975	136,539	137,461	138,534	16.5%
San Luis Obispo County	276,375	286,657	297,095	305,692	312,346	315,922	318,025	320,482	16.0%

SOURCE: Beacon Economics and SLOCOG Staff, 2017.

### 5.3.3 City of Morro Bay Population Projections

#### City of Morro Bay General Plan Update

The City's is currently in the process of updating its General Plan and has produced various baseline reports to support the General Plan Update. As part of the baseline reports, the Community Vulnerability and Resilience Assessment (CVRA) includes the most current baseline and future population projections for the City (Michael Baker International, 2017). As shown in **Table 5-2**, the CVRA anticipates the City's population will increase by 13 percent to a total population of 12,015 residents by 2040, which could be reached by as early as 2035. The CVRA also states while Measure F caps the City's population at 12,200 residents, which can only be exceeded by a popular vote, there is the possibility that population growth may exceed these projections and approach or meet the Measure F cap within the next few decades (Michael Baker International, 2017).

#### Draft Master Water Reclamation Plan

The proposed project is located within the City's Water and Wastewater System service area, which generally corresponds to the City's boundaries, approximately four square miles, and approximately ten residences outside the City limits in the Chorro Valley (City of Morro Bay, 2016). The Public Works Department manages the potable water and wastewater systems, which serve a mix of residential and commercial customers with a small portion of industrial customers. The City provides water treatment and distribution, as well as wastewater collection, treatment, and disposal services to residential and commercial customers within its service area. According to the 2015 City of Morro Bay Water and Sewer Rate Studies, prepared by Bartle Wells Associates, the City provides wastewater collection and disposal services to approximately 5,468 residential and 494 commercial units (Bartle Wells Associates, May, 2015). In addition, the City also has a high vacancy rate of 23.3 percent, which suggests many residential units are used as vacation rentals with inconsistent occupation throughout the year. Since tourism usually peaks during the summer months, increased wastewater services is anticipated primarily during the months of July, August, and September.

The draft Master Water Reclamation Plan (MWRP) was prepared in preparation of implementing the proposed project and to fulfill requirements related to planning recycled water infrastructure within the City. Population projections for the City's water and wastewater system service area

for the next 20 years were obtained from the MWRP, also shown in Table 5-2. The MWRP took into consideration the population projections included in the General Plan Update, where the WRF was designed to accommodate that population growth within the City. In addition, the MWRP population growth forecasts refine and supersede the population growth forecasts included in the City's 2015 Urban Water Management Plan (UWMP). An UWMP takes into account projected population growth for the water supplier's service area when determining future available water supply and future anticipated water demand.

**TABLE 5-2**  
**2017 CITY OF MORRO BAY POPULATION PROJECTIONS**

	2015	2020	2025	2030	2035	2040	% Change 2015-2040
2017 CVRA Population Projections <sup>1</sup>	10,640	11,005	11,384	11,615	12,006	12,015	13.0%
2017 MWRP Population Projections <sup>2</sup>	10,284	10,606	10,939	11,282	11,636	12,000	16.7%

SOURCES:

<sup>1</sup> Michael Baker International, 2017

<sup>2</sup> MKN & Associates, 2017

As shown in Table 5-2, the MWRP projects that the City will experience a population increase of 11.3 to 16.7 percent between 2015 and 2040 (City of Morro Bay, 2016). The County's plans project a similar growth rate for the City as the updated projections stated in the 2050 Regional Growth Forecast for San Luis Obispo County.

## 5.4 Existing and Future Wastewater Capacity

The existing WWTP provides wastewater treatment for both the City and the unincorporated community of Cayucos. The existing WWTP has a daily wastewater collection flow of 1.089 MGD. In support of the City's decision to construct a new wastewater facility, a draft Facilities Master Plan (FMP) and the MWRP were prepared to evaluate the design and operations of the proposed WRF to determine the necessary capacity of the facility. The FMP and MWRP for the proposed project took into consideration the planned population projections in the City's General Plan and UWMP and sized the plant to accommodate wastewater flows associated with the expected population of 12,000 in 2040 (see Table 5-2). Based on a future population of 12,000 in 2040, the proposed WRF was designed to treat a maximum average annual daily flow rate of 0.97 MGD, which is a slight decrease in treatment capacity from the existing WWTP. Since the CSD is also building a separate treatment plant, which will allow the current WWTP to be decommissioned once the proposed WRF is built by the City, the proposed WRF has a slightly reduced capacity to reflect that reduction in influent from its service area that would require treatment. With construction and operation of the proposed project, the City would be able to ensure adequate wastewater treatment could be provided through 2040.

## 5.5 Existing and Future Water Supply and Demand

The City's water system relies on three sources of water supply, which include 1) imported water from the State Water Project (SWP) via a contract with the County, 2) groundwater from the Chorro Basin and Morro Valley groundwater basins and 3) the City's desalination facility (City of Morro Bay, 2016). Imported water from the SWP is the primary source of water in the City's water system and consisted of 87.3 percent of the City's water supply in 2015. The City has two existing contracts with the San Luis Obispo County Flood Control and Water Conservation District, both executed in 1992, to receive SWP water limited to 1,313 acre-feet per year (AFY). The availability of imported water supplies is dependent on the amount of precipitation in the watershed, the amount of that precipitation that runs off into the watershed, water use by others in the watershed and the amount of water in storage in the SWP's Lake Oroville at the beginning of the year. Variability in the location, timing, amount and form (rain or snow) of precipitation, as well as how wet or dry the previous year was, produces variability from year to year in the amount of water that is available for the SWP.

Locally, the City's groundwater supplies are pumped from the Chorro and Morro Valley groundwater basins, where the City is limited by their existing groundwater permits to 1,142.5 AFY and 581 AFY, respectively (for a total of 1,723.5 AFY). Groundwater sources comprised 12.7 percent of the City's water supply in 2015. The groundwater basins are currently in overdraft conditions due to the extended drought. Additionally, the nitrate concentrations in both basins exceed the Primary Maximum Contaminant Levels for drinking water. The City has a water treatment system that can remove nitrates from Morro Valley groundwater. However, there is no treatment process in place at the Chorro Valley wells. However, the 2015 UMWP assumes treatment would be provided at the Chorro Valley wells to meet potable water quality requirements. The City has entitlement to an additional drought buffer of 174 percent which allows the City to receive deliveries up to its full allocation of 1,313 AFY when SWP water deliveries are reduced due to drought conditions. In addition to imported water and groundwater, the City's desalination plant could supplement the water supply during SWP shutdowns and emergencies.

The 2015 UWMP accounted for the development of a recycled water project that would provide water to meet demand for municipal or agricultural irrigation. The MWRP evaluated various end uses for recycled water, including irrigation, and determined that indirect potable reuse had the highest water supply benefit for the City. According to the MWRP, the City could produce as much as 825 AFY of recycled water from the WRF for indirect potable reuse in the future. By utilizing indirect potable reuse to increase existing groundwater supplies, the City would be able to produce more potable water from its own controlled water source to be used within the City and decrease its dependency on the water supplied by the SWP. In addition, by utilizing indirect potable reuse with implementation of the proposed project, the City projects adequate water supply would be available during normal, single-dry, and multiple-dry years to meet anticipated demand within the service area through the planning horizon of 2040. Therefore, implementation of the proposed WRF would not increase the projected amount of water supply anticipated for the City in the future, but would rather increase the percentage of the City's water supply supplied by

groundwater and decrease dependency on water supplied by the SWP. That change would allow the City to increase the reliability of its water supply.

## 5.6 Growth Inducement Potential

### 5.6.1 Direct Growth Inducement Potential

Implementation of the proposed project would not directly induce growth, as it does not propose development of new housing that would attract additional population to the City. Further, implementation of the proposed project would not result in substantial permanent employment that could indirectly induce population growth. Construction activities would create some short-term construction employment opportunities over three years from 2019 to 2022; approximately 120 construction workers would be required for construction of the entire project, where each component would require approximately 12 to 20 construction workers depending on the facility. Construction workers would be drawn from the local and regional work force. The City's existing seasonal and occasional housing stocks would be sufficient to house temporary construction workers, if needed, in addition to local hotel establishments. On a long-term basis, a maximum of four new employees would be required to operate the WRF, while existing City staff would operate the remaining O&M facilities. Thus, operation of the proposed project would be accommodated by the existing work force within the City and surrounding unincorporated areas of the County.

### 5.6.2 Indirect Growth Inducement Potential

The objectives of the proposed project include, but are not limited to, the following:

- Produce tertiary disinfected wastewater in accordance with the 22 California Code of Regulations (CCR) requirements for unrestricted urban irrigation
- Design to produce reclaimed wastewater to augment the City's water supply, by either direct or indirect means, as described in a master water reclamation plan and to maximize funding opportunities

The proposed project aims to achieve these objectives by constructing a new WRF and associated collection and conveyance systems for the City to produce and beneficially reuse advanced treated recycled water per 22 CCR, while meeting or exceeding all wastewater treatment requirements of the State Water Resources Control Board. Further, the proposed project would build groundwater injection wells and associated conveyance systems to allow for the advanced treated recycled water to augment the City's water supply through indirect potable reuse.

## Water Supply

The local jurisdictions that govern land use and development within the proposed project area include the City and County (for unincorporated areas). Those jurisdictions' adopted General Plan documents guide the type, location, and level of land use and development within each respective jurisdiction (see Section 3.10 for land use goals and policies). Those jurisdictions have assessed the growth-related impacts associated with planned land use and growth allowed under their General Plans and the CEQA EIRs they have prepared for those plans. Specifically, the City has already accounted for the development of the proposed project within the 2015 UWMP,

which used the same growth projections as the City's 2014-2019 Housing Element Update, as well as within the FMP and MWRP, which took into account the population projections of the General Plan Update. Thus, the City has taken into account the potential for indirect growth associated with implementation of the proposed project and has assessed and mitigated, as necessary, any growth-related impacts associated with the proposed project in the 2014-2019 Housing Element Update and its CEQA EIR as well as the General Plan Update and its CEQA EIR.

In addition, SLOCOG, the regional authority charged with providing a framework for coordination of orderly regional growth and development, has prepared the 2014 RTP/SCS, which serves as a long-term planning and management plan for the regional transportation system, providing mitigation measures to off-set the impacts of growth projected in the region. The 2014 RTP/SCS was prepared in coordination with the City and has also accounted for any indirect growth associated with the development of the proposed project. Therefore, the proposed project would provide future water system infrastructure within the City, which would support planned population growth that has been identified for the service area.

As stated above, the City has already accounted for the proposed project's additional recycled water supply within the 2015 UWMP, and is required in the City's General Plan, and, therefore, does not represent an additional unanticipated source of supply. The proposed project would allow the City to increase the amount of groundwater used for potable water distribution and decrease its dependency on water supplied from the SWP. The addition of potable water resulting from the proposed project's indirect potable reuse component would reallocate the percentages of the water sources used by the City, but would not exceed the total amount of water supply the City has planned for in the 2015 UMWP. Thus, implementation of the proposed project would not create a new or expanded water supply that could create an indirect growth inducement potential.

## **Wastewater Treatment**

In regards to wastewater treatment, the proposed WRF would treat a maximum average annual daily flow rate of 0.97 MGD, which is a slight decrease in treatment capacity from the existing WWTP, which has average daily wastewater collection flow of 1.089 MGD. The FMP and MWRP for the proposed project took into consideration the planned population projections in the 2015 UWMP and General Plan Update and sized the plant to accommodate wastewater flows associated with the expected population of 12,000 in 2040 (see Table 5-2). In addition, Measure F provides a cap on the City's population at 12,200 residents until increased by the voters. Thus, implementation of the proposed project would not result in additional growth greater than the City has already planned for within its land use planning documents. For those reasons, the proposed project would not remove any obstacles to growth and would not indirectly have a significant impact on growth inducement. As a result, impacts to growth inducement would be less than significant.

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# CHAPTER 6

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## Alternatives Analysis

### 6.1 Introduction

According to the *CEQA Guidelines*, an EIR must describe a reasonable range of alternatives to a project that could feasibly attain most of the basic project objectives, and would avoid or substantially lessen the project's significant environmental effects. This alternatives analysis summarizes the alternatives screening process conducted to identify feasible alternatives that meet project objectives. As required by CEQA and the *CEQA Guidelines*, this analysis first considers which alternatives can meet most of the basic project objectives, and then to what extent those remaining alternatives can avoid or reduce the environmental impacts associated with the project. Information used to select an "environmentally superior alternative" is also provided in this chapter.

#### 6.1.1 CEQA Requirements

Section 15126.6(f) of the *CEQA Guidelines* provides direction on the required alternatives analysis:

*The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making.*

The alternatives may include a different type of project, modification of the project, or suitable alternative project sites. An EIR need not consider every conceivable alternative to a project. Rather, the alternatives must be limited to ones that meet the project objectives, are feasible, and would avoid or substantially lessen at least one of the significant environmental effects of the project. "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. Section 15126.6(b) of the *CEQA Guidelines* states an EIR:

*must identify ways to mitigate or avoid the significant effects that a project may have on the environment, the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these*

*alternatives would impede to some degree the attainment of the project objectives, or would be more costly.*

Section 15126.6(d) of the *CEQA Guidelines* provides further guidance on the extent of the alternatives analysis required:

*The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.*

The EIR must briefly describe the rationale for selection and rejection of alternatives and the information the Lead Agency can rely on when making the selection. It also should identify any alternatives considered but rejected as infeasible by the Lead Agency during the scoping process and briefly explain the reasons for the exclusion. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid any significant environmental effects.

Section 15126.6(e) (1) of the *CEQA Guidelines* also requires the No Project Alternative must be addressed in this analysis. The purpose of evaluating the No Project Alternative is to allow decision-makers to compare the potential consequences of the project with the consequences that would occur without implementation of the project.

Finally, an EIR must identify the environmentally superior alternative. The No Project Alternative may be the environmentally superior alternative to the project based on the minimization or avoidance of physical environmental impacts. However, the No Project Alternative must also achieve the project objectives in order to be selected as the environmentally superior alternative. *CEQA Guidelines* (Section 15126.6(e) (2)) require if the environmentally superior alternative is the No Project Alternative, then the EIR shall identify an environmentally superior alternative among other alternatives.

## 6.1.2 Project Objectives

The primary objectives of the proposed project are as follows:

- All aspects of the proposed project shall be completed ensuring economic value with a special emphasis on minimizing rate payer and City expense
- Communicate proposed project progress including general project status, milestones, and budget/cost information to our community members regularly
- Produce tertiary disinfected wastewater in accordance with the California Code of Regulations (CCR) Title 22 requirements for unrestricted urban irrigation



- Design to produce reclaimed wastewater to augment the City's water supply, by either direct or indirect means, as described in a master water reclamation plan and to maximize funding opportunities
- Include features in the proposed project to maximize the City's opportunities to secure funding and maximize efficiencies, including energy generation and recovery.
- Design to minimize the impacts from contaminants of emerging concern in the future
- Ensure compatibility with neighboring land uses

### 6.1.3 Review of Significant Environmental Impacts

Based on the *CEQA Guidelines*, several factors need to be considered in determining the range of alternatives to be analyzed in this Draft EIR and the level of analytical detail that should be provided for each alternative. Those factors include (1) the nature of the significant impacts of the proposed project; (2) the ability of alternatives to avoid or lessen the significant impacts associated with the proposed project; (3) the ability of the alternatives to meet the objectives of the proposed project; and (4) the feasibility of the alternatives.

The alternatives examined in this chapter could lessen the significant impacts associated with implementation of the proposed project, but would not meet all of the proposed project's objectives. It is important to note significant effort has been made to identify feasible alternatives to study in this Draft EIR that would still meet the proposed project's objectives to the same degree as the proposed project. Prior to the release of the NOP, extensive vetting of alternative sites, potential design approaches, and various environmental considerations led to the project described and being analyzed in this Draft EIR. In effect, that preliminary screening process already considered many alternatives prior to the preparation of this Draft EIR, narrowing the possibility of finding other alternatives that might equally or better meet the proposed project's objectives.

As the Lead Agency, the City will decide whether to proceed with the proposed project or whether to accept or reject any of the alternatives identified in this chapter. As required by the *CEQA Guidelines*, if the City ultimately rejects an alternative, then the rationale for that rejection will be presented in the findings that are required to be made before the Final EIR is certified and action is taken on the proposed project.

This Draft EIR indicates implementation of the proposed project could result in significant and unavoidable impacts to cultural resources that cannot be reduced to less than significant levels, even with mitigation measures. Those are described, as follows:

- **Impact 3.5-1:** The proposed project could cause a substantial adverse change in the significance of a historical or archaeological resource, as defined in *CEQA Guidelines* Section 15064.5. This would be a Class I impact, Significant and Unavoidable.
- **Impact 3.5-3:** The proposed project could disturb human remains during construction, including those interred outside of formal cemeteries. This would be a Class I impact, Significant and Unavoidable.

## 6.2 Alternatives Considered but Rejected

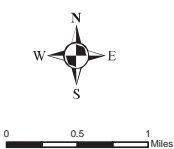
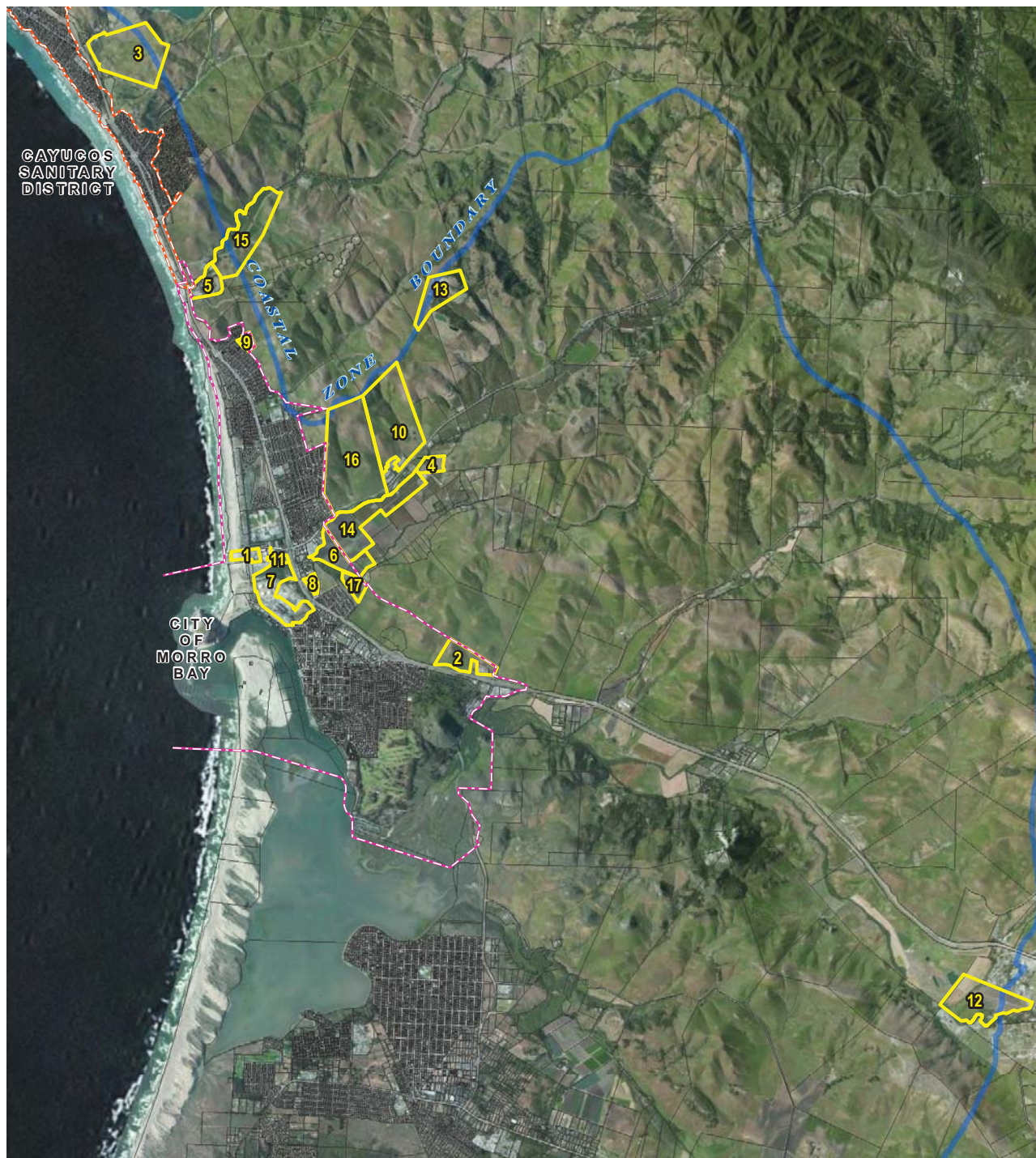
CEQA requires this Draft EIR briefly describe the rationale for selection and rejection of alternatives. The City may make an initial determination as to which alternatives are potentially feasible and, therefore, merit in-depth consideration, and which are clearly infeasible. Alternatives that are remote and speculative, or the effects of which cannot be reasonably predicted, need not be considered (*CEQA Guidelines*, section 15126.6(f)(3)).

### 6.2.1 WRF Location Alternatives

#### WRF Location Screening Process

An extensive alternative screening process was conducted between 2011 and 2016, in which various potential WRF sites were considered. A 2011 Rough Screening Evaluation examined 17 potential sites (**Figure 6-1**), and several siting comparative studies followed to narrow down the site options:

- *City of Morro Bay and Cayucos Sanitary District Wastewater Treatment Plant Upgrade Project, Rough Screening Alternative Sites Evaluation*. Prepared by Dudek for the City of Morro Bay, September 2011.
- *City of Morro Bay and Cayucos Sanitary District Wastewater Treatment Plant Upgrade Project, Fine Screening Alternative Sites Evaluation*. Prepared by Dudek for the City of Morro Bay, November 2011.
- *New Water Reclamation Facility Project, Second Public Draft Options Report*. Prepared by JFR Consulting for the City of Morro Bay Department of Public Services, December 5, 2013.
- *New Water Reclamation Facility Project, Report on Reclamation and Council Recommended WRF Sites*. Prepared by JFR Consulting for the City of Morro Bay Department of Public Services, May 8, 2014.
- *New Water Reclamation Facility Project, Comparative Site Analysis: Regional CMC Facility vs. Rancho Colina*. Prepared by JFR Consulting for the City of Morro Bay Department of Public Services, December 9, 2014.
- *New Water Reclamation Facility Project, Report to City Council on Potential WRF Sites*. Prepared by JFR Consulting for the City of Morro Bay Department of Public Services, April 29, 2016.
- *City of Morro Bay Water Reclamation Facility Project, Updated Site Comparison Report*. Prepared by MKN & Associates, Inc. for the City of Morro Bay, September 2017.



Map #	Site Name	Map #	Site Name
1	Current WWTP Site	9	Panorama Street Site
2	Chorro Valley Site	10	Rancho Colina Site
3	Whale Rock Site	11	Lila Keiser Park Site
4	Highway 41 / Madonna Property	12	California Men's Colony (CMC) Wastewater Facility Site
5	Chevron Oil Facility	13	Power Plant Hillside Tank Farm Site
6	Hayashi or Giannini Properties	14	Additional Highway 41 Properties (Multiple APNs)
7	Power Plant Site	15	1/2 Mile Up Toro Creek Road (Chevron Facility Hillside Site)
8	PG&E / City Property	16	1 Mile Up Atascadero Road (Righetti Property)
		17	APN 068-401-011 (Additional Giannini Property)

City of Morro Bay Sanitary District Service Area  
 Cayucos Sanitary District Service Area

SOURCE: Dudek, 2011

Morro Bay Water Reclamation Facility Project . 150412

**Figure 6-1**  
WRF Alternative Site Locations

Those siting comparative studies considered a combination of environmental, economical, logistical, and engineering factors for each potential site. Factors included: minimizing City and ratepayer costs, avoidance of coastal hazards, minimizing visual impacts, enhancing sustainable use of public resources, complying with the NPDES Permit requirements, providing for a range of treatments and technologies. Those factors were identified and prioritized in part through a public outreach process that included stakeholder interviews and a public workshop.

Public outreach was conducted through stakeholder meetings, stakeholder interviews, and public workshops, which gathered input related to cost, environmental concerns, engineering and design issues, site-related issues, and logistics and process issues. Through that public outreach program, criteria were determined for the siting process, and various studies were conducted to examine the suitability of each site. Some of the criteria included, but was not limited to, compliance with NPDES Permit requirements, distance to the City sewer collection system, avoidance of coastal hazards, minimal visual impacts, and sustainable use of public resources. In order to ensure public involvement during that process, the WRFCAC was created in July 2014 to help oversee and evaluate the siting process.

Five comparative siting studies were performed between 2013 and 2017. Starting with the results of the Rough Screening Evaluation, 17 study sites were first examined for the potential location of the WRF. By December 2013, it was narrowed down to seven study sites (Chevron, Morro Valley, Chorro Valley, CMC Wastewater Treatment Plant site, Power plant – southern portion, Panorama, and Giannini), which ranged in size and number of properties included in each. Finally, the City Council narrowed the sites down to focus on the Morro Valley, Chorro Valley, and Giannini Property in May 2014. Within those three general areas, there were four specific locations: Rancho Colina and Righetti (both in Morro Valley), Tri-W (now called the “South Bay Boulevard” site, in Chorro Valley) and Giannini. Since each site was generally suitable for the proposed WRF, the site study focused on several key issues related to the property ownership, regulatory and permitting, cost and timing, proximity to residential neighbors, and environmental and physical site issues. The conclusion of that study resulted in Rancho Colina having the highest location potential. It should be noted there was also a feasibility analysis performed for a regional facility at the CMC site that could serve the needs of the City and partner agencies; however, it concluded that would not be feasible. Although the CMC Facility would combine all of the regional key agencies including the State, County, City and CSD into a single facility, it was unclear whether such a project could commence operation to meet the required timeline for closing the current WWTP, and there were numerous advantages of the Rancho Colina site. In April 2016, after direction to investigate other potential sites, the list of potential sites was revised to include Rancho Colina, Righetti, Tri-W, Chevron/Toro Creek, and Madonna (another site in Morro Valley). After the 2016 comparative study was completed, the Tri-W site, which became known as the South Bay Boulevard site, was found to be the final site preference, and preliminary planning efforts began at that location based on City Council direction at that time. The CCC staff supports locating the new WRF at the South Bay Boulevard site and has been supportive in the concept of working with the City and, as needed, the County, on a CDP for this facility.

In July 2017, the City Council requested a final site comparison to confirm, from a cost and regulatory perspective, the South Bay Boulevard site would be the preferred site to meet the

City's goals. The 2017 Updated Site Comparison Report included the South Bay Boulevard site, Giannini site, Righetti site, and a site west of Highway 1, such as the existing WWTP site. At the City Council meeting on September 27, 2017, the Council decided to move forward with the South Bay Boulevard site as the preferred site due to the following conclusions:

*there was Council consensus that the Coastal Commission would not permit a project west of Highway 1, the Giannini site had too many issues and no cost advantages, and due to the risk of litigation, the Righetti site was not feasible. There was stated support to proceed with planning and permitting at South Bay Blvd. as the preferred site. (Minutes – Morro Bay City Council Regular Meeting – September 26, 2017).*

## Joint Venture between CSD and Morro Bay

The existing WWTP is jointly owned and operated by the City and CSD. Following the denial of the CDP to upgrade the existing WWTP in its current location, the City's City Council and CSD Board of Directors worked together to pursue a new location that would be suitable to each agency's goals. However, in April 2015, the CSD Board decided to pursue an independent project (CSD Board Resolution No. 2015-1, April 30, 2015). Reasons cited for that decision included:

- Controlling costs and minimizing sewer service rate increases
- Maintaining operational control and efficiency
- Autonomy over management and use of recycled water, a local resource that is critically important to the future sustainability of the region.

Although the City remained open to working with CSD on a joint project after that date, it was clear that idea was not reciprocated by CSD. Subsequently, CSD chose its own site, developed a preliminary project design to meet its more limited needs, and prepared an EIR studying that concept. Subsequent discussions with CSD staff have been cooperative, but have focused on how the two agencies' new projects can best be coordinated in the context of the ultimate decommissioning of the existing WWTP they currently share. CSD staff has also stated the CSD is open to the concept of the City building its own facility adjacent to the CSD's planned facility, if determined to be feasible, but it would be an independent venture the City would need to pursue by itself.

Subsequent analysis by City staff and its technical team determined the pursuit of an independent project at that location would not be cost-effective, primarily because of its distance from the City's wastewater collection system, distance from reclamation opportunities that would benefit the City, and because of potential uncertainties in securing and controlling the site for such a facility.

As such, there is no feasible alternative that includes continuation of the existing joint venture between Morro Bay and CSD to own and operate one combined treatment plant. Similarly, an independent project located adjacent to the CSD's planned facility would require further pipelines to and from the facility when compared to the South Bay Boulevard site, so this option was rejected from further consideration.



## Joint Venture with Los Osos

In the adjacent community of Los Osos, the County recently completed the majority of the connections to the new Los Osos Water Recycling Facility (LOWRF). The LOWRF is receiving less flow than anticipated and may have excess capacity. The feasibility of sending wastewater from the City to the LOWRF for treatment was reviewed. Under this alternative, the City would send its wastewater to the new LOWRF, and the existing WWTP could be decommissioned without building the WRF. The City met with County staff to review information and discuss strategies to connect the City to the LOWRF and considered several factors in this preliminary assessment. Those included: the distance to the LOWRF, capacity of the LOWRF to receive flows and loads from the City and recycled water usage.

The assessment concluded the LOWRF does not have sufficient capacity to treat full wastewater flows from City. While it is possible a portion of the City's flows could be treated at the LOWRF, it would require five miles of additional raw wastewater pipeline and an additional treatment facility with the same organic load capacity as the LOWRF with the full equalization storage initially proposed for the WRF Project. That would either be located at the South Bay Boulevard site or at the LOWRF site, requiring additional property acquisition and would not be more cost effective than the proposed Project. Further, the distance back to the proposed City injection well sites is over 7 miles, so the City would not be able to reuse their effluent per the current plan for recycled water. Therefore, this potential alternative was rejected from further consideration.

### 6.2.2 Corporation Yard Alternative

In October 2017, the City Council refined the proposed project goals to reflect concerns related to cost and the ability to implement the proposed project effectively and in a timely manner. As a result, the proposed project was refined not to include moving the City's Corporation Yard to the preferred WRF location, a concept that had been part of the facility design in the Facility Master Plan. That aspect of the proposed project was removed from the project goals – that is, to design the proposed WRF to allow for other City functions (Minutes – Morro Bay City Council Regular Meeting – October 24, 2017). Thus, the footprint of the proposed project was reduced accordingly with elimination of the Corporation Yard.

This alternative analysis does not consider a WRF design alternative that includes the Corporation Yard, because it would have greater impacts due to a greater footprint and operational activities, and is not required to meet the project objectives.

### 6.2.3 Lift Station Alternatives

A total of eight potential lift station sites were evaluated as part of the offsite facilities for the proposed project. Each of those sites were located along Atascadero Road with two located adjacent to Highway 1 on the north and south of side of Atascadero Road (Alternative Site No. 2 and No. 7), a site located northwest of Lila Keiser Park (Alternative Site No. 3), one within the existing WWTP site (Alternative Site No. 1), one north of the existing WWTP site along Atascadero Road (Alternative Site No. 5) and two east of Highway 1 north and south of Atascadero Road (Alternative Site No. 8 and Site No. 4, respectively).

A set of ten evaluation criteria was established to compare those sites which included, (1) parcel size, location, and availability, (2) parcel ownership, (3) land acquisition, (4) parcel zoning information, (5) potential for community impacts, (6) reuse of existing facilities, (7) benefit to future Capital Improvement Program (CIP) projects, (8) support for WWTP site redevelopment, (9) gravity sewer evaluation and (10) cost and constructability. Each of those eight sites were chosen because they were capable of meeting the City's objective of capturing and conveying flows from the existing wastewater collection system to the proposed project. The potential sites have various zoning designations, including commercial, government, industrial, visitor-serving commercial (motels), and single-family residence and all but Alternative Site No. 1 required parcel land acquisition. Alternative Site No. 1 and No. 5 could possibly reuse existing facilities while the other options could not. Alternative Sites No. 3, 6, and 7 had higher impacts to the surrounding community since they were adjacent to motels, a high school, or a mobile home park. The analysis also determined Alternative Sites No. 2, 4, and 8 could potentially benefit future CIP projects since it would eliminate the length of deficient sewer pipes. Overall, based on a qualitative ranking of each of the 10 criteria, Sites No. 1 and No. 5 ranked highest.

After completion of the screening analysis, a workshop was conducted in September 2015. The City technical staff were able to narrow down the list to the two preferred lift station sites (Alternative Sites No. 1 and No. 5) discussed in this Draft EIR, based on the screening analysis criteria described above. Alternative Site No. 1 (Option 1A) consists of constructing the new lift station on the site of an existing shed located near the City's desalination facility, on the site of the City's Corporation Yard, located on Atascadero Road. This revised location is intended to maximize the opportunity for redevelopment of the existing WWTP site and avoid the need to acquire property by using City owned property. Alternative Site No. 5 (Option 5A) consists of constructing the lift station directly adjacent to Atascadero Road within public right-of-way for all of the facilities. This alternative site shares the benefit of Alternative Site No. 1; it avoids the need and potential risk to the schedule associated with acquiring private property. The other sites would be more expensive due to a requirement for deeper excavation and more pipeline construction, which would lead to potentially greater environmental impacts.

## 6.2.4 Recycled Water Reuse Alternatives

From the beginning of the WRF planning process, there were multiple recycled water reuse alternatives considered for the City customers. Those included urban irrigation, commercial uses, agricultural irrigation, and augmenting groundwater supplies.

Based on the market assessment and hydrogeological screenings conducted, the following four potential recycled water reuse alternatives were analyzed in the 2017 Master Water Reclamation Plan: (1) urban reuse, (2) agricultural exchange, (3) indirect potable reuse – East, and (4) indirect potable reuse – West (MKN & Associates, 2017).

The urban reuse end use would provide recycled water to urban commercial and landscape irrigation uses in the City and to the Morro Bay Golf Course. The reuse end users include City Maintenance Yard, Morro Bay High School, Lila Keiser Park, Morro Bay High School Bus Facility, and south side of Highway 1. All of the end users are located along or near the proposed western pipeline alignment, south and west of Highway 1. The conveyance of the recycled water

would include installation of a 12-inch, 19,140 linear-foot recycled water pipeline and two 30-horsepower (HP) pumps. One of the pumps would be a standby pump.

Agricultural exchange involves the delivery of recycled water to agricultural properties in exchange for groundwater pumped and delivered to the City. There are 43 potential agricultural exchange users in the Morro Valley, primarily along the south side of Highway 41, Morro Creek, and Little Morro Creek, and some along the north side of Highway 41. The majority of crops in the immediate vicinity of the City are avocado with limited orange groves, all of which are sensitive to salts (MKN, 2017). A new well pump would be installed at the landowner's existing well, and a new potable water pipeline would lead back to the City's system. If groundwater is extracted from the upper Morro Valley, then the quality may not require additional treatment. Even though agricultural irrigation is a promising recycled water opportunity due to a number of irrigated agricultural properties concentrated along Highway 41, it was not evaluated further because there is general unwillingness on the part of growers to enter into recycled water contracts with the property owners to reduce groundwater pumping, because of the relative high cost of recycled water compared to pumping. In addition, this alternative did not provide a substantial direct water supply benefit to the City. Other rejected alternatives included groundwater injection for seawater intrusion barrier, streamflow augmentation, and direct potable reuse.

According to the Master Water Reclamation Plan evaluation, rejection of injection for seawater intrusion barrier would take too much water to accomplish and would lose the ability to recapture the groundwater. In addition, it concluded the groundwater recharge and extraction system could also accomplish the same goal of preventing seawater intrusion. Streamflow augmentation did not prove to be a preferred alternative from both the regulatory and water supply benefit perspectives. Because there is little percolation in the Morro and Chorro Creeks, most of the water exist to the ocean and little would be recaptured in the groundwater basin for reuse. The Master Water Reclamation Plan concluded indirect potable reuse had the highest water supply benefit as it could support the majority of the City's current water demand. Indirect potable reuse is evaluated in this Draft EIR as the preferred end use of the WRF. No other alternative would be as effective in meeting the City's project objectives with respect to water reclamation, nor would they reduce one or more identified environmental impacts. For this reason, no alternative reclamation concepts are examined in this Draft EIR.

## **6.3 Project Alternatives**

Because of the previous years of studies and evaluations of a large variety of alternatives, the City has found that there are only three viable alternatives, including the No Project Alternative required by CEQA. As described above in Section 6.1.4.1, the City Council determined there is no feasible alternative location for the proposed WRF because the CCC would not permit a project west of Highway 1, the Giannini site had no cost advantages, and due to risk of litigation the Righetti site is not feasible. As described above in Sections 6.1.4.2 to 6.1.4.4, the Council removed the Corporation Yard from the proposed project in response to public input, alternative lift station alternatives have already been screened, and alternate beneficial end uses of recycled water also have already been considered.



The goal for evaluating alternatives is to identify alternatives that would avoid or lessen the significant environmental effects of the proposed project, while attaining most of the project objectives. Significant impacts of the proposed project include unavoidable direct and cumulative impacts to historic and archaeological resources and human remains due to construction of the proposed conveyance pipelines and the IPR injection and monitoring wells. Under the No Project Alternative (Alternative 1), minor upgrades to the WWTP would be implemented to meet the minimum NPDES permit requirements for full secondary treatment and the pipelines and wells would not be constructed. Under Alternative 2, an alternative pipeline alignment has been considered between the proposed WRF and the lift station and IPR West wellfield to determine if significant impacts can be reduced or avoided. Although not required to avoid significant impacts, alternative WRF design and treatment options are also considered under Alternative 3.

The following sections provide a general description of each alternative, its ability to meet the project objectives, and a qualitative discussion of its comparative environmental impacts. As provided in Section 15126.6(d) of the *CEQA Guidelines*, the significant effects of these alternatives are identified in less detail than the analysis of the project in Chapter 3 of this Draft EIR.

## 6.4 Impact Analysis

### Alternative 1: No Project Alternative

Pursuant to Section 15126.6(e) of the *CEQA Guidelines*, the No Project Alternative shall be evaluated to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The No Project Alternative shall:

*discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time the environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.*

The No Project Alternative would result in the continued operation and maintenance of the existing WWTP and associated wastewater treatment infrastructure. Given the CSD is moving forward with its own treatment project, under the No Project Alternative the WWTP would provide treatment for influent wastewater only from the City's service area. However, operating the WWTP in accordance with the status quo would not comply with the effluent water quality criteria and the SWRCB/RWQCB order to upgrade the plant to meet discharge water quality criteria, resulting in increased costs associated with fines. As required to be considered by CEQA, what would be reasonably expected to occur in the foreseeable future if the project were not approved would be upgrades to the existing plant to provide full secondary treatment to meet the State's minimum water quality criteria for all discharges through the existing outfall.

Upgrade of the WWTP was considered in the September 2007 WWTP Facility Master Plan Report (Carollo Engineers, 2007). The Report recommended new headworks, oxidation ditch and secondary clarifiers, biosolids handling facilities, disinfection, and electrical and control

facilities. Construction of those facilities would occur within the existing WWTP footprint and would provide full secondary treatment for influent at a capacity that meets the projections of the City's future wastewater generation without participation of the CSD. To mitigate for potential inundation during a 100-year flood event, the new facilities would be elevated at least one foot above the flood depth, which could be as great as six feet.

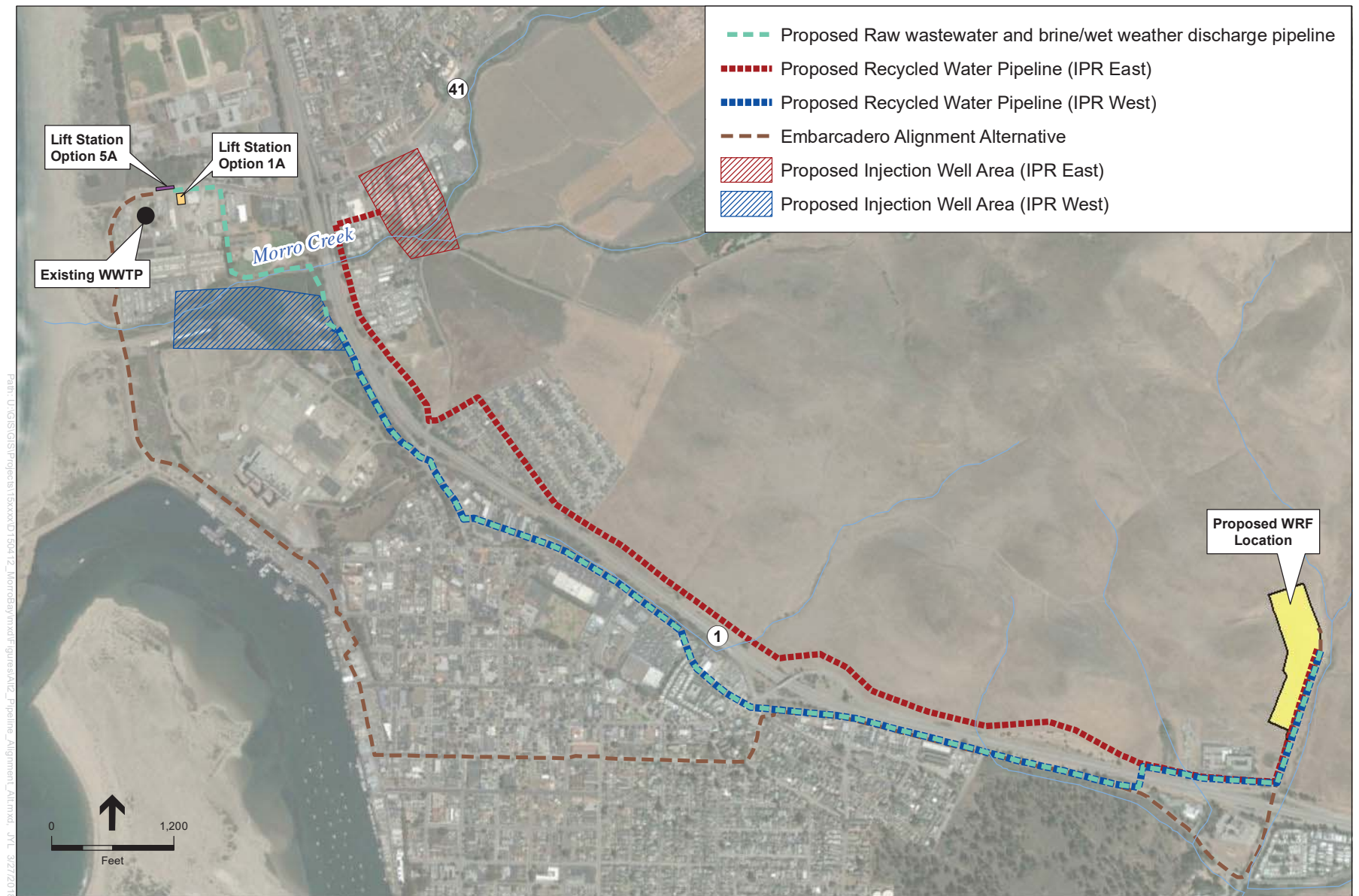
Under the No Project Alternative, the proposed project would not be constructed, nor would the lift station, associated conveyance pipelines, or injection and monitoring wells. As a result, the significant impacts to historic and archaeological resources, as well as human remains, would not occur. The No Project Alternative would avoid those significant and unavoidable impacts associated with the proposed project. However, the No Project Alternative also would not achieve the benefits of the proposed project, including removing critical community infrastructure from a coastal hazard area subject to flooding and sea level rise. In addition, the No Project Alternative would not meet any of the project objectives, including the ability to provide reclaimed wastewater to augment the City's water supply or to meet wastewater effluent conditions that reduce impacts from contaminants of emerging concern.

The No Project Alternative is not feasible because it would require a CDP from the CCC, which previously denied the same permit for an upgrade to the WWTP. The basis for that denial included the CCC's assessment such upgraded facilities would be inconsistent with the City's Local Coastal Plan's zoning provisions, would fail to avoid coastal hazards and would fail to include a sizeable reclaimed water component; and the project location would be within an LCP-designated sensitive view area. It is expected the CCC would similarly deny a CDP for the proposed No Project Alternative.

## Alternative 2: Pipeline Alignment Alternative

Alternative 2 would result in construction of all the same facilities as the proposed project, except for a segment of the raw wastewater pipeline that would have a different alignment and result in the construction of approximately 2,500 linear feet of additional pipeline (see **Figure 6-2**). The additional pipeline construction would be along Embarcadero Road to the west of the existing WWTP and proposed lift station, traveling south and then east along Pacific Street, and meeting with the currently proposed raw wastewater pipeline at Butte Street. This segment under Alternative 2 would result in construction near two different and known cultural resources sites, may result in geotechnical challenges along the waterfront, and would result in a significant increase of construction impacts related to traffic, air quality and noise due to the location of construction within higher traffic corridors (residential and commercial), and the location of construction equipment relative to sensitive receptors (residences). Further, this segment of pipeline under Alternative 2 would require additional rights of way through residential property. While there would be an increase in the severity of impacts related to the additional linear feet of construction, all impacts would be reduced to less than significant using the same mitigation measures presented for the proposed project. However, impacts to cultural resources, while





SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

**Figure 6-2**

Alternative 2: Pipeline Alignment Alternative



reduced in number of impacted sites, would remain significant and unavoidable under Alternative 2, even with mitigation. Additionally, Alternative 2 would result in higher cost due to the additional length of construction and rights of way compensation.

### Alternative 3: WRF Design Alternative

During preparation of the draft Facility Master Plan and MWRP, alternative treatment technologies and associated site plan configurations were considered. Under Alternative 3, the proposed level of treatment would be changed to either remove advanced treatment or implement full secondary treatment only. Removing advanced treatment would reduce the proposed WRF footprint by approximately 7,000 square feet (0.16 acres). Implementing full secondary treatment would be achieved by either proceeding with the sequencing batch reactor (SBR) treatment train, but removing the filters or changing to the treatment process to a more traditional secondary treatment process, such as an activated sludge or oxidation ditch process. Proceeding with the SBR treatment train and removing the filters would have a small incremental reduction to the proposed WRF footprint in addition to removing advanced treatment. The footprint associated with a traditional secondary treatment process would be greater than that currently planned for the proposed WRF.

The current preliminary design at the preferred South Bay Boulevard WRF site is intended to minimize the proposed WRF footprint, while still providing the facilities required to provide the level of treatment that would meet the proposed project goals. As documented in this Draft EIR, the preliminary design for the proposed project would not have significant effects to:

- **scenic resources** due to architectural treatments to be included in the design and the restricted line of sight from Highway 1 and public vantage points to the low-lying WRF site which is partially screened by the hillside topography.
- **agriculture** due to the small percentage of rangeland within the 396-acre parcel that would be occupied by the facilities.
- **neighboring land use** due to the small percentage of rangeland within the 396-acre parcel that would be occupied by the facilities allowing the majority of the site to continue to be used for grazing.
- **riparian habitat** due to the distance of the proposed WRF from jurisdictional features.
- **water quality** in downstream drainages due to compliance with the requirements of the City's Storm Water Management Plan and NPDES General Construction Permit that require retention and control of storm water onsite during both construction and operation

As documented in this Draft EIR, the preferred WRF site would have benefits to:

- **coastal hazards** and flooding due to the removal of the WWTP from the flood hazard zone and location of the WRF in an area that is not a flood hazard zone.

Implementation of alternative treatment technologies at the preferred WRF site would have similar impacts and benefits as the proposed project. For example, removing advanced treatment would lessen the WRF footprint by 7,000 square feet or 0.16 acres, which is roughly 1% of the 10- to 15-acre area of disturbance for the proposed project. Although a smaller footprint would

have relative fewer impacts to agricultural lands, scenic resources, neighboring land use, and water quality, no impacts would be eliminated or avoided and the same mitigation measures and regulatory requirements would apply. Implementation of a traditional full secondary treatment process at the preferred WRF site may require a larger footprint; as such, relatively greater impacts to agricultural lands, scenic resources, neighboring land use, and water quality would occur. A greater footprint would have potential to encroach on riparian habitat, and could result in potentially significant impacts that would be greater than the proposed project. Otherwise, however, with application of the same mitigation measures and regulatory requirements as the proposed project, there would likely be no other significant impacts.

With regard to energy use, removing advanced treatment and the filters would lessen the amount of energy required during the treatment process; standard full secondary treatment also would use less energy relative to the proposed project. However, the proposed project would not result in significant impacts to energy or GHGs as a result of operational energy use.

Alternative 3 would preclude the City from meeting key project objectives, including production of tertiary treated recycled water and augmenting the City's water supply. Removing advanced treatment would still produce recycled water that could be used for municipal and agricultural irrigation; however, the MWRP found that such urban and agricultural demands are not great enough to substantially offset potable water supply end uses, which limits the benefits of Alternative 3.

## 6.5 Environmentally Superior Alternative

The analysis of alternatives presented in this chapter, taken together with the analysis of the proposed project in Chapter 3 of this Draft EIR, provide a basis to identify the environmentally superior alternative under CEQA (*CEQA Guidelines* section 15126.6). The environmentally superior alternative is the alternative identified as meeting most of the basic project objectives and resulting in the fewest or least severe combination of significant environmental impacts. *CEQA Guidelines* section 15126.6 provides, if the No Project Alternative is the environmentally superior alternative, then the EIR shall also identify an environmentally superior alternative among the other alternatives. Here, the No Project Alternative may in some respects qualify as the environmentally superior alternative because it would avoid the significant and unavoidable impacts to historic and archaeological resources, and human remains. However, it would not meet any of the basic project objectives; it would have considerable economic and regulatory consequences in the future (e.g., mounting number of fines from the SWRCB/RWQCB or infeasibility due to CDP denial), and could result in different or more severe impacts than the proposed project or other possible alternatives given the failure of the No Project Alternative to meet water quality discharge criteria, to produce recycled water to augment the City's supply, and to move critical public infrastructure out of the coastal hazard zone. For that reason, the discussion below focuses on selecting another environmentally superior alternative from among Alternative 2, Alternative 3 and the proposed project presented in this Draft EIR.

It is important to recognize the selection of the environmentally superior alternative is not always a straightforward and formulaic exercise. In some cases, including here, no alternative can eliminate

all significant and unavoidable, long-term environmental effects. There are environmental tradeoffs among the alternatives and even within resource issue areas or topics, making it difficult to summarize the net effect of the alternatives. As such, considerable weighing among the severity of impacts of the alternatives and professional judgment as to the relative importance of topical impact areas is necessary. Such judgment, while based on reasoning grounded in the scientific study that comprises this Draft EIR, can be subjective. Comparison of Alternative 2 impacts to the proposed project impacts, above, indicate Alternative 2 would meet the proposed project's objectives, and would result in a reduction in impacts on number of cultural resources sites. However, Alternative 2 would increase the costs to the City related to construction and would result in more severe impacts on air quality, noise, and traffic. Alternative 3 overall would result in similar impacts to the proposed project, and would not avoid any potentially significant impacts. Depending on the alternate treatment process chosen, the relative impacts would be incrementally smaller or greater, and require similar mitigation measures. Under Alternative 3, many of the City's key project objectives would not be met. Therefore, this Draft EIR identifies the proposed project as the environmentally superior alternative.

## References

- Black & Veatch, 2016. Draft Water Reclamation Facility Master Plan. Prepared for the City of Morro Bay, November 2016.
- Carollo Engineers, 2007. City of Morro Bay Cayucos Sanitary District Wastewater Treatment Plant Facility Master Plan Report, September 4, 2007.
- MKN & Associates, 2017. Master Water Reclamation Plan. Prepared for the City of Morro Bay, March 2017.



# CHAPTER 7

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## CEQA Plus Considerations

As described in Chapter 1, the proposed project is eligible for SRF funding. The USEPA sponsors the SRF Loan Program to provide funding for construction of publicly-owned treatment facilities and water reclamation projects. That funding for capital improvements to wastewater treatment and water recycling facilities is authorized under the federal Clean Water Act. In order to comply with requirements of the SRF Loan Program, which is administered by SWRCB in California, this Draft EIR must fulfill additional requirements known as CEQA-Plus. The CEQA-Plus requirements have been established by the USEPA and are intended to supplement the *CEQA Guidelines* with specific requirements for environmental documents acceptable to the SWRCB when reviewing applications for wastewater treatment facility loans. They are not intended to supersede or replace *CEQA Guidelines*.

In order to qualify for the SRF Loan Program, the proposed project must comply with the following federal cross-cutting regulations:

- Clean Air Act
- Coastal Barriers Resources Act
- Coastal Zone Management Act
- Endangered Species Act
- Environmental Justice
- Farmland Protection Policy Act
- Floodplain Management
- Magnuson-Stevens Fishery Conservation and Management Act
- Migratory Bird Treaty Act
- National Historic Preservation Act
- Protection of Wetlands
- Safe Drinking Water Act
- Wild and Scenic Rivers Act

Compliance with the aforementioned federal laws and relevant executive orders are described below in Section 7.1 and 7.2. In summary, the proposed project complies with those laws and executive orders, with further evidence provided in other sections of this Draft EIR as cross-referenced below.

## 7.1 Federal Regulations

### Clean Air Act

Clean Air Act compliance is described in Chapter 3.3.2 Air Quality.

### Coastal Barriers Resources Act

The Coastal Barriers Resources Act (CBRA) was enacted in 1982 to designate relatively undeveloped coastal barriers along the Atlantic, Gulf of Mexico, Great Lakes, U.S. Virgin Islands, and Puerto Rico coasts as part of the John H. Chafee Coastal Barrier Resources System (CBRS). Those areas became ineligible for most new federal expenditures and financial assistance in order to discourage development such as federal flood insurance (USFWS, 2018). The goals of the CBRA are to minimize loss of human life by discouraging development in high risk areas, to reduce wasteful expenditure of federal resources, and to protect the natural resources associated with coastal barriers (USFWS, 2017). There are no designated Coastal Barrier Resources System in California. As such, no project impacts are expected. Furthermore, the proposed project does not propose any development associated with coastal barriers.

### Coastal Zone Management Act

Section 307 of the Coastal Zone Management Act (CZMA) requires activities approved or funded by the federal government that affect any land or water use or natural resource of a state's coastal zone, must be consistent with the enforceable policies of the state's federally approved coastal management program.

Under Section 307 of the CZMA (16 U.S.C. §1456), activities that may affect coastal uses or resources that are undertaken by federal agencies, require a federal license or permit, or receive federal funding must be consistent with a State's federally approved coastal management program. California's federally approved coastal management program consists of the California Coastal Act, the McAtter-Petris Act, and the Suisun Marsh Protection Act. The California Coastal Commission (CCC) implements the California Coastal Act and the federal consistency provisions of the CZMA for activities affecting coastal resources outside of San Francisco Bay. Subparts D and F of the federal consistency regulations govern consistency review for activities involving a federal permit and federal funding, respectively. Those sections generally require the applicant to provide the subject state agency (e.g., the Coastal Commission) with a brief assessment of potential coastal resources impact and project conformity with the enforceable policies of the management program.

The CCC considers an application for a coastal development permit to satisfy the Subpart D and F conformity assessment requirements. Typically, the CCC will provide its response (concurrence, conditional concurrence, or objection) in its staff report for the coastal development permit. In cases where the coastal development permit is issued by a local government with a certified local coastal program (LCP), the CCC will typically provide its response in a letter, following the permit issuance and the completion of any appeals process.

The City has been in ongoing consultation with CCC staff. In addition, a preliminary assessment of project consistency with applicable policies of the CCC's coastal management program (as represented in the LCPs of the jurisdictions in which the project is proposed) is provided in some of the resource sections within Chapter 3 of this Draft EIR to facilitate the analysis of potential impacts in these resource areas. The CCC will make the final determination as to whether the proposed project is fully consistent with its policies.

## Endangered Species Act

Endangered Species Act compliance is described in Chapter 3.4 Biological Resources.

## Environmental Justice

Environmental Justice compliance is described in Chapter 3.12 Environmental Justice.

## Farmland Protection Policy Act

Farmland Protection Policy Act compliance is described in Chapter 3.2 Agriculture and Forestry Resources.

## Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) is the principal law governing marine fisheries in the U.S. First enacted in 1976, it was adopted to create a U.S. fishery conservation zone out to 200 nautical miles off the U.S. coast, to phase out foreign fishing activities within this zone, to prevent overfishing, to allow overfished stocks to recover, and to conserve and manage fishery resources. The MSA created the regional fishery management councils and the national standards for the contents of fishery management plans. The MSA has been revised and amended several times since 1976 with the most recent occurring in 2006. This revision called the Fishery Conservation and Management Reauthorization Act of 2006 did not add any new National Standards but it did make a number of changes related to establishment of annual catch limits, the National Environmental Policy Act review process, rebuilding provisions, and other areas (MAFMC 2018).

MSA requires federal agencies to consult with the National Oceanic and Atmospheric Administration (NOAA) Fisheries when their actions or activities may adversely affect habitat identified by federal regional management councils as Essential Fish Habitat (EFH). The MSA defines EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (NOAA Fisheries, 2018). Regional fishery management councils are responsible for determining what habitats meet the definition of EFH for fish and shellfish species managed under their jurisdiction and describing EFH in their fishery management plans. The proposed project is within the Pacific Fishery Management Council jurisdiction. The waters off the coast of California include EFH for various species, including but not limited to groundfish. Groundfish are fish such as rockfish, sablefish, flatfish, and Pacific whiting that are often (but not exclusively) found on or near the ocean floor or other structures. The Pacific Fishery Management Council identified groundfish EFH as all waters from the high tide line (and parts of estuaries) to 3,500 meters in depth (Pacific FMC, 2018).

The proposed project would have no adverse impact on the marine environment or EFH in the Pacific Ocean. As described in Chapter 3.9 Hydrology and Water Quality, the proposed project would continue to discharge through the existing ocean outfall that runs approximately 2,900 feet offshore through Estero Bay, and the water quality of proposed discharges would be improved to tertiary-treated recycled water, exceeding the requirements of the existing WWTP NPDES permit that will also apply to the new WRF. The NPDES permit establishes water quality objectives for receiving waters based on the California Ocean Plan; the water quality objectives would protect beneficial uses including marine habitat. (See Chapter 3.9 Hydrology and Water Quality for additional discussion about water quality impacts.) As such, the proposed project would be in compliance with MSA.

## Migratory Bird Treaty Act

Migratory Bird Treaty Act (MBTA) compliance is described in Chapter 3.4 Biological Resources.

## National Historic Preservation Act

National Historical Preservation Act compliance is described in Chapter 3.5 Cultural Resources.

## Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) was established to protect the quality of drinking water in the U.S. SDWA focuses on all waters actually or potentially designed for drinking uses, whether from above ground or underground sources. The principal federal agency involved in drinking water regulation is the USEPA. USEPA is responsible for implementing federal drinking water law, setting national drinking water requirements, and overseeing the SWRCB enforcement of the federal law. The proposed project would replenish potable aquifers in the Morro Valley that are the source for drinking water in the City. The proposed project would be regulated and permitted by the SWRCB's Division of Drinking Water (DDW), which has the primary responsibility for regulating drinking water in California. Refer to Chapter 3.9 Hydrology and Water Quality for a discussion on project impacts to groundwater and regulatory requirements of SWRCB DDW that ensure compliance with SDWA.

SDWA also regulates sole source aquifers, which are aquifers that supply at least 50 percent of the drinking water for its services area and has no reasonably available alternative drinking water sources should the aquifer become contaminated. The aquifers in the project area are not designated as sole source aquifers by the USEPA.

## Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act was created in 1968 to protect and preserve the special character of certain rivers with outstanding natural, cultural and recreational values and recognize their appropriate use and development (National Wild and Scenic River System, 2018). Section 5(d)(1) of the Wild and Scenic Rivers Act lists interim protection measures for eligible or suitable rivers. For a river to be eligible for designation in the National Wild and Scenic River System, it must have one or more outstandingly remarkable river values. There is no Wild and Scenic River

located within the project area (National Wild and Scenic River System, 2018). Therefore, this Act is not applicable to the proposed project.

## 7.2 Executive Orders

### Floodplain Management, Executive Order No. 11988

Executive Order 11988 requires federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative (FEMA 2018). If a project has potential impact to or within a floodplain, then there is an eight-step process that agencies can carry out during their decision-making on the project. The eight-step process includes: (1) determine if a proposed action is in the base floodplain or area which has a one percent or greater chance of flooding in any given year, (2) conduct early public review, (3) identify and evaluate practicable alternatives to locating in the base floodplain, (4) identify impacts of the proposed action, (5) develop measures to minimize the impacts and restore and preserve the floodplain if impacts cannot be avoided, (6) re-evaluate the alternatives, (7) present the findings and a public explanation, and (8) implement the action (FEMA 2018).

The proposed project would reduce potential existing impacts within existing floodplains. The proposed project would include decommissioning and demolition of the existing WWTP, which is located within the Morro Creek 100-year and 500-year floodplain. In response to the CCC's directive to move the existing WWTP away from the coast, as described in Chapter 1 Introduction and Chapter 6 Alternatives Analysis, the City considered at least 17 potential locations for the proposed WRF, with most locations being away from the coast and outside of a floodplain zone. The proposed project would move the proposed WRF to a new location that is no longer within a coastal floodplain.

However, the proposed project would also construct a new lift station and potentially new injection/monitoring wells within the Morro Bay 100-year and 500-year floodplain. The lift station location is necessitated by the concept that efficient wastewater collection relies on a relatively low-elevation location to maximize gravity flow. The need for such a location was acknowledged by CCC staff during the City's site investigation efforts, in the course of staff-to-staff meetings held (August 2017). The alternatives screening for the lift station location is also described in Chapter 6 Alternatives Analysis. The proposed injection/monitoring well locations were informed by soil and aquifer properties conducive to replenishment. Refer to Chapter 3.9 Hydrology and Water Quality for further discussion of the proposed project components in the floodplain and potential impacts and mitigation measures.

### Protection of Wetlands, Executive Order No. 11990, as amended by Executive Order No. 12608

Under this Executive Order No. 11990, each Federal agency takes action to minimize the destruction, degradation, or modification of wetlands and enhance the natural and beneficial values of wetlands. The Executive Order (EO) also directs the avoidance of direct or indirect support of new construction in wetlands and public involvement throughout the wetlands

protection decision-making process (HUD 2018). Impacts to wetlands in the project area are described in Chapter 3.4 Biological Resources.

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## **CHAPTER 8**

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# MORRO BAY WATER RECLAMATION FACILITY

## Final Environmental Impact Report

Prepared for  
City of Morro Bay

June 2018





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June 2018



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# CHAPTER 9

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## Introduction and CEQA Process

### 9.1 CEQA Requirements

This Final Environmental Impact Report (Final EIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) as amended (Public Resources Code Section 21000 et seq.) and *CEQA Guidelines* (California Administrative Code Section 15000 et seq.). The Final EIR incorporates, by reference, the Draft EIR (State Clearinghouse No. 2016081027) prepared by City of Morro Bay (City) for the Morro Bay Water Reclamation Facility (proposed project) as it was originally published. In accordance with Section 15132 of the *CEQA Guidelines*, the Final EIR shall consist of the following:

- (a) The Draft EIR or a revision of the draft.
- (b) Comments and recommendations received on the Draft EIR either verbatim or in summary.
- (c) A list of persons, organizations, and public agencies commenting on the Draft EIR.
- (d) The responses of the Lead Agency to significant environmental points raised in the review and consultation process.
- (e) Any other information added by the Lead Agency.

Before the City may approve the proposed project, it must certify that the Final EIR: a) has been completed in compliance with CEQA; b) was presented to the City Council who reviewed and considered it prior to approving the project; and c) reflects the City's independent judgment and analysis (*CEQA Guidelines* Section 15090).

Section 15004 of the *CEQA Guidelines* states that before the approval<sup>1</sup> of any project subject to CEQA, the Lead Agency must consider the final environmental document, which in this case is the Final EIR.

This Final EIR for the Morro Bay Water Reclamation Facility project presents the following chapters as a continuation of those included in the Draft EIR:

- Chapter 9: Introduction

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<sup>1</sup> The word "approval" is defined by Section 15352 of the *CEQA Guidelines* to mean "the decision by a public agency which commits the agency to a definite course of action in regard to a project intended to be carried out by any person..."

- Chapter 10: Comment Letters and Responses - A list of persons, organizations, and public agencies commenting on the Draft EIR; the written and oral comments received on the Draft EIR; and written responses to each comment.
- Chapter 11: Clarifications and Modifications – A summary of changes made to the Draft EIR in response to comments received or initiated by the Lead Agency.
- Modified or added Appendices.

## **9.2 CEQA Process**

### **Public Participation Process**

#### **Notice of Preparation and Public Scoping**

In accordance with Section 15082 of the *CEQA Guidelines*, a Notice of Preparation (NOP) of an EIR was prepared and circulated for review by applicable local, state and federal agencies and the public. The 30-day project scoping period, which began with the distribution of the NOP on August 8, 2016, remained open through September 7, 2016. A public scoping meeting was held on August 8, 2016 at the Veterans Memorial Building at 209 Surf Street in Morro Bay. The NOP provided the public and interested public agencies with the opportunity to review the proposed project and to provide comments or concerns on the scope and content of the environmental review document including: the range of actions; alternatives; mitigation measures, and significant effects to be analyzed in depth in the EIR.

#### **Notice of Availability of the Draft EIR**

The Notice of Availability (NOA) of the Draft EIR was posted on April 3, 2018 with the County Clerk-Recorder in San Luis Obispo County. The Draft EIR was circulated to federal, state, and local agencies and interested parties requesting a copy of the Draft EIR. Copies of the Draft EIR were made available to the public at the following locations:

- City of Morro Bay WRF Web Site (<http://morrobaywrf.com>)
- Morro Bay Public Library (625 Harbor Street, Morro Bay)
- Cayucos Public Library (310 B Street, Cayucos)
- Morro Bay Public Services Department (955 Shasta Avenue, Morro Bay)
- Wastewater Treatment office (160 Atascadero Road, Morro Bay)

The Draft EIR was circulated for public review from April 3, 2018 through May 18, 2018. During this period, the City held one CEQA public meeting to provide interested persons with an opportunity to comment orally or in writing on the Draft EIR and the proposed project. The CEQA public meeting was an item on the agenda at the Water Reclamation Facility Citizens Advisory Committee (WRFCAC) meeting held at the Veterans Memorial Hall in Morro Bay on May 1, 2018. There was one comment offered from the audience in addition to multiple comments offered from the WRFCAC members at the public meeting.

## Evaluation and Response to Comment

CEQA Guidelines Section 15088 requires the City, as the Lead Agency, to evaluate comments on significant environmental issues received from parties that have reviewed the Draft EIR and to prepare a written response. The written responses to commenting public agencies shall be provided at least ten (10) days prior to the certification of the Draft EIR (CEQA Guidelines §15088(b)).

## Final EIR Certification and Approval

As the Lead Agency, the City provided the Final EIR to commenters and made it available for review at the following locations:

- City of Morro Bay WRF Web Site (<http://morrobaywrf.com>)
- Morro Bay Public Library (625 Harbor Street, Morro Bay)
- Cayucos Public Library (310 B Street, Cayucos)
- Morro Bay Public Services Department (955 Shasta Avenue, Morro Bay)
- Wastewater Treatment office (160 Atascadero Road, Morro Bay)

Prior to considering the project for approval, the City, as the Lead Agency, will review and consider the information presented in the Final EIR and will certify that the Final EIR:

- (a) has been completed in compliance with CEQA;
- (b) has been presented to the Board of Directors as the decision-making body for the Lead Agency, which reviewed and considered it prior to approving the project; and
- (c) reflects the City's independent judgment and analysis.

Once the Final EIR is certified, the City Council may proceed to consider project approval (*CEQA Guidelines* §15090). Prior to approving the proposed project, the City must make written findings and adopt statements of overriding considerations for each unmitigated significant environmental effect identified in the Final EIR in accordance with Sections 15091 and 15093 of the *CEQA Guidelines*.

## Notice of Determination

Pursuant to Section 15094 of the *CEQA Guidelines*, the City of Morro Bay will file a Notice of Determination (NOD) with the Office of Planning and Research and San Luis Obispo County Clerk within five working days after project approval.





# CHAPTER 10

## Comment Letter and Responses

### 10.1 Comments Received

The Draft EIR for the Morro Bay WRF (proposed project) was circulated for public review for 45 days (April 3, 2018 through May 18, 2018) in accordance with the requirements of *CEQA Guidelines* Section 15105(a). The City received 35 comment letters and emails during the public review period, which are listed in **Table 10-1** in the order presented in this chapter. The letters have been marked with brackets that delineate comments pertaining to environmental issues and the information and analysis contained in the Draft EIR. Responses to comments are provided immediately following each letter. In addition, the oral comments received during the May 1, 2018 public meeting are also included after the comment letters below.

**TABLE 10-1**  
**COMMENT LETTERS RECEIVED**

No.	Comment Letter	Commenting Party	Type	Date of Comment
1	CCC	California Coastal Commission	State	May 11, 2018
2	OPR	Governor's Office of Planning and Research	State	May 18, 2018
3	Caltrans	California Department of Transportation	State	May 18, 2018
4	SWRCB	State Water Resources Control Board	State	May 23, 2018
5	LAFCO	Local Agency Formation Commission San Luis Obispo	Local	May 1, 2018
6	APCD	SLO County Air Pollution Control District	Local	May 17, 2018
7	CSD	Cayucos Sanitary District	Local	May 17, 2018
8	County	County of San Luis Obispo Department of Planning & Building and County of San Luis Obispo Department of Agriculture	Local	May 18, 2018
9	Collins	Fred Collins	Tribal	April 12, 2018
10	NCTC	Northern Chumash Tribal Council	Tribal	May 14, 2018
11	MBNEP	Morro Bay National Estuary Program	Non-Governmental Organization (NGO)	May 17, 2018
12	SC/SF/Coastkeeper	Sierra Club - Santa Lucia Chapter, Surfrider Foundation - San Luis Obispo Chapter, San Luis Obispo Coastkeeper	NGO	May 18, 2018
13	McCray	Wallace McCray	Individual	April 23, 2018
14	Maino	John Maino	Individual	May 3, 2018
15	Hanson	Mark Hanson	Individual	May 10, 2018

No.	Comment Letter	Commenting Party	Type	Date of Comment
16	Sylvester	Edward Sylvester	Individual	May 12, 2018
17	Sadowski	Richard Sadowski, Morro Bay Planning Commissioner	Individual	May 15, 2018
18	Bast	Nancy Bast	Individual	May 16, 2018
19	Foor	Eric Foor	Individual	May 16, 2018
20	Low	Mark Low	Individual	May 17, 2019
21	Mahan	Kerrigan Mahan	Individual	May 17, 2018
22	O'dell	Jeff O'dell	Individual	May 17, 2018
23	Stevens	Steve Stevens	Individual	May 17, 2018
24	Beckman	Bart Beckman	Individual	May 18, 2018
25	Donnelly	Paul Donnelly, WRF CAC member	Individual	May 18, 2018
26	Hawley	Cynthia Hawley	Individual	May, 18, 2018
27	Heller	Jeff Heller	Individual	May 18, 2018
28	Kleim/Lieibg	Lee Kleim/Bryan H Lieibg	Individual	May 18, 2018
29	Levulett	Valerie Levulett	Individual	May 18, 2018
30	Lueker	Andrea Lueker	Individual	May 18, 2018
31	Ochs	Pam Ochs	Individual	May 18, 2018
32	Bruton Sadowski 1	Marla Jo Bruton Sadowski (Letter 1)	Individual	May 18, 2018
33	Bruton Sadowski 2	Marla Jo Bruton Sadowski (Letter 2)	Individual	May 18, 2018
34	Winholtz	Betty Winholtz	Individual	May 18, 2018
35	Lucas	Michael Lucas	Individual	May 18, 2018

## 10.2 Responses to Comments

As stated in *CEQA Guidelines*, Sections 15132 and 15362, the Final EIR must contain the comments received on the Draft EIR, either verbatim or in summary, a list of persons commenting, and the response of the Lead Agency to the comments received. Thirty-five letters or emails were received by the City commenting on the Draft EIR. This chapter provides those comments and the City's responses to those comments.

Those responses do not significantly alter the proposed project, change the Draft EIR's significance conclusions, or provide new information regarding substantial adverse environmental effects not already analyzed in the Draft EIR. Instead, the information presented in the responses to comments "merely clarifies or amplifies or makes insignificant modifications" in the Draft EIR, as is permitted by *CEQA Guidelines* subdivision 15088.5(b).

## 10.3 Master Responses

Several comments on the same topic were raised by multiple commenting parties, and therefore the City has prepared master responses for these topics, which are presented first below. The individual comment letters and responses are presented next in Section 10.4.

### Master Response 1 – Alternatives

Several commenters questioned the adequacy of the Draft EIR's Alternatives Analysis or expressed preferences for certain alternatives that are not the preferred alternative. This Master Response addresses those comments. An overview of the requirements for a CEQA alternatives analysis is provided in Chapter 6 of the Draft EIR. CEQA does not require an analysis of every conceivable alternative to a project. The purpose of the alternatives analysis is to identify feasible alternatives that would avoid or lessen significant impacts of the project while also meeting most of the basic project objectives.

The various site evaluation and screening documents prepared from 2011 through 2016, while not technically CEQA documents, were part of the information used in the Draft EIR to evaluate the feasibility of the many potential site alternatives. Many of those sites either did not meet basic project objectives, had various environmental constraints, or were infeasible for other reasons. For those reasons, as documented clearly in Chapter 6 of the Draft EIR, they were not carried forward. Other options proposed in some comments related to different technologies or designs. Those were not considered further because they would not substantially lessen any of the significant environmental impacts analyzed in the Draft EIR.

The following discussion describes the alternatives evaluation conducted for the Draft EIR and described in Chapter 6.

### WRF Site Alternatives

Several commenters expressed preferences for certain WRF locations. *CEQA Guidelines* subdivision 15126.6(f)(2)(a) discusses the need to assess project location alternatives:

The key question and first step in the analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.

As explained in Chapter 6 of the Draft EIR, the only potentially significant and unavoidable environmental impacts associated with the proposed project would be to cultural resources. Those impacts would be the result of implementing the proposed pipelines across Morro Creek, and would not be associated with construction of the WRF facility itself. There are no significant and unavoidable environmental impacts identified in the Draft EIR due to construction or operation of the WRF treatment facility component of the project at its proposed location. As such, a pipeline alternative that could lessen or avoid impacts to cultural resources is considered (see Alternative 2

on page 6-12 of the Draft EIR). Based on the CEQA requirements for the analysis of alternatives, no alternative WRF site is required to be considered.

Several commenters expressed preference for other sites to locate the WRF. As noted above, the Draft EIR is not required to address alternatives to the proposed WRF site since the proposed location would not result in any significant impacts. However, the City recognizes that there are opinions and preferences in the community regarding the ultimate location for this important public utility. The City has conducted a robust siting effort that has been at the core of the proposed project planning effort for several years. The Draft EIR provides an overview of the substantial WRF alternative site screening process undertaken by the City over five years, and documented by at least seven reports (see Draft EIR pages 6-4 through 6-7 and Figure 6-1). The siting comparative studies considered the differences in environmental impacts among the 17 sites. Environmental impacts and resources considered included coastal resources such as visual resources, agricultural lands and open space, and flooding, as well as cultural resources and biological resources, including California Coastal Act designated Environmentally Sensitive Habitat Areas (ESHA).

The City Council appointed the Water Reclamation Facility Citizen's Advisory Committee (WRFCAC) to assist in the identification of the possible sites in 2014. The WRFCAC has met regularly since then, with the public invited to attend and provide comment. Each of the 17 sites identified in Figure 6-2 were rigorously evaluated by the City with the assistance of the WRFCAC, resulting in a preferred site alternative. The analysis included the Righetti property and the Giannini property. The Draft EIR describes the conclusions of this exhaustive search on page 6-6, substantiating the effort the City has undertaken to identify a suitable site for the WRF. The documentation provided in the Draft EIR describes the public process the City has taken to select a preferred location on page 1-3:

Five comparative siting studies were performed between 2013 and 2017. Starting with the results of the Rough Screening Evaluation, 17 study sites were first examined for the potential location of the WRF. By December 2013, it was narrowed down to seven study sites (Chevron, Morro Valley, Chorro Valley, California Men's colony (CMC) Wastewater Treatment Plant site, Power plant – southern portion, Panorama, and Giannini), which ranged in size and number of properties included in each. Finally, the City Council narrowed the sites down to focus on the Morro Valley, Chorro Valley, and Giannini Property in May 2014. Within those three general areas, there were four specific locations: Rancho Colina and Righetti (both in Morro Valley), Tri-W (now called the "South Bay Boulevard" site, in Chorro Valley) and Giannini. It should be noted there was also a feasibility analysis performed for a regional facility at the CMC site that could serve the needs of the City and partner agencies; however, it concluded not to be feasible. In April 2016, after direction to investigate other potential sites, the list of potential sites was revised to include Rancho Colina, Righetti, Tri-W, Chevron/Toro Creek, and Madonna. After the 2016 comparative study was completed, the Tri-W site, which became known as the South Bay Boulevard site, was found to be the final site preference, and preliminary planning efforts began at that location based on City Council direction at that time. The CCC supports the proposed new treatment plant location and has been

supportive in the concept of working with the City and, as needed, San Luis Obispo County (County), on a CDP for a WRF at that location.

Several commenters have identified a preference for the Hanson Concrete Plant site adjacent to the existing facility. The Draft EIR references, on page 6-4, seven reports conducted since 2014 to compare alternative sites and identify a preferred site alternative. The final report was prepared in September 2017 that renewed the search at the request of the City Council. The latest alternatives assessment included an assessment of the existing location including expanding the area inland currently occupied by the Hanson Concrete Plant west of Highway 1. The Draft EIR summarizes the assessments conclusions on page 6-6 as follows:

In July 2017, the City Council requested a final site comparison to confirm, from a cost and regulatory perspective, the South Bay Boulevard site would be the preferred site to meet the City's goals. The 2017 Updated Site Comparison Report included the South Bay Boulevard site, Giannini site, Righetti site, and a site west of Highway 1, such as the existing WWTP site. At the City Council meeting on September 27, 2017, the Council decided to move forward with the South Bay Boulevard site as the preferred site due to the following conclusions:

*there was Council consensus that the Coastal Commission would not permit a project west of Highway 1, the Giannini site had too many issues and no cost advantages, and due to the risk of litigation, the Righetti site was not feasible. There was stated support to proceed with planning and permitting at South Bay Blvd. as the preferred site. (Minutes – Morro Bay City Council Regular Meeting – September 26, 2017).*

An overview of the requirements for a CEQA alternatives analysis is provided on pages 6-1 to 6-2 of Chapter 6 of the Draft EIR. CEQA does not require an analysis of every conceivable alternative to a project. The purpose of the alternatives analysis is to identify feasible alternatives that would avoid or lessen significant impacts of the project while also meeting most of the basic project objectives. Based on this robust siting effort, the City chose the preferred location. Since construction and operation of the WRF would not result in any significant impacts, the Alternatives Analysis provided in Chapter 6 complies with CEQA requirements.

## **No Project Alternative**

Several commenters preferred the No Project Alternative, or suggested the No Project Alternative was dismissed without enough consideration or analysis. *CEQA Guidelines* subdivision 15126.6(e)(3)(B) requires an EIR include a comparison of the conditions that would result if the proposed project is not pursued. The Draft EIR describes on page 6-11 that under the No Project, the City would be in violation of its NPDES permit to treat wastewater and discharge effluent. The analysis concludes the No Project would not meet any of the project objectives, would not achieve the benefits provided by the project, and would be infeasible since RWQCB requires improved effluent quality. As a result, doing nothing is not an option.

## Existing Site Alternative

Several commenters requested the upgrade of the facility at the existing site should be the preferred alternative. In addition, *CEQA Guidelines* subdivision 15126.6(e)(3)(C) states a lead agency should proceed to analyze the No Project Alternative “by projecting what would reasonably be expected to occur in the foreseeable future if a project were not approved.” The Draft EIR notes upgrades at the existing site may be considered as a foreseeable future condition project under the No Project Alternative, since the NPDES permit will require at least minimal upgrades of the treatment facility to meet minimum effluent quality standards. However, the Draft EIR describes the City has spent over 10 years attempting to upgrade the existing facility. The upgrades needed to comply with RWQCB discharge requirements would trigger the need for a CDP from the CCC, which opposed an earlier version of the project that had suggested that retrofit approach. The Draft EIR concludes the use of the existing facility was seen by the CCC as inconsistent with the City’s Local Coastal Plan. For those reasons, the No Project Alternative and the upgrade of the existing facility at its current location were rejected from further consideration. The Draft EIR describes this background on page 1-3:

The existing WWTP is located in the Coastal Zone; as such, in order to upgrade the existing WWTP at its existing location, a Coastal Development Permit (CDP) is required from the California Coastal Commission (CCC). However, in January 2013, the CCC denied the City and CSD’s project application for the CDP to demolish the existing WWTP and construct a new treatment facility on the same site. The basis for that denial included the CCC’s assessment the new facilities would be inconsistent with the City’s Local Coastal Plan (LCP) zoning provisions, failed to avoid coastal hazards, failed to include a sizeable reclaimed water component, and that the project location was within an LCP-designated sensitive view area.

Following this denial, the City began planning a new WRF and pursuing alternative locations for a new upgraded wastewater treatment plant. The City realized that presented an opportunity to design and construct a WRF to enhance the City’s water supply portfolio through the production of recycled water. From 2013 to the beginning of 2014, the community defined goals to guide the planning and design process for the new WRF. Public outreach was conducted through stakeholder meetings, stakeholder interviews, and public workshops which gathered input related to cost, environmental concerns, engineering and design issues, site-related issues, and logistics and process issues. Through that public outreach program, criteria were determined for the siting process, and various studies were conducted to examine the suitability of each site. Some of the criteria included, but were not limited to, compliance with NPDES Permit requirements, distance to the City sewer collection system, avoidance of coastal hazards, minimal visual impacts, and sustainable use of public resources. In order to ensure public involvement during this process, a Citizens Advisory Committee (WRFCAC) was created in July 2014 to help oversee and evaluate the siting process.

## Need for the Project

The need for the Project is summarized in the Project Background section, on page 1-1. New ocean water discharge effluent quality limitations have been ordered by the RWQCB requiring the construction of a new municipal wastewater treatment facility and that requirement is to be subject to a “time schedule order” (TSO). The tentative TSO has been issued and the final TSO is anticipated to be issued in a few months.

The existing Morro Bay-Cayucos Wastewater Treatment Plant (WWTP) serves the City and the community of Cayucos, and is owned and operated jointly by the City and the Cayucos Sanitary District (CSD). Prior to the current 2017 NPDES Permit No. CA0047881 and Waste Discharge Requirements (WDR) Order No R3-2017-0050, the WWTP discharged to the Pacific Ocean under NPDES Permit No. CA0047881 and WDR Order No. R3-2008-0065, which was a Clean Water Act Section 301(h) modified NPDES permit that waived full secondary treatment requirements for biochemical oxygen demand (BOD) and total suspended solids (TSS). The existing WWTP has operated under that modified permit since its last upgrade in 1984. On July 7, 2003, the City submitted an application for renewal of NPDES permit to USEPA and Central Coast Regional Water Quality Control Board (RWQCB) which expired in March 2014. The final renewed discharge permit was adopted by the RWQCB on December 7, 2017. The 301(h) modifications were no longer included in the 2017 renewal. A time schedule order will be provided by RWQCB for compliance with full secondary treatment requirements.

Based on an agreement with the RWQCB, the City and CSD had previously pursued bringing the existing facility to full secondary treatment in place of continued requests for a 301(h) modified discharge permit. The agreement allowed the City and CSD to pursue secondary treatment on a schedule that was mutually agreed upon by both agencies and the RWQCB. In February 2015, the RWQCB stated the new facility was expected to be fully operational by 2021 in order to meet its goals.

## Master Response 2 – WRF Site and Annexation

Many comments were received regarding the preferred WRF site, including the footprint of the developed area, conservation and open space easements, annexation into the City, and the disposition of the remainder of the 396-acre parcel. The proposed WRF would be constructed on approximately 10 to 15 acres of land within unincorporated San Luis Obispo County, as shown in the Draft EIR in Figure 2-1 and Figure 2-2. The proposed WRF would be within a 27.6-acre preferred site to be purchased by the City from a larger 396-acre parcel. The 27.6-acre area would be annexed into the City boundaries.

The boundaries of land for the preferred WRF site were based on a negotiated Memorandum of Understanding (MOU) with the property owner. The MOU is available for public review. The 27.6-acre preferred site is intended to provide logical boundaries for annexation to the City, and allow some flexibility within its boundaries to accommodate proposed WRF designs that could minimize impacts to various issues such as visual resources, biological resources, and geologic resources, among others. It also allows for a potential conservation easement to address



agricultural and open space issues. Any other use of the undeveloped property within the larger 396-acre parcel is outside of the purview of the Draft EIR. The MOU stipulates the City will request the remainder of the 396-acre parcel be included in the City's Sphere of Influence (SOI). The remainder of 396-acre parcel would be subject to the provisions of the County or City General Plan.

The following text is added to the Draft EIR Section 2.2 Project Location for clarification:

## **2.2 Project Location**

The proposed project is located within the City and in unincorporated area of the County of San Luis Obispo adjacent to the City boundaries (see **Figure 2-1**). The preferred WRF site is currently located in an unincorporated portion of the County adjacent to the City, while the remaining proposed infrastructure is located in the City itself. The WRF would be constructed on an approximately 10- to 15-acre area within a 27.6-acre site to be purchased by the City. The 27.6-acre site would ultimately be annexed to the City. Refer to Section 2.7.1 below for further discussion about the annexation process. The WRF site is part of a greater 396-acre parcel that is located along Highway 1, north of the northern terminus of South Bay Boulevard. The City's Sphere of Influence (SOI) would be modified to include this 396-acre parcel. Refer to Section 2.7.1 below for further discussion about the process to modify the SOI. The proposed Operations and Maintenance buildings would also be located within the 10- to 15-acre preferred WRF site.

The following text is added to the Draft EIR Section 2.7 Discretionary Approvals Required for the Project to describe the Annexation process and procedures to modify the SOI:

### **2.7.1 Annexation Process**

According to LAFCO policies, the procedures for the annexation and Sphere of Influence amendment consist of consultation with LAFCO prior to application submittal, preparation of application materials including a certified resolution or petition, vicinity map, topographical map, environmental documents, and indication the annexing municipality (the City) has rezoned the property, and review of the proposal application by LAFCO Executive Officer within 30 days after its receipt to determine if it is complete. The rezoning requirement involves "the city rezone the territory to be annexed or present evidence satisfactory to the commission that the existing development entitlements on the territory are vested or are already at build-out, and are consistent with the city's general plan. However, the commission shall not specify how, or in what manner, the territory shall be rezoned."

As part of the application review for an annexation, the LAFCO Executive Officer must approve a Negotiated Tax Agreement between the City and County. The LAFCO Executive Officer determines if master property tax agreements are applicable or separate property tax exchange resolutions are required. If negotiations leading to adoption of separate resolutions are required, then either the County or any affected municipality

must agree to a tax exchange or the County negotiates a property tax exchange on behalf of any Special District (Revenue and Taxation Code Section 99).

Then, the LAFCO Executive Officer requests review by affected agencies and residents, submits public notification by at least 21 days prior to the hearing, prepares the written report and recommendations which are presented to the Commissioner at the hearing, and the Commission adopts a resolution of determination at the hearing or within 35 days of the hearing. Post annexation steps include condition compliance and Board of Equalization Filing and other notifications.

## Master Response 3 – Accidental Spills and Impacts to Morro Bay Estuary

Numerous commenting parties were concerned about the potential for spills during operation of the proposed project to affect the Morro Bay estuary and/or Chorro Creek, due to the introduction of the proposed WRF into the Chorro Creek watershed. The City has identified the possible situations whereby accidental release of sewage or hazardous materials that may have the potential to threaten the Morro Bay estuary, as described below. However, the proposed project includes systems, facilities, and design features that would serve to monitor, prevent or contain any potential spills. Those features are also discussed below.

**Operational failure at the proposed lift station that may result due to loss of power during earthquakes or flooding.** The proposed project includes a lift station in one of two locations (1A or 5A shown in Figure 2-3 of the Draft EIR), both of which would be located in the coastal zone as well as a 100-year flood hazard zone. The Draft EIR explains on page 3.9-41 the lift station would be floodproofed and designed to be at least two feet above the base flood elevation in accordance with the Morro Bay Municipal Code (Subdivision 14.72.050(A)(3)(a) and (b)). The structure would be watertight with walls substantially impermeable to the passage of water and the lid elevated at least two feet above the base flood elevation with watertight hatches. The control panels and backup generator would also be elevated at least two feet above the base flood elevation to reduce the risk of failure due to flooding. Mechanical redundancies will be incorporated into the design, through redundancies in pumping and controls, as well as alarms and SCADA capabilities to notify City operators in the case of unusual operational occurrences or failures (such as high or low levels in the wet well, high or low pressures at the pump, pump failure). All design and construction within the flood plain is subject to approval by the City's Floodplain Administrator. The design of the lift station would ensure its continued operation in the event of a flood, ensuring raw wastewater is pumped to the WRF without interruption, thus avoiding wastewater backup and spills. The lift station design also would include a backup generator to ensure uninterrupted operation in the event of a power outage (Draft EIR, page 3.9-41). Those design features would minimize potential impacts to water quality due to lift station pump failure.

**Rupture of the proposed raw wastewater pipeline from the lift station to the WRF.** The proposed project includes a leak detection system that would monitor the pressure in the raw wastewater pipeline. Any leaks in the pipeline would be detectable as a pressure drop in the

pipeline. Detecting leaks allows for early identification and repair, and avoidance of pipeline rupture and raw sewage spills. As stated on page 3.9-34 of the Draft EIR:

The leak detection system would use pressure gauges and flow meters to constantly monitor pipeline pressure and identify leaks early so that repairs would be made and pipeline failures would be avoided. The City's SSMP (2014) provides the framework for implementing preventative operation and maintenance activities on daily, monthly, semi-annually, and annual time steps. Such activities include daily lift station checks, daily sewer line cleaning, and daily CCTV (closed-circuit TV) inspections. The monitoring and inspection efforts are recorded and inform the City's plans for rehabilitation and replacement projects. The preparation and implementation of the SSMP is required by the SWRCB to fulfill the requirements of the State General Waste Discharge Requirements for Sanitary Sewer Systems, Order No. 2006-003. The City is required to revise and adopt an updated SSMP every five years. With implementation of regulatory requirements for system preventative maintenance and operation, there would be a less than significant impact to water quality.

**Accidental release of hazardous materials at the WRF site.** Hazardous materials would be stored and used onsite at the WRF. As described on page 2-12 of the Draft EIR:

A chemical storage facility would be constructed for hazardous materials containment and handling. The chemical storage facility would include a metal canopy to cover chemical tanks, bins, and/or totes in a concrete containment area. Hazardous materials associated with the treatment process include MF/RO membrane cleaning chemicals, disinfection chemicals, and other treatment-related chemicals. Chemicals such as sodium hypochlorite, citric acid, sodium bisulfite, and sulfuric acid would be stored in the chemical storage facility. All bulk chemical storage and loading areas would be located in chemical containment areas fitted to contain spills. Spills would be conveyed to blind sumps for manual pumping and disposal by truck. Level indicators tied to SCADA will be included on chemical storage tanks. All chemical piping will be fitted with electronic leak detection systems tied to SCADA to notify operators of any chemical piping leaks.

The Draft EIR explains on page 3.8-15 how hazardous materials spill would be prevented or contained to the WRF site, prevent impacts offsite to neighboring lands, drainages, Chorro Creek, and Morro Bay Estuary:

While the proposed treatment processes are not chemical intensive, regular deliveries of various chemicals would be required. As such, new chemicals would need to be routinely transported, used, and or disposed from the WRF facilities. If not done properly, transport of chemicals could result in spills. In accordance with Title 22 Division 4.5 Chapter 13 of the CCR, all hazardous waste transporters that would serve the proposed project during operation would be required to be registered with DTSC and provide proof of the ability to provide adequate response to leaks and damages for DTSC review. Additionally, the registered hazardous waste transporters would be required to implement all standard industry practices for securing and transporting of hazardous materials as well as for

cleanup of any accidental spills or leaks. Once the hazardous materials have arrived onsite, all bulk chemical storage on the preferred WRF site would be located in chemical containment areas fitted to contain spills. If a spill incident were to occur, all spills would be conveyed to blind sumps for manual pumping and disposal by truck. Furthermore, the use of such hazardous materials would be required to comply with existing regulatory standards with respect to the storage and handling of hazardous materials including preparation of and compliance with a Hazardous Materials Business Plan (HMBP) as managed and overseen by the San Luis Obispo County Department of Environmental Health Services. These requirements include such safety measures as ensuring the use of appropriate storage vessels, secondary containment features, safety labeling, readily available spill absorbent materials, and training of site workers to respond to any accidental release. Adherence to these requirements and programs would ensure that impacts to the environment and public health due to routine transport, use, and disposal of hazardous materials during operation of the WRF would be less than significant.

In addition, level indicators tied to SCADA will be included on chemical storage tanks. All chemical piping will be fitted with electronic leak detection systems tied to SCADA to notify operators of any chemical piping leaks.

**Accidental release of raw/untreated wastewater at the WRF site.** The WRF design would incorporate features to prevent spills of wastewater at the WRF site and measures to contain spills on the site should a failure occur. If a wastewater spill were to occur, then it would most likely be due to operator error or mechanical failure causing an overflow at a basin or tank. The WRF design will incorporate systems to help reduce the likelihood of spills as described below.

Potential operator error could include accidental closure of a valve or disabling mechanical equipment, such as a pump or a screen to perform maintenance, and failing to return the equipment to service. Wastewater could back up due to the closed valve or mechanical equipment being out of operation. Redundant water level indicators and alarms will be fitted in each basin. If water levels exceed a high level set point, then a high water level alarm would notify operators through SCADA. If the problem were not addressed in time, then wastewater could spill over the walls of a basin. The WRF design will include grading and stormwater control features to contain all runoff onsite. Stormwater detention basins will serve to capture and contain stormwater onsite and can double as wastewater spill containment. The detention basins will not include automatic outlets to adjacent creeks or swales, but instead be designed to capture and percolate stormwater onsite. If an accidental wastewater spill were to occur, then wastewater would drain to the onsite stormwater basin and operators would be able to use temporary pumps and piping to move the spilled sewage back to the treatment works.

If mechanical equipment fails, then operators will be notified of the status change in SCADA. If the problem is not addressed in time, then wastewater could back up in basins or tanks. Water level indicators and high water level alarms would notify operators. If the issue still could not be addressed in time and wastewater levels continued to rise, then a spill could occur onsite. As described in the paragraph above, the WRF design includes protections against such spills. In

addition to those features, redundancy for critical equipment is incorporated into the design (i.e., redundant headworks screens, and redundant pumps and blowers).

## 10.4 Comment Letters and Responses

As mentioned above, the City received 35 comment letters and emails during the public review period, which are presented below in the order listed in **Table 10-1**; comment letters from public agencies are presented first, followed by letters from tribes and non-governmental organizations, followed by letters from individual members of the public. The letters have been marked with brackets that delineate comments pertaining to environmental issues and the information and analysis contained in the Draft EIR. The corresponding responses immediately follow each letter.

**CALIFORNIA COASTAL COMMISSION**

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**May 11, 2018**

Rob Livick, P.E.  
 Public Works Director  
 City of Morro Bay  
 955 Shasta Avenue  
 Morro Bay, CA 93442

**Subject: Morro Bay Water Reclamation Facility Draft Environmental Impact Report  
 (State Clearinghouse Number 2016081027)**

Dear Mr. Livick:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Report (DEIR) for the Morro Bay Water Reclamation Facility (WRF) project. The project proposes to construct a new WRF outside of the City limits in unincorporated San Luis Obispo County to provide wastewater treatment services for City residences, produce recycled water (including for potential groundwater injection into the Morro Valley Groundwater Basin), decommission the existing wastewater treatment plant facility located at Atascadero Road, construct a new pump station for wastewater collection and conveyance, and construct associated pipelines for wastewater distribution, including ultimately treated effluent discharge via the existing ocean outfall pipeline.

We would first like to thank the City's WRF team and members of the Morro Bay community for their active and thoughtful engagement on this important community project. We understand that there are difficult decisions to be made regarding the WRF and that such decisions will have lasting impacts on the City, its residents, and its coastal resources. And we also recognize that there are deeply-held differences of opinion in the community as to how to proceed on many project aspects. Such is the nature of many land use and community planning debates, and this is no different, it appears. Just so it is clear at the onset, and as we have previously and publicly stated, we are very supportive of the overall project and its objectives, and we will continue to actively work with the City throughout the WRF planning and permitting process to help identify and address project issues to help ensure that the WRF project outcome is successful, and is consistent with the Coastal Act and the City's Local Coastal Program (LCP).

As you know, we don't come to this debate late nor uninformed, having worked with the City for many years on its proposals relating to wastewater treatment infrastructure, including with respect to the City's previously proposed redevelopment of the wastewater treatment plant at its current location. That site's coastal hazard issues, including those related to ocean and riverine flooding and tsunamis (all as exacerbated by potential sea level rise over time), were the key reasons for the Coastal Commission's denial of the City's coastal development permit (CDP) application in January 2013. That denial was a critical moment in the City's efforts, and included Coastal Commission direction to the City to pursue a new facility at an inland location out of

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harm's way where such critical infrastructure would avoid these coastal hazards. In the time since, the City has worked diligently towards such an outcome, and the proposed WRF reflects the results of that work, including building upon substantial preliminary work on identifying alternatives. As you know, the concept of relocating critical public infrastructure away from lower-lying shoreline areas to higher/safer more inland locations, including to avoid the need for shoreline armoring and related development and its attendant coastal resource impacts, and to ensure that scarce shoreline property is available for high priority uses such as public access and recreation, is a key Commission goal statewide, including as described in the Commission's adopted 2015 Sea Level Rise Policy Guidance. As such, we have worked diligently and collaboratively with the City, its WRF team, and members of the public for many years towards this goal. In our view, the proposed WRF site at South Bay Boulevard and the broader project components represent the culmination of these significant efforts. Thus, we want to voice our strong support for the proposed project at that level, including in terms of meeting core Coastal Act objectives described above of relocating critical public infrastructure away from the immediate shoreline and beach, as well as providing recycled water to help augment existing water supplies—both of which are critically important adaptation measures needed to address the uncertainties brought by climate change. These important measures will help buffer the City and its residents from future impacts, and the entire City should be proud of the work being done today to alleviate these concerns tomorrow.

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Next, in terms of permitting, when a project requires local CDPs and Coastal Commission CDPs, the Coastal Act allows for a single consolidated CDP application to the Coastal Commission. Given this project spans County and City CDP jurisdictions, and both such CDPs would be subject to appeal to the Coastal Commission, there could be three separate CDPs for the project, and potentially two CDP appeals, all with different standard of reviews and procedures.<sup>1</sup> In light of this, including to avoid confusion to the broader public and the potential for fragmentation of project components in different CDP actions, all of which may hinder public participation, and to avoid a significant amount of City expenditure and investment of time on each process separately, it may be in the City's and County's interest to consolidate the CDP application at the Commission (with the Coastal Act as the standard of review). If the City and the County are interested in such consolidation, then we should discuss this process as soon as possible. Regardless of what permitting path the City chooses, however, the EIR should clearly explain what project components are subject to whose applicable CDP review authority, and the differing standards of review that apply in each case.

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Finally, with respect to coastal resource concerns, the project largely proposes to avoid impacts to sensitive natural coastal resources, including wetlands, streams, and riparian habitats, by placing pipelines underground and constructing them via trenchless methods. However, and albeit relatively minor given the overall scale of a public works project of this type spanning multiple jurisdictions, as proposed, the project will impact other protected coastal resources. For

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<sup>1</sup> The standard of review for development proposed in the Commission's CDP jurisdiction is the Coastal Act; for development in the County's CDP jurisdiction, the San Luis Obispo County LCP; and for development in the City's CDP jurisdiction, the Morro Bay LCP.

example, with respect to public views, the WRF would be briefly visible from Highway 1, modifying the existing views of unobstructed open hillsides as seen from the highway. In addition, over an acre of the proposed injection well area (IPR East) is located in prime farmland, which could necessitate the conversion of roughly 1,000 square feet of such agricultural land (to allow for up to five wells with footprints of up to 200 square feet each). And finally, the two potential sites identified thus far for the proposed lift stations are located in areas adjacent to the existing wastewater treatment plant site, where such infrastructure would be placed in areas currently mapped by FEMA in the 100-year floodplain, with flooding occurring at roughly 20 feet above sea level.<sup>2</sup> For all of these coastal resource issues, the DEIR concludes any such impacts would be less than significant. However, we believe it is in everyone's best interest for the EIR to evaluate whether there are feasible project alternatives that can avoid these impacts altogether, and if not, to explain such feasibility issues in a manner that crafts alternatives that avoid impacts as much as feasible, and mitigates for those impacts that are unavoidable. In other words, it will be important for the EIR to provide a full breadth of information so that the public and decision-makers are able to clearly understand project impacts and alternatives, including to be able to best weigh potential choices.

For example, the DEIR should explore siting and design techniques and project alternatives that can completely conceal the WRF from public views along Highway 1 (e.g., being set further inland beyond the hillside, lowering building heights, rearranging taller buildings on the site to hidden locations, berming and screening landscaping, etc.). In addition, it needs to evaluate alternatives that allow the groundwater injection wells to be placed outside of prime agricultural lands. And it needs to evaluate whether the lift station function can be accommodated outside of potential flood hazard areas, including as evaluated based on potential sea level rise over time. While we recognize that it may eventually prove infeasible to avoid all flooding issues related to the lift station function, it will be important for the EIR to appropriately define this constraint, and evaluate a range of alternatives that can avoid it and that can best respond to and address potential flood hazards and best allow for adaptive reuse of the existing wastewater treatment facility. For each of these issues, and any others where coastal resource impacts are identified, the EIR needs to thoroughly discuss the options available to avoid these coastal resource impacts, analyze why and whether such alternatives can or cannot be undertaken, and describe the issues/impacts those alternatives themselves engender. Such information, including clearly describing the reasons for preferred project configurations (and, conversely, the opportunities and constraints associated with alternative configurations) will prove necessary in evaluating the project against applicable Coastal Act and LCP provisions during the CDP review process. To be clear, each of these issues seems readily resolvable in our view, and certainly don't represent any kind of fatal flaw that would appear to require extensive project redesign. Our comments here should be understood in this context, and are meant to ensure that the EIR factually describes and

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<sup>2</sup> While the EIR cites the 20-foot flood level based on historic 100-year flood events, the EIR does not describe future flood elevations and risks due to sea level rise. The EIR needs to describe such risks at the proposed pump station sites, and evaluate ways to address them.



evaluates, for both the public and decision-makers, ways of avoiding impacts to coastal resources, including an evaluation of feasibility issues pertaining thereto.

In sum, we want to again voice our strong support for the overall WRF project, and to thank the City for its diligence in addressing needed upgrades to critical public infrastructure in a forward-looking manner. We believe that the DEIR is an important milestone in this effort, and we hope our comments above are understood in that context, including that our objective here is to help to ensure that the EIR is crafted in a way that provides the best possible underlying information for decisions. We look forward to continuing to collaborate with the City as you move towards finaling the EIR, and to help successfully bring this project to fruition in the near term. Good planning and public policy demand no less, and we stand ready to assist however we can in that endeavor. If you have any questions or would like to further discuss these comments or any other project issues, please do not hesitate to contact me at any time at the address and phone number on the first page.

Sincerely,



Kevin Kahn  
District Supervisor  
Central Coast District  
California Coastal Commission

cc: Scott Collins, City of Morro Bay City Manager  
Scot Graham, City of Morro Bay Community Development Director  
John Robertson, Central Coast RWQCB Executive Officer

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## Comment Letter – California Coastal Commission (CCC)

### Response to CCC-1

The City of Morro Bay thanks the CCC for its review of the Draft EIR. The comment is noted.

### Response to CCC-2

The City of Morro Bay thanks the CCC for its support of the project and its objectives. The comment is noted.

### Response to CCC-3

The City of Morro Bay thanks the CCC for its acknowledgment the proposed project is aligned with the Coastal Act and the Commission's goals for moving public infrastructure away from the shoreline and areas of coastal hazards and making shoreline property available to other uses such as public access and recreation. The comment is noted.

### Response to CCC-4

The Draft EIR explains the proposed WRF would be located in unincorporated San Luis Obispo County and the rest of the project components would be located within the City of Morro Bay. As such, the list of potential approvals required for implementation of the proposed project includes a CDP from the County and City, or potentially from the CCC (see Table 2-10 in the Draft EIR), depending on the CDP application approach as described in the comment. As such, throughout the Draft EIR, the analysis of all impacts due to construction and operation of the proposed WRF component have been evaluated in accordance with County regulations and policies, and the analysis of all other project components have been evaluated in accordance with City regulations and policies, including the respective City and County LCP as well as other policies adopted for activities within the Coastal Zone. The City appreciates CCC staff's willingness to consider a consolidated permitting approach, and looks forward to exploring that option further with CCC staff.

### Response to CCC-5

An EIR is an informational document that informs public agency decision makers and the public generally of the significant environmental effect of a project, identifies possible ways to minimize the significant effects, and describes reasonable alternatives to the project (*CEQA Guidelines* Section 15121). CEQA requires an EIR to include a description of the environmental setting that constitutes the baseline physical conditions against which a lead agency determines whether impacts of a project are significant (*CEQA Guidelines* Section 15125). The evaluation of impacts is based on adopted thresholds of significance that a lead agency uses in the determination of the significance of environmental effects (*CEQA Guidelines* Section 15064.7). CEQA requires an EIR to be prepared with a sufficient degree of analysis to provide decision makers with information to enable them to make a decision which intelligently takes account of environmental consequences (*CEQA Guidelines* Section 15151). CEQA does not require all impacts to be mitigated to less than significant levels or mitigated completely.

As stated in the comment, the analysis in the Draft EIR concluded the proposed project would have less than significant impacts to coastal resources including visual resources, flooding, and prime farmland. CEQA does not require identification of alternatives that would eliminate all impacts, such that no impacts would occur. As explained in Chapter 6 of the Draft EIR, in accordance with CEQA, the alternatives analysis focused on lessening or avoiding significant and unavoidable impacts associated with implementation of the proposed project (*CEQA Guidelines* Section 15126.6(f)). As a result of the analysis in the Draft EIR, the only significant and unavoidable impacts associated with the proposed project were to cultural resources. As such, alternatives that could avoid or lessen impacts to cultural resources were evaluated. Please also refer to **Master Response 1 - Alternatives** for further discussion of how the alternatives considered in the EIR were developed.

The City acknowledges the CCC's standard of review of environmental impacts and alternatives under the Coastal Act is different from that of CEQA. The City is committed to working with the CCC through the permitting and design process for the proposed project to address CCC's concerns, within the range of feasible options for the proposed project. The comment requests a discussion of potential alternatives that would eliminate completely the impacts to visual resources, flooding, and prime farmland. The following discussion is offered in response to the comment:

### ***Visual Resources***

The Draft EIR includes a visual simulation of the WRF from vantage points along Highway 1 (see Figure 3.1-1). The visual simulation accounts for the proposed architectural design criteria for WRF structures included as part of the Draft EIR project description, as well as surrounding topography. Given the proposed siting of the facilities, the visual simulation illustrates how the proposed WRF would be visible, albeit only momentarily, by motorists traveling both east and west along Highway 1. As mentioned in the Draft EIR (page 3.1-8), as a new public utility facility, the County's Coastal Zone Land Use Ordinance (CZLUO) would require a Development Plan to be prepared for the WRF (CZLUO Section 23.08.288). Per the CZLUO, development standards for public utility facilities would apply as conditions of approval under the Development Plan, such as for fencing and screening (CZLUO Section 23.08.288(c)). The CZLUO development standards for fencing and screening require public utility facilities to be screened on all sides and an effective visual barrier to be established through the use of a solid wall, fencing and/or landscaping. The Development Plan process includes a public hearing before the County Review Authority. During the process of preparing the Development Plan, the requirements for fencing and screening of the WRF would be developed; if required by the County the landscape screening and fencing could be designed to conceal the WRF buildings in their entirety.

Due to the size of the facilities, shifting the location to fully hide the WRF from view is not feasible without excessive earthwork, which would be prohibitively expensive, or constructing within a drainage area on the north side of the hill, which is environmentally impractical and would also require significant earthwork and drainage design. That earthwork could add additional negative environmental impacts.

### ***Prime Agricultural Land***

Inherent in the proposed project description, there are alternative locations for the proposed wells that allow the groundwater injection wells to be placed outside of prime agricultural lands. The proposed project includes two wellfield areas, IPR East and IPR West. One of those areas will be selected for siting and development of three to five injection and monitoring wells. IPR West does not include prime farmland and if chosen, then the development of wells would result in no impact to prime farmland. Only the IPR East wellfield area includes prime farmland, which encompasses 1.26 acres of the 13.82-acre wellfield area (see Draft EIR page 3.2-13 and Figure 3.2-1). The Draft EIR evaluated the worst-case scenario of selecting the IPR East wellfield area and then siting all five wells on prime agricultural land, which would convert a total of up to 0.02 acres (1,000 square feet) to non-agricultural use. The siting of the injection and monitoring wells would ultimately be determined based on geophysical conditions and aquifer parameters, including soil porosity, groundwater elevations, groundwater flow directions and rates, among other things. In addition, the CCR Title 22 regulations for GRRPs include requirements for relative distances between injection and production wells predicated on ensuring the minimum residence time and travel time for recycled water recharged to a potable aquifer are met. The City would strive to avoid siting injection and monitoring wells on prime agricultural lands; however, the geophysical and groundwater conditions and CCR Title 22 regulations and criteria for siting of the wells will dictate the well locations and may result in the conversion of small amounts of prime farmland. As concluded in the Draft EIR, conversion of up to 0.02 acres of prime farmland would be a less than significant impact (page 3.2-14).

### ***Coastal Flooding***

As described in Chapter 6, Alternatives Analysis, as part of the draft Facility Master Plan, eight potential lift station sites were evaluated as part of the offsite facilities for the proposed project. A set of ten evaluation criteria was established to compare those sites which included, (1) parcel size, location, and availability, (2) parcel ownership, (3) land acquisition, (4) parcel zoning information, (5) potential for community impacts, (6) reuse of existing facilities, (7) benefit to future Capital Improvement Program (CIP) projects, (8) support for WWTP site redevelopment, (9) gravity sewer evaluation and (10) cost and constructability (which considered flood hazard areas). Each of those eight sites were chosen because they were capable of meeting the City's objective of capturing and conveying flows from the existing wastewater collection system to the proposed project. Only one site, Alternative Site No. 8, was outside of the 100-year flood hazard area, as it was east of Highway 1 and north of Atascadero Road. Alternative Site No. 8 was not chosen because the additional construction required added significant cost and potential environmental impact. A lift station at Alternative Site No. 8 would require nearly 2,500 feet of additional sanitary sewer pipe, a tunnel crossing of Highway 1 and the wet well would be twice as deep (at 50 feet deep instead of 20 to 25 feet deep). Flooding at the preferred site can be mitigated through design features described elsewhere in the Draft EIR (including elevated wetwell access and backup power), which would allow the lift station to continue operating during a 100-year flood event.

### **Response to CCC-6**

The City of Morro Bay thanks the CCC for its support of the project. The comment is noted.



EDMUND G. BROWN JR.  
GOVERNOR

STATE OF CALIFORNIA  
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH



KEN ALEX  
DIRECTOR

May 18, 2018

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MAY 21 2018

City of Morro Bay  
Public Works Department

Rob Livick  
City of Morro Bay  
595 Harbor St  
Morro Bay, CA 93442

Subject: Morro Bay Water Reclamation Facility  
SCH#: 2016081027

Dear Rob Livick:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on May 17, 2018, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan  
Director, State Clearinghouse

**Document Details Report  
State Clearinghouse Data Base**

**SCH#** 2016081027  
**Project Title** Morro Bay Water Reclamation Facility  
**Lead Agency** Morro Bay, City of

---

**Type** EIR    Draft EIR

**Description** The city of Morro Bay is proposing to construct a water reclamation facility that would provide wastewater treatment services for the city and potentially for additional nearby customers. The current existing facility, the Morro Bay-Cayucos Wastewater Treatment Plant, would be replaced by the proposed project. The proposed project is intended to provide opportunities for the city to produce and beneficially reuse advanced treated recycled water and to meet or exceed all wastewater treatment requirements of the SWRCB. In addition to the WRF, additional project facilities would include related administration, operations and maintenance buildings; additions to the collection system including a lift station and pipelines to convey raw/treated water wastewater flows to/from the new WRF; and a new distribution system to convey advanced treated recycled water from the WRF to new groundwater injection wells in the Morro Valley Groundwater Basin.

---

**Lead Agency Contact**

<b>Name</b>	Rob Livick		
<b>Agency</b>	City of Morro Bay		
<b>Phone</b>	(805) 772-6261	<b>Fax</b>	
<b>email</b>			
<b>Address</b>	595 Harbor St		
<b>City</b>	Morro Bay	<b>State</b> CA	<b>Zip</b> 93442

---

**Project Location**

<b>County</b>	San Luis Obispo			
<b>City</b>	Morro Bay			
<b>Region</b>				
<b>Lat / Long</b>	35° 22.6' N / 120° 49' 21.10" W			
<b>Cross Streets</b>	South Bay Blvd and Hwy 1			
<b>Parcel No.</b>	073-101-017			
<b>Township</b>		<b>Range</b>	<b>Section</b>	<b>Base</b>

---

**Proximity to:**

<b>Highways</b>	1
<b>Airports</b>	
<b>Railways</b>	
<b>Waterways</b>	Little Morro Creek, Morro Creek, Chorro Creek
<b>Schools</b>	Morro Bay HS
<b>Land Use</b>	coastal zone estero planning area: ag; Z: AG

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**Project Issues** Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Cumulative Effects; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Growth Inducing; Landuse; Minerals; Noise; Other Issues; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Coastal Zone

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**Reviewing Agencies** Resources Agency; California Coastal Commission; Department of Fish and Wildlife, Region 4; Department of Fish and Wildlife, Marine Region; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 5; State Water Resources Control Board, Division of Drinking Water; State Water Resources Control Board, Division of Financial Assistance; Regional Water Quality Control Board, Region 3; Department of Toxic Substances Control; Native American Heritage Commission

**Document Details Report**  
**State Clearinghouse Data Base**

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**Date Received** 04/03/2018

**Start of Review** 04/03/2018

**End of Review** 05/17/2018

## Comment Letter – Governor’s Office of Planning and Research (OPR)

### **Response to OPR-1**

The City acknowledges it has complied with the State Clearinghouse review requirements for draft environmental documents. The comment is noted.



**DEPARTMENT OF TRANSPORTATION**

50 HIGUERA STREET  
SAN LUIS OBISPO, CA 93401-5415  
PHONE (805) 549-3101  
FAX (805) 549-3329  
TTY 711  
<http://www.dot.ca.gov/dist05/>



*Making Conservation  
a California Way of Life.*

May 18, 2018

**RECEIVED**

**MAY 30 2018**

City of Morro Bay  
Public Works Department

SLO 1 PM 27.9  
SCH#2016081027

Rob Livick, P.E.  
Public Works Director  
City of Morro Bay  
955 Shasta Avenue  
Morro Bay, CA 93442

**COMMENTS FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) FOR THE  
MORRO BAY WATER RECLAMATION FACILITY PROJECT**

Dear Mr. Livick:

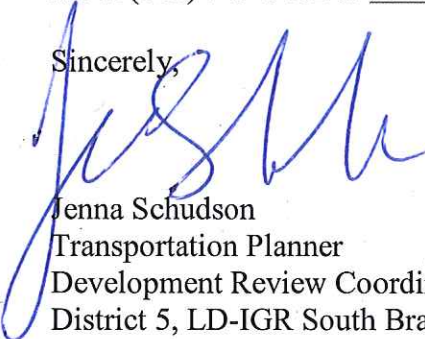
The California Department of Transportation (Caltrans) thanks you for the opportunity to review the DEIR for the Morro Bay Water Reclamation Facility Project. Caltrans has reviewed the above referenced project and offers the following comments at this time.

1. We bring to your attention that the bridge clearance at Highway 1 and South Bay Boulevard is posted as 14 feet 10 inches. We have concerns about the height of vehicles and equipment that will be accessing the facility and need to cross under the highway. It would be important to clarify that this was taken into consideration when this site was chosen and trip generation rates were calculated.
2. The proposed pipeline will enter Caltrans ROW at several locations. Please provide details for each location. We prefer the pipelines go over, rather than under, our culverts with 2' minimum vertical clearance. If that is not possible, Caltrans is available to discuss alternatives.
3. Please provide additional information (specifically the time frames) when counts were taken at intersection 1. Additionally, please provide the Syncho Model to enable Caltrans to review the parameters of the model.
4. Any work within the State's right-of-way will require an encroachment permit from Caltrans, and must be done to our engineering and environmental standards, and at no cost to the State. The conditions of approval and the requirements for the encroachment permit are issued at the sole discretion of the Permits Office, and nothing in this letter shall be implied as limiting those future conditioned and requirements. For more information regarding the encroachment permit process, please visit our Encroachment Permit Website at: <http://dot.ca.gov/dist05/permit/index.htm>.

Mr. Rob Livick  
May 18, 2018  
Page 2

If you have any questions, or need further clarification on items discussed above, please contact me at (805) 549-3432 or [Jenna.Schudson@dot.ca.gov](mailto:Jenna.Schudson@dot.ca.gov).

Sincerely,



Jenna Schudson  
Transportation Planner  
Development Review Coordinator  
District 5, LD-IGR South Branch

RECEIVED  
May 18, 2018  
Public Works Department

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cont.

## Comment Letter – California Department of Transportation (Caltrans)

### Response to Caltrans-1

The trip generation methodology, which is described on page 3.14-9 of the Draft EIR and in Appendix H (Traffic Study) of the Draft EIR, did not explicitly discuss the height of the Highway 1 overpass at South Bay Boulevard. In general, the vertical dimensions of equipment that are proposed to construct the various element of the Proposed Project are not considered in the Draft EIR. As stated on page 3.14-5 of the Draft EIR, California Vehicle Code (CVC), division 15, chapters 1 through 5 (Size, Weight, and Load) applies to the Proposed Project, and would require oversize vehicles traveling on State highways be licensed. Furthermore, Mitigation Measure TRAF-1, which is described on page 3.14-17 of the Draft EIR, will require the construction contractor to prepare a Traffic Control Plan. The City's review and approval of the Traffic Control Plan would ensure the movement of construction equipment in and around work sites could be safely accommodated. In the event a specific piece of construction equipment could not be safely accommodated under the Highway 1 overpass at South Bay Boulevard, the Traffic Control Plan would specify alternative routes providing access to/from the construction work sites to/from Highway 1 that are not constrained by the overpass height (e.g., Morro Bay Boulevard, Quintana Road).

### Response to Caltrans-2

The proposed routes of the raw wastewater and waste discharge conveyance pipelines is discussed beginning on page 2-15 of the Draft EIR. The proposed route descriptions and associated map provide a general sense of the pipeline with respect to local and regional transportation facilities, including Highway 1. At this stage of project development, detailed construction plans have not yet been prepared. Detailed construction plans, once prepared, will include precise pipeline alignments that provide the detail requested by Caltrans. Caltrans will be able to review those details as part of the encroachment permit process, which is required for work conducted within the Caltrans ROW (Caltrans Street and Highway Code (S&HC) sections 660-711).

### Response to Caltrans-3

As indicated on page 3.14-2 of the Draft EIR, traffic counts were conducted at the three study intersections in February 2018 during the morning peak period (7:00 a.m. to 9:00 a.m.) and the afternoon peak period (4:00 p.m. to 6:00 p.m.). The traffic count data is provided in Appendix H (Traffic Study) of the Draft EIR, which indicates that counts were collected on Thursday, February 1 during clear weather conditions, and specifies truck percentages, peak hour factors, and traffic volumes for each turning movement for each 15-minute interval. Appendix H (Traffic Study) of the Draft EIR also provides the Synchro/SimTraffic outputs for each study scenario.

## **Response to Caltrans-4**

Comment noted. Page 3.14-7 of the Draft EIR states California Streets and Highways Code (S&HC) sections 660-711 apply to the Proposed Project. As part of the project approvals process, compliance with encroachment requirements for work conducted within the Caltrans ROW would be required.

EDMUND G. BROWN JR.  
GOVERNORMATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

## State Water Resources Control Board

MAY 16 2018

Rob Livick, P.E.  
Public Works Director  
City of Morro Bay  
955 Shasta Avenue  
Morro Bay, CA 93442

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MAY 21 2018

City of Morro Bay  
Public Works Department

ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE CITY OF MORRO BAY (CITY);  
MORRO BAY WATER RECLAMATION FACILITY (PROJECT); SAN LUIS OBISPO COUNTY;  
STATE CLEARINGHOUSE NO. 2016081027

Dear Mr. Livick:

We understand that the City is pursuing Clean Water State Revolving Fund (CWSRF) financing for this Project. As a funding agency and a state agency with jurisdiction by law to preserve, enhance, and restore the quality of California's water resources, the State Water Resources Control Board (State Water Board) is providing the following information on the EIR for the Project.

The State Water Board's Division of Financial Assistance is responsible for administering the CWSRF Program. The primary purpose for the CWSRF Program is to implement the Clean Water Act and various state laws by providing financial assistance for wastewater treatment facilities necessary to prevent water pollution, recycle water, correct nonpoint source and storm drainage pollution problems, provide for estuary enhancement, and thereby protect and promote health, safety and welfare of the inhabitants of the state.

The CWSRF Program is partially funded by the United States Environmental Protection Agency (USEPA) and requires additional "California Environmental Quality Act (CEQA)-Plus" environmental documentation and review. Three enclosures are included that further explain the CWSRF Program environmental review process and the additional federal requirements. For the complete environmental application package please visit: [http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/srf/srf\\_forms.shtml](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml). The State Water Board is required to consult directly with agencies responsible for implementing federal environmental laws and regulations. Any environmental issues raised by federal agencies or their representatives will need to be resolved prior to the State Water Board approval of a CWSRF financing commitment for the proposed Project. For further information on the CWSRF Program, please contact Mr. Ahmad Kashkoli, at (916) 341-5855.

It is important to note that prior to a CWSRF financing commitment, projects that are subject to provisions of the Federal Endangered Species Act (ESA), must obtain Section 7 clearance from the United States Department of the Interior, Fish and Wildlife Service (USFWS), and/or the United States Department of Commerce National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) for any potential effects to special-status species.

FELICIA MARCUS, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

Please be advised that the State Water Board will coordinate with the USEPA to consult with the USFWS and/or the NMFS regarding all federal special-status species that the Project has the potential to impact if the Project is to be financed by the CWSRF Program. The City will need to identify whether the Project will involve any direct effects from construction activities, or indirect effects such as growth inducement, that may affect federally listed threatened, endangered, or candidate species that are known, or have a potential to occur in the Project site, in the surrounding areas, or in the service area, and to identify applicable conservation measures to reduce such effects.

In addition, CWSRF projects must comply with federal laws pertaining to cultural resources, specifically Section 106 of the National Historic Preservation Act (Section 106). The State Water Board has responsibility for ensuring compliance with Section 106, and must consult directly with the California State Historic Preservation Officer (SHPO). The SHPO consultation is initiated when sufficient information is provided by the CWSRF applicant. If the City decides to pursue CWSRF financing, please retain a consultant that meets the Secretary of the Interior's Professional Qualifications Standards ([http://www.nps.gov/history/local-law/arch\\_stnds\\_9.htm](http://www.nps.gov/history/local-law/arch_stnds_9.htm)) to prepare a Section 106 compliance report.

Note that the City will need to identify the Area of Potential Effects (APE), including construction and staging areas, and the depth of any excavation. The APE is three-dimensional and includes all areas that may be affected by the Project. The APE includes the surface area and extends below ground to the depth of any Project excavations. The records search request should extend to a ½-mile beyond project APE. The appropriate area varies for different projects but should be drawn large enough to provide information on what types of sites may exist in the vicinity.

Other federal environmental requirements pertinent to the Project under the CWSRF Program include the following (for a complete list of all federal requirements please visit: [http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/srf/docs/forms/application\\_environmental\\_package.pdf](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/docs/forms/application_environmental_package.pdf)):

- A. An alternative analysis discussing environmental impacts of the Project in either the CEQA document (EIR), in a separate report, or in the CWSRF technical application package.
- B. A public hearing or meeting for adoption/certification of CEQA documents except for those with little or no environmental impacts.
- C. Compliance with the Federal Clean Air Act: (a) Provide air quality studies that may have been done for the Project; and (b) if the Project is in a nonattainment area or attainment area subject to a maintenance plan; (i) provide a summary of the estimated emissions (in tons per year) that are expected from both the construction and operation of the Project for each federal criteria pollutant in a nonattainment or maintenance area, and indicate if the nonattainment designation is moderate, serious, or severe (if applicable); (ii) if emissions are above the federal de minimis levels, but the Project is sized to meet only the needs of current population projections that are used in the approved State Implementation Plan for air quality, quantitatively indicate how the proposed capacity increase was calculated using population projections.
- D. Compliance with the Coastal Zone Management Act: Identify whether the Project is within a coastal zone and the status of any coordination with the California Coastal Commission.

1 cont.

- E. Protection of Wetlands: Identify any portion of the proposed Project area that should be evaluated for wetlands or United States waters delineation by the United States Army Corps of Engineers (USACE), or requires a permit from the USACE, and identify the status of coordination with the USACE.
- F. Compliance with the Farmland Protection Policy Act: Identify whether the Project will result in the conversion of farmland. State the status of farmland (Prime, Unique, or Local and Statewide Importance) in the Project area and determine if this area is under a Williamson Act Contract.
- G. Compliance with the Migratory Bird Treaty Act: List any birds protected under this act that may be impacted by the Project and identify conservation measures to minimize impacts.
- H. Compliance with the Flood Plain Management Act: Identify whether or not the Project is in a Flood Management Zone and include a copy of the Federal Emergency Management Agency flood zone maps for the area.
- I. Compliance with the Wild and Scenic Rivers Act: Identify whether or not any Wild and Scenic Rivers would be potentially impacted by the Project and include conservation measures to minimize such impacts.

1 cont.

Following are specific comments on the City's draft EIR:

- 1. Please provide regulatory standards in Table 3.9-1 for comparison (page 3.9-5).
- 2. Please include all Project sites located in the 100-year floodplain, listed on page 3.9-11, in the Flood Zone section on page 3.9-9.
- 3. Please clarify why implementation of mitigation measures BIO-1 through BIO-10 is included on page 4-12, but the following paragraph indicates no mitigation measures required.
- 4. Due to construction proximity to jurisdictional Waters of the U.S., has the City of Morro Bay initiated communication with USACE for this Project?
- 5. Please provide details on the ocean outfall pipeline, specifically the location and details of the mixing zone at the outfall in the ocean.
- 6. Please analyze the impacts (positive or negative) of discharge changes (quality and quantity) at the ocean outfall to the habitat(s) surrounding the outfall pipe.
- 7. Please include the entire Project area in the Biological Resources Assessment (BRA), Appendix D. Biological Resources need to be analyzed for both injection well sites, Wastewater Treatment Facility decommission site, and staging areas.
- 8. Species from the USFWS (Information for Planning and Consultation) IPaC and California Native Plant Society (CNPS) databases need to be included in the BRA analysis. Several species on the IPaC list (state and federally listed) are not analyzed in the EIR.
- 9. Please acquire and analyze the special-status species and habitat list from National Marine Fisheries Service (NMFS). Quads, Morro Bay North and Morro Bay South, include listed species which are not included in this EIR.
- 10. Part of the Project area is within California red-legged frog (CRLF) critical habitat. Please clearly show on a map where CRLF critical habitat overlaps with the Project area. Please coordinate with USFWS to determine if protocol level CRLF surveys will be needed.
- 11. Please discuss noise and vibration impacts of Wastewater Treatment Plant (WWTP) decommissioning on migratory birds and potential breeding habitats adjacent to the WWTP site.

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Mr. Livick  
City of Morro Bay

- 4 -

Please provide us with the following documents applicable to the proposed Project following the City's CEQA process: (1) one copy of the draft and final EIR, (2) the resolution adopting the EIR and making CEQA findings, (3) all comments received during the review period and the City's response to those comments, (4) the adopted Mitigation Monitoring and Reporting Program and (5) the Notice of Determination filed with the San Luis Obispo County Clerk and the Governor's Office of Planning and Research, State Clearinghouse. In addition, we would appreciate notices of any hearings or meetings held regarding environmental review of any projects to be funded by the State Water Board.

13

Thank you for the opportunity to review the City's draft EIR. If you have any questions or concerns, please feel free to contact me at (916) 341-5686, or by email at [Tessa.Lenz@waterboards.ca.gov](mailto:Tessa.Lenz@waterboards.ca.gov), or contact Ahmad Kashkoli at (916) 341-5855, or by email at [Ahmad.Kashkoli@waterboards.ca.gov](mailto:Ahmad.Kashkoli@waterboards.ca.gov).

Sincerely,



Tessa Lenz  
Environmental Scientist

Enclosures (3):

1. Clean Water State Revolving Fund Environmental Review Requirements
2. Quick Reference Guide to CEQA Requirements for State Revolving Fund Loans
3. Basic Criteria for Cultural Resources Reports

cc: State Clearinghouse  
(Re: SCH# 2016081027)  
P.O. Box 3044  
Sacramento, CA 95812-3044



# Basic Criteria for Cultural Resources Report Preparation

State Water Resources Control Board Division of Financial Assistance

Under Section 106 of the National Historic Preservation Act, the following elements are required under the Cultural Resources Report:

## QUALIFIED RESEARCHER

The Cultural Resources Report must be prepared by a qualified researcher that meets the Secretary of the Interior's Professional Qualifications Standards. Please see the Professional Qualifications Standards at the following website at: [http://www.cr.nps.gov/local-law/arch\\_stnds\\_9.htm](http://www.cr.nps.gov/local-law/arch_stnds_9.htm)

## APPROPRIATE DETERMINATIONS

The Cultural Resources Report should include one of the three "determinations" listed in Section 106. These include:

### ***"No historic properties affected"***

(no properties are within the area of potential effect (APE), including below the ground).

### ***"No adverse effect to historic properties"***

(the project may affect "historic properties", but the effects will not be adverse).

### ***"Adverse effect to historic properties"***

(the project will adversely affect "historic properties", avoidance, minimization, or mitigation measures need to be established). Note: Consultation with the SHPO will be required if a "no adverse effect to historic properties" or an "adverse effect to historic properties" determination is made, to develop and evaluate alternatives or modifications to the proposed project that could avoid, minimize or mitigate adverse effects on "historic properties."

## RECORDS SEARCH

A recent records search extending to a half-mile beyond the project APE from a geographically appropriate Information Center is required ([http://ohp.parks.ca.gov/pages/1068/files/ic\\_roster.pdf](http://ohp.parks.ca.gov/pages/1068/files/ic_roster.pdf)). The records search should include maps that show all recorded sites and surveys in relation to the APE for the proposed project, and copies of the confidential site records included as an appendix to the Cultural Resources Report. The locations of the cultural resources need to be clearly defined in relation to the APE boundary.

## AREA OF POTENTIAL EFFECT

- The APE is three-dimensional (depth, length and width) and all areas (e.g., new construction, easements, staging areas, and access roads) directly affected by the proposed project, depicted on a properly scaled map (record search map is not an APE map).
- Detailed narrative APE description.

## REPORT TERMINOLOGY

Cultural Resources Report needs to use Section 106 terminology and content consistent with the NHPA 36 CFR Part 800.11.



## NATIVE AMERICAN AND INTERESTED PARTY CONSULTATION

- Native American and interested party consultation should be initiated at the planning phase of the proposed project to gather information to assist with the preparation of an adequate Cultural Resources Report.
- The Native American Heritage Commission (NAHC) must be contacted to obtain documentation of a search of the Sacred Lands Files for or near the project APE. <http://nahc.ca.gov/wp-content/uploads/2015/04/Sacred-Lands-File-NA-Contact-Form.pdf>
- All local Native American tribal organizations or individuals identified by the NAHC must be contacted by certified mail, that includes a map and a description of the proposed project.
- Follow-up contact should be made by telephone and a phone log maintained to document the contacts and responses.
- Comments and Responses need to be addressed by the preparer.
- Letters of inquiry seeking historical information on the project area and local vicinity should be sent to local historical societies, preservation organizations, or individual members of the public with a demonstrated interest in the proposed project.

Copies of all documents mentioned above (project description, map, phone log and letters sent to the NAHC and Native American tribal organizations or individuals and interested parties) must be included in the Cultural Resources Report.

## PRECAUTIONS

- A determination of ***“no known resources”*** without supporting evidence is unacceptable. The Cultural Resources Report must identify resources within the APE or demonstrate with sufficient evidence that none are present.
- ***“The area is sensitive for buried archaeological resources,”*** followed by a statement that ***“monitoring is recommended.”*** Monitoring is not an acceptable option without good-faith effort to demonstrate that no known resource is present.
- If ***“the area is already disturbed by previous construction”*** documentation is still required to demonstrate that the proposed project will not affect “historic properties.” An existing road can be protecting a buried archaeological deposit or may itself be a “historic property.” Additionally, previous construction may have impacted an archaeological site that has not been previously documented.

## SHPO CONSULTATION LETTER (AS REQUESTED)

Following review of the submitted material, State Water Resources Control Board staff may request submittal of a draft consultation letter prepared by the qualified researcher. A draft consultation letter template is available for download on the State Water Board webpage at: [http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/cwsrf\\_requirements.shtml](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/cwsrf_requirements.shtml)

**Contact Information:** For more information related to the SRF Program Cultural Resources and Requirements, please contact Mr. Gary Scholze at 916-341-5642 or [Gary.Scholze@waterboards.ca.gov](mailto:Gary.Scholze@waterboards.ca.gov)



[waterboards.ca.gov](http://waterboards.ca.gov)



## CLEAN WATER STATE REVOLVING FUND

# California Environmental Quality Act Requirements

State Water Resources Control Board

Division of Financial Assistance

The State Water Resources Control Board (State Water Board), Division of Financial Assistance, administers the Clean Water State Revolving Fund (CWSRF) Program. The CWSRF Program is partially funded by grants from the United States Environmental Protection Agency. All applicants seeking CWSRF financing must comply with the California Environmental Quality Act (CEQA), and provide sufficient information so that the State Water Board can document compliance with federal environmental laws. The "Environmental Package" provides the forms and instructions needed to complete the environmental review requirements for CWSRF Program financing. It is available at:  
[http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/srf/srf\\_forms.shtml](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml)



We've got the **green...**  
to keep California's **water clean.**  
CLEAN WATER STATE REVOLVING FUND

**Contact Information:** For more information related to the CWSRF Program environmental review process and requirements, please contact your State Water Board Project Manager or Mr. Ahmad Kashkoli at 916-341-5855 or [Ahmad.Kashkoli@waterboards.ca.gov](mailto:Ahmad.Kashkoli@waterboards.ca.gov)

## LEAD AGENCY

The applicant is usually the "Lead Agency" and must prepare and circulate an environmental document before approving a project. Only a public agency, such as a local, regional or state government, may be the "Lead Agency" under CEQA. If a project will be completed by a non-governmental organization, "Lead Agency" responsibility goes to the first public agency providing discretionary approval for the project.

## RESPONSIBLE AGENCY

The State Water Board is generally a "Responsible Agency" under CEQA. As a "Responsible Agency," the State Water Board must make findings based on information provided by the "Lead Agency" before financing a project.

## ENVIRONMENTAL REVIEW

The State Water Board's environmental review of the project's compliance with both CEQA and federal cross-cutting regulations must be completed before a project can be financed by the CWSRF Program.

## DOCUMENT REVIEW

Applicants are encouraged to consult with State Water Board staff early during preparation of CEQA document if considering CWSRF financing. Applicants shall also send their environmental documents to the State Water Board, Environmental Review Unit during the CEQA public review period. This way, any environmental concerns can be addressed early in the process.

## REQUIRED DOCUMENTS

The Environmental Review Unit requires the documents listed below to make findings and complete its environmental review. Once the State Water Board receives all the required documents and makes its own findings, the environmental review for the project will be complete.

- ✓ Draft and Final Environmental Documents: Environmental Impact Report, Negative Declaration, and Mitigated Negative Declaration as appropriate to the project
- ✓ Resolution adopting/certifying the environmental document, making CEQA findings, and approving the project
- ✓ All comments received during the public review period and the "Lead Agency's" responses to those comments
- ✓ Adopted Mitigation Monitoring and Reporting Plan, if applicable
- ✓ Date-stamped copy of the Notice of Determination or Notice of Exemption filed with the County Clerk(s) and the Governor's Office of Planning and Research
- ✓ CWSRF Evaluation Form for Environmental Review and Federal Coordination with supporting documents



STATE WATER RESOURCES CONTROL BOARD  
REGIONAL WATER QUALITY CONTROL BOARDS

[waterboards.ca.gov](http://waterboards.ca.gov)



## Comment Letter – State Water Resources Control Board (SWRCB)

### Response to SWRCB-1

The City thanks the SWRCB for providing information about the Clean Water State Revolving Fund (CWSRF). The City prepared the Draft EIR in compliance with the CEQA-Plus requirements, as stated in Chapter 1, Section 1.4 CEQA-Plus Requirements, and Chapter 7, CEQA-Plus Considerations. The potential effects to federal special-status species were discussed in the Draft EIR in Chapter 3.4 Biological Resources, supported by a Biological Resources Assessment (BRA) included as Appendix D to the Draft EIR. Please refer to **Appendix I** in this Final EIR for a supplement to the BRA. The potential effects to cultural resources, including Section 106 of the National Historic Preservation Act, were discussed in the Draft EIR in Chapter 3.5 Cultural Resources and Chapter 3.15 Tribal Cultural Resources. Although confidential and not appended to the Draft EIR, the City retained Far Western Anthropological Research Group, Inc. (Far Western) to prepare a Cultural Resources Assessment (CRA) report in accordance with SWRCB CEQA-Plus requirements. The Area of Potential Affect (APE) is appropriately identified in the CRA. The CRA will be provided to the SWRCB as part of the CWSRF application.

Far Western is a cultural resources firm that has been working in cultural resources management since 1979. All of the Principles and Principal Investigators on staff meet the Secretary of the Interior's Professional Qualification Standards for archaeology and also meet the qualifications for the Register of Professional Archaeologists, as do many of the Senior Archaeologists and Staff Archaeologists.

The Draft EIR meets the other federal environmental requirements mentioned in the comment. With respect to Item A, the Draft EIR includes an analysis of alternatives in Chapter 6. With respect to Item B, the Final EIR will be considered for certification by the Morro Bay City Council. With respect to Items C through L, please refer to the Draft EIR, Chapter 7, CEQA-Plus Considerations.

### Response to SWRCB-2

Table 3.9-1 provides water quality data from City water supply production wells for 2011 through 2015 in the last column on the right. Table 3.9-1 also shows applicable regulatory standards for comparison to the City well data, including maximum contaminant levels (MCL column) for primary and secondary drinking water standards and public health goals (PHG column).

### Response to SWRCB-3

In response to the comment the following text on page 3.9-9 of the Draft EIR has been modified as follows to include the facilities located within the 100-year flood zone as listed on page 3.9-11 and shown in Figure 3.9-4:

According to flood zone mapping compiled by the Federal Emergency Management Agency's Flood Insurance Rate Maps (FIRMs), the proposed WRF location is outside of the 100-year flood zone (See **Figure 3.9-4**). However, the proposed lift station and existing WWTP, proposed injection wellfield areas, and portions of the pipeline alignments west of Highway 1 are located within what is known as Flood Zone AE where the flood zone elevation occurs at approximately 20 feet above sea level (FEMA, 2017).

### **Response to SWRCB-4**

In the analysis of cumulative impacts for Biological Resources, BIO-1 through BIO-10 is considered as part of the mitigated proposed project. Those mitigation measures would reduce the proposed project's potential direct and indirect impacts to less than significant levels. As the Draft EIR goes on to say on page 4-12, "when the mitigated proposed project is considered in addition to the anticipated impacts of other projects in the cumulative scenario, the proposed project's incremental contribution to biological resources impacts would be less than significant." No additional mitigation measures are required to mitigate cumulative impacts.

### **Response to SWRCB-5**

The City has not initiated formal consultation with the USACE regarding the proposed project. As currently described and analyzed in the Draft EIR, the proposed project would not impact waters of the U.S., and the City does not anticipate the need for a Clean Water Act Section 404 permit at this time.

### **Response to SWRCB-6**

The current ocean outfall is used to discharge treated effluent from the existing WWTP. Other than adding a connection from the proposed WRF to the outfall, the existing outfall would not be modified as a result of the proposed project. The existing outfall is a 27-inch diameter, cement mortar lined and coated steel pipe that extends 4,754 feet offshore into Estero Bay. At the terminus of the ocean outfall is a diffuser port; the outfall is currently assigned a critical initial dilution of 133:1. Any discharge currently does and would continue to blend with ocean water in the mixing zone in the vicinity of the outfall diffusers. See discussion in SWRCB-7 regarding range of effluent quality and anticipated effect on water quality in vicinity of the outfall.

### **Response to SWRCB-7**

As stated in the Draft EIR on page 3.9-32, "relative to the existing ocean discharge from the existing WWTP, the proposed project would decrease the volume of effluent currently discharged to Estero Bay under expected normal operating conditions when recycled water is used for groundwater replenishment and brine is discharged through the outfall." The existing WWTP effluent TDS concentrations are approximately 900-1,000 mg/L based on historical analyses (MKN, 2018). With full reverse osmosis (RO), assuming an 80% recovery rate, the RO brine stream discharged to the outfall from the proposed WRF would be estimated at approximately 0.24 MGD and 3,700 – 4,100 mg/L TDS. While that is an increase in TDS from existing conditions, the TDS concentrations anticipated for the RO brine are much lower than seawater

(typically around 35,000 mg/L) (MKN, 2018).<sup>1</sup> As a result, the discharge would remain a buoyant plume, and would not substantially change the plume dispersion dynamics from the existing outfall diffuser. There would be no risk of a negatively buoyant plume that could result in elevated salinity on the ocean floor.

In addition, the source sewage water that would flow into the proposed WRF is the same sewage currently being treated at the WWTP. The proposed WRF would provide a minimum of tertiary treatment to all influent to the WRF, which is greater than the secondary treatment currently provided to the majority of influent to the WWTP. As such the effluent discharged from the WRF would have improved water quality relative to the effluent currently discharged from the existing WWTP. As stated on page 3.9-32 of the Draft EIR, “under conditions when recycled water is discharged through the outfall, water quality would be improved due to the addition of advanced treatment at the proposed WRF. As currently required for any water that is discharged to Estero Bay, the effluent would be required to adhere to the requirements of the Ocean Plan which would be included in the WRF’s NPDES permit.”

As stated on page 7-4 of the Draft EIR, the water quality of proposed discharges due to the proposed project would be improved to tertiary-treated recycled water. The contribution of the RO brine stream would increase TDS, but not enough to exceed ambient ocean water salinity. As noted on page 3.9-14 of the Draft EIR, the California Ocean Plan establishes water quality objectives for ocean discharges to ensure the protection of the marine environment. The NPDES permit for the new WRF would require the City to comply with water quality objectives for receiving waters based on the California Ocean Plan; the water quality objectives would protect beneficial uses including marine habitat. Monitoring requirements in the Ocean Plan will require the City to perform monitoring to demonstrate compliance with the receiving water limitation, and to evaluate the potential effects of the discharge within the water column, bottom sediments, and the benthic communities. The NPDES permit will require data collection and monitoring to compare baseline biological conditions at the discharge location as well as at a reference location outside the influence of the discharge prior to commencement of discharge and after discharge commences. Monitoring would be required until the RWQCB determines a monitoring program is adequate to ensure compliance with the receiving water limitation. The Monitoring and Reporting Plan would require review and approval by the RWQCB as part of the NPDES permit process. The NPDES permit would impose conditions to ensure that there would be no adverse impacts to habitat in the vicinity of the ocean outfall diffuser port and the mixing zone as a result of the proposed project.

## Response to SWRCB-8

Please refer to Appendix I of this Final EIR, which includes a supplement to the Biological Resource Assessment (BRA). The supplement includes the results of the biological reconnaissance surveys conducted for the injection wellfield areas, IPR-East and IPR-West. The surveys confirm the description of the wellfield areas included in the Draft EIR on page 3.4-3. The wellfield areas include annual grassland, coastal scrub, ruderal/disturbed, and ornamental

<sup>1</sup> MKN, April 2018, Draft Technical Memorandum, MBCSD Wastewater Treatment Plant Outfall Management Plan.

habitat, as well as agricultural land and riverine habitat along Morro Creek. The existing WWTP decommissioning site does not include biological resources. As stated in the Draft EIR on page 2-25, “[s]taging areas for construction are anticipated to be onsite for project components or within existing City properties or City rights-of-way.” As such, the potential staging areas were included within the survey areas included in the BRA.

## **Response to SWRCB-9**

The USFWS Information for Planning and Consultation (IPaC) database was searched for San Luis Obispo County, and the species list is included in the BRA supplement in Appendix I. The IPaC list includes species throughout San Luis Obispo County; database search results are not specific to the coastal Morro Bay region where the proposed project is located. The IPaC list includes species that were not considered previously in the Draft EIR; however, such species (e.g., California jewelflower (*Caulanthus californicus*); spreading navarretia (*Navarretia fossalis*)) are either found in other regions of the County or in habitats that are not included within the proposed project area. There are no species on the IPaC list that need to be incorporated into the impact analysis in the Draft EIR.

## **Response to SWRCB-10**

The list of endangered and threatened marine (and anadromous) species under NOAA Fisheries (or NMFS) jurisdiction was reviewed to confirm the analysis in the Draft EIR adequately identified all special-status species with potential to occur in the study area and be affected by the project.<sup>2</sup> (See BRA Supplement in Appendix I.) NOAA Fisheries has jurisdiction over federal listed marine and anadromous species, and review of their list of endangered and threatened marine species under NMFS’ jurisdiction identified no new species beyond south-central coast steelhead trout (*Oncorhynchus mykiss irideus*) and tidewater goby (*Eucyclogobius newberryi*) as having potential to occur within the defined study area. The Draft EIR identified these two species as present in Morro Creek and adequately analyzed project-related activities and confirmed the use of the proposed trenchless construction methods would avoid impacts to the creek where the species could potentially occur. (see Draft EIR, Chapter 3.4 Biological Resources.)

In addition, as stated in the Draft EIR Chapter 7 CEQA Plus Considerations, the waters off the coast of California include essential fish habitat (EFH) for various species, including but not limited to groundfish (page 7-3). However, the proposed project would have no adverse impact on the marine environment or EFH in the Pacific Ocean. As stated in the Draft EIR on page 7-4:

As described in Chapter 3.9 Hydrology and Water Quality, the proposed project would continue to discharge through the existing ocean outfall that runs approximately 2,900 feet offshore through Estero Bay, and the water quality of proposed discharges would be improved to tertiary-treated recycled water, exceeding the requirements of the existing WWTP NPDES permit that will also apply to the new WRF. The NPDES permit establishes water quality objectives for receiving waters based on the California Ocean

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<sup>2</sup> located at <http://www.nmfs.noaa.gov/pr/species/esa/listed.htm>

Plan; the water quality objectives would protect beneficial uses including marine habitat. (See Chapter 3.9 Hydrology and Water Quality for additional discussion about water quality impacts.)

Please also refer to Response to SWRCB-7 above.

## **Response to SWRCB-11**

The Draft EIR acknowledges on page 3.4-20 the proposed project area includes critical habitat for the California red-legged frog (CRLF). The BRA supplement in Appendix I includes Figure 5a showing CRLF critical habitat. The Draft EIR acknowledges on page 3.4-26 that the USFWS has identified critical habitat for CRLF in the region, including upstream of the project area in the Morro Creek watershed, including Little Morro Creek. This is shown in Figure 5a. The proposed WRF site is within CRLF critical habitat boundaries as well; however, surveys of the WRF site have determined that there is no suitable habitat for CRLF onsite. As stated in the Draft EIR on page 3.4-26, based on the lack of suitable habitat, CRLF is unlikely to be present in or near the preferred WRF site or along the proposed pipeline alignments except at the Morro Creek crossing locations. However, the species has not been found in the project area. The Draft EIR concludes that CRLF may be present on a seasonal basis at the pipeline crossings of Morro Creek. However, since trenchless construction methods would be used to install the pipelines across sensitive features, including Morro Creek, direct impacts to Morro Creek and CRLF would be avoided. In addition, indirect impacts to CRLF due to construction activities in and around Morro Creek would be minimized with implementation of best management practices (BMPs) included in Mitigation Measures BIO-1 and BIO-2. Impacts to CRLF are considered less than significant as a result.

## **Response to SWRCB-12**

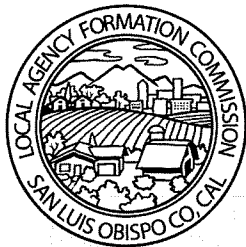
Implementation of Mitigation Measure BIO-5 would protect migratory birds and avoid/mitigate any potential direct or indirect impacts related to noise/vibration on migratory birds and their breeding habitat, including areas adjacent to the WWTP potentially impacted during decommissioning. Mitigation Measure BIO-5 includes the following:

2. If active nest sites of bird species protected under the Migratory Bird Treaty Act and/or FGC section 3503 are observed within or adjacent to the study area, then the project shall be modified and/or delayed as necessary to avoid direct take of the identified nests, eggs, and/or young. Potential project modifications may include establishing appropriate “no activity” buffers around the nest site. The buffer will be 500 feet for raptors and 250 feet for other bird species, or as otherwise determined and documented by a qualified biologist. Construction activities shall not occur in the buffer until the project biologist has determined that the nesting activity has ceased.

## **Response to SWRCB-13**

The City will submit all documents requested to the SWRCB, as well as notices of any hearings or meetings held regarding environmental review for the proposed project.





# LAFCO - San Luis Obispo - Local Agency Formation Commission

SLO LAFCO - Serving the Area of San Luis Obispo County

May 1, 2018

Rob Livick, P.E.  
Public Works Director  
City of Morro Bay  
955 Shasta Avenue  
Morro Bay, CA 93442

Subject: Notice of Availability for a Draft Environmental Impact Report (DEIR) regarding the City of Morro Bay's Water Reclamation Facility Project

Dear Mr. Livick:

Thank you for the opportunity to provide comments regarding the draft EIR. The Local Agency Formation Commission (LAFCO) provided a Notice of Preparation letter regarding this project on September 7, 2016 which outlined the scope and content needed for LAFCO to use as a Responsible Agency in considering a future annexation of the project to the City. In 2016, it was noted that the City could potentially want a Sphere of Influence (SOI) Amendment and Annexation after the Public Lot creation was completed for the Water Reclamation Facility. The Draft EIR does not mention creating a Public Lot or requesting an SOI amendment and Annexation. This is important because LAFCO will likely not be able to use the EIR as a Responsible Agency. This outcome would increase processing and cause a future Sphere of Influence Amendment and or Annexation to be delayed.

The Draft EIR contains relevant information about the WRF but lacks information for LAFCO to consider when evaluating the possible Sphere of Influence and Annexation into the City. The Sphere of Influence amendment and annexation process should be described as part of the **Project Description** to ensure that impacts regarding expansion of the City are covered in the impact analysis sections. The Project Description should provide a description that addresses Rezoning, the Negotiated Tax Agreement, and the annexation processes. This will make the project description more complete and accurate. It also should be clarified what area would be annexed into the City. An annexation map should be included in the document.

The Sphere of Influence for the City was recently updated in August 2017 and this property was not added to the SOI. However, in order for LAFCO to use the EIR to amend the Sphere of Influence and annex the property the process outlined above should be included in the final document along with references throughout the document so that LAFCO may use the FEIR acting as a Responsible Agency when considering the annexation.

## COMMISSIONERS

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RAYMOND A. BIERING  
Legal Counsel

MIKE PRATER  
Senior Analyst

DONNA J. BLOYD  
Commission Clerk

The SOI amendment and annexation would also be subject to LAFCO policies and procedures and the SOI/MSR conditions of approval adopted in 2017. These Policies and Conditions should be incorporated into the DEIR and appropriate analysis and mitigation measures identified. By adequately addressing these comments, LAFCO would be able to use the Final EIR as the CEQA document for the SOI amendment and annexation. The following comments are from the original NOP and should be addressed in the FEIR:

3 cont.

1. **Permit(s) or Approval(s) Authority.** LAFCO is responsible for determining the Sphere of Influence for the City. LAFCO also considers any annexations or changes of organization to a jurisdiction's service area. A proposed sphere of influence amendment and annexation would be subject to LAFCO's local policies and procedures which can be found on our website at [www.slolafco.com](http://www.slolafco.com). These policies and procedures should be reviewed as part of the CEQA process if the EIR is to be adequate for LAFCO to use as a Responsible Agency in considering the project. Of particular note are prime farmland definitions and preservation policies for any loss of prime agricultural land. CKH Act defines prime farmland differently than other State criteria. The DEIR uses the LESA model analysis and concluded no significant impacts. LAFCO's AG Policies require a 1:1 substitution ratio to preserve prime agricultural land. See comments below.
2. **General Comment.** Annexation generally requires the following information and activities;
  - a. Application through a petition of property owners or a City Resolution of Application - Submittal of Application
  - b. Preparation of Maps and submittal of all related information, approvals and documentation
  - c. Approval of Negotiated Tax Agreement between the City and County
  - d. Rezoning approved by the City; City is Lead Agency
  - e. Preparation of a Plan for Services by the City
  - f. Evaluation and Consideration by LAFCO, if approved;
  - g. Post annexation steps - condition compliance and Board of Equalization Filing and other notifications
3. **Environmental Information.** In order to consider the annexation of this area into the City an adequate environmental document must be prepared for LAFCO's use. To expedite the annexation process, we recommend that the City's EIR fully address the potential environmental impacts of adding this area to the City not just the construction of the WRF facility. A comprehensive analysis of the environmental impacts, including GC 56064 defining prime agricultural lands, related to the area proposed for annexation will enable LAFCO to use the EIR prepared by the City for annexing the property. The EIR should address the capability of a jurisdiction to provide public services to existing and future residents with regard to water supply and demand, sewer capacity and demand, fire and police response, growth and development, roads, and financial constraints and opportunities.
3. **LAFCO Agricultural Policies.** LAFCO's Agricultural goals, policies, and guidelines approved by LAFCO should be reviewed and analyzed for consistency with the

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proposed project. A key policy to be considered is the 1:1 substitution ratio to preserve prime agricultural land. A clear project description or map clarifying the agricultural prime farmland of 1.26 acres being converted would need to be offset and preservation of 1.26 acres either somewhere on the property or off-site must be included.

7 cont.

**Agricultural Buffer.** An Agricultural Buffer zone should be established between parcels that are adjacent to prime agricultural lands and should be discussed in further detail.

5. **Permit Stipulations/Conditions.** Unknown at this time, but consistency with the SOI Conditions of Approval will be likely required by LAFCO.

We appreciate being contacted with regard to this project and look forward to hearing more about the plan as it progresses through the environmental review and planning process. If you have any questions regarding our comments or would like to discuss please contact me at 805-788-2096.

Sincerely,



David Church  
LAFCO Executive Officer

cc. Commissioners  
Ray Biering, LAFCO Counsel

## Comment Letter – Local Agency Formation Commission San Luis Obispo (LAFCO)

### Response to LAFCO-1

The City thanks LAFCO for providing comments. Currently the Draft EIR mentions the Resolution of Determination for City Annexation on page 2-33 in the list of potential approvals required for the proposed project. The Draft EIR also mentions LAFCO, the sphere of influence, and annexation on pages 3.10-4 and 3.10-5 of Chapter 3.10 Land Use and Planning. Regarding the creation of a Public Lot, the text of the Draft EIR on page 3.10-5 has been modified as follows in response to the comment:

The preferred WRF site is located immediately adjacent to the Morro Bay service area. However, it is not currently located within the City's sphere of influence. The 396-acre parcel that the preferred WRF site is located within was studied in LAFCO's Morro Bay Sphere of Influence (SOI) Update and Municipal Service Review (MSR) in 2017. The study identified two roughly 15-acre portions of the 396-acre parcel considered viable locations for a future WRF site. LAFCO recommended the SOI should exclude the larger, 396-acre parcel with exception of a future public lot area for the WRF site. LAFCO further recommended, if the City selected the site and builds a treatment facility, a public lot could be created that is owned by the City and requested to be added to the SOI and annexed at that time. ~~then~~ LAFCO would support the City's selection and would process an SOI and annexation proposal at that time, in an expedited manner (San Luis Obispo LAFCO, 2017).

### Response to LAFCO-2

Please refer to **Master Response 2 – WRF Site and Annexation**. The City will submit an annexation map as required by the County during the annexation proceedings.

### Response to LAFCO-3

In response to LAFCO's comment, the following policies about City annexations and Sphere of Influence Review Policies have been added to Section 3.10.2 Regulatory Framework of the Land Use and Planning chapter of the Draft EIR. Refer to **Master Response 2 – WRF Site and Annexation** for a description of the SOI amendment and annexation process. Annexation would not result in any additional impacts other than those analyzed throughout the Draft EIR. Consistency with those policies will be demonstrated by the City and LAFCO during the annexation/SOI proceedings.

#### **San Luis Obispo LAFCO Policies and Procedures**

##### **2.3 Policies for City Annexation**

1. The boundaries of a proposed annexation must be definite and certain and must conform to lines of assessment whenever possible.

2. The boundaries of an area to be annexed will not result in any areas difficult to serve.
3. There is a demonstrated need for governmental services and controls in the area proposed for annexation.
4. The municipality has the resources capable of meeting the need for services in the area proposed for annexation and has submitted studies and information documenting its ability to serve.
5. There is a mutual social and economic community of interest between the residents of the municipality and the proposed territory.
6. The proposed annexation is compatible with the municipality's general plan. The proposed annexation represents a logical and reasonable expansion of the annexing municipality.
7. The Commission shall determine if a disadvantaged unincorporated community is associated with an application. If a disadvantaged unincorporated community does exist, the procedures for processing the annexation as outlined in the CKH Act shall be implemented.
8. That the City Prezone the area to be annexed and complete CEQA as the Lead Agency for the proposal and/or project. LAFCO should in most instances act as the Responsible Agency with regard to an annexation and CEQA.

## **2.6 Sphere of Influence Review Policies**

The CKH Act provides the legislative authority and intent for establishing a Sphere of Influence and is included by reference in these policies. A Sphere of Influence is the probable 20-year growth boundary for a jurisdiction's physical development. These policies are intended to be consistent with the CKH Act and take into consideration local conditions and circumstances. All procedures and definitions in the CKH Act are incorporated into these policies by reference.

1. LAFCO intends that its Sphere of Influence determination will serve as a master plan for the future organization of local government within the County. The spheres shall be used to discourage urban sprawl and the proliferation of local governmental agencies and to encourage efficiency, economy, and orderly changes in local government.
2. The Sphere of Influence lines shall be a declaration of policy which shall be a primary guide to LAFCO in the decision on any proposal under its jurisdiction. Every determination made by the Commission shall be consistent with the spheres of influence of the agencies affected by those determinations.
3. No proposal which is inconsistent with an agency's adopted Sphere of Influence shall be approved until the Commission, at a noticed public hearing, has considered an amendment or revision to that agency's Sphere of Influence.

4. The adopted Sphere of Influence shall reflect city and county general plans, growth management policies, annexation policies, resource management policies, and any other policies related to ultimate boundary area of an affected agency unless those plan or policies conflict with the legislative intent of the CKH Act (Government Code Section 56000 et seq.) Where inconsistencies between plans exist, LAFCO shall rely upon that plan which most closely follows the legislature's directive to discourage urban sprawl, direct development away from prime agricultural land and open space lands, and encourage the orderly formation and development of local governmental agencies based upon local conditions and circumstances. In accordance with the CKH Act a municipal service review shall be conducted prior to the update of a jurisdiction's Sphere of Influence. The service review is intended to be a basis for updating a jurisdiction's Sphere of Influence.

5. LAFCO will designate a Sphere of Influence line for each local agency that represents the agency's probable physical boundary and includes territory eligible for annexation and the extension of that agency's services within a zero to twenty-year period.

6. LAFCO shall consider the following factors in determining an agency's Sphere of Influence:

a. Present and future need for agency services and the service levels specified for the subject area in applicable general plans, growth management plans, annexation policies, resource management plans, and any other plans or policies related to an agency's ultimate boundary and service area (CKH 56425 (e)(1)).

b. Capability of the local agency to provide needed services, taking into account evidence of resource capacity sufficient to provide for internal needs and urban expansion (CKH 56425 (e)(2)).

c. The existence of agricultural preserves, agricultural land and open space lands in the area and the effect that inclusion within a Sphere of Influence shall have on the physical and economic integrity of maintaining the land in non-urban use (CKH 56426.5 (a)).

d. Present and future cost and adequacy of services anticipated to be extended within the Sphere of Influence.

e. Present and projected population growth, population densities, land uses, and area, ownership patterns, assessed valuations, and proximity to other populated areas.

f. The agency's capital improvement or other plans that delineate planned facility expansion and the timing of that expansion.

g. Social or economic communities of interest in the area (CKH 56425 (e)(4)).

h. For an update of a Sphere of Influence of a city or special district that provides public facilities or services related to sewers, municipal and industrial water, or structural fire protection, a written determination regarding the present and probable need for those public facilities and services of any disadvantaged unincorporated communities within the existing Sphere of Influence shall be prepared.

7. LAFCO may adopt a zero Sphere of Influence encompassing no territory for an agency. This occurs if LAFCO determines that the public service functions of the agency are either nonexistent, no longer needed, or should be reallocated to some other agency of government. The local agency which has been assigned a zero Sphere of Influence should ultimately be dissolved.

8. Territory not in need of urban services, including open space, agriculture, recreational, rural lands, or residential rural areas shall not be assigned to an agency's Sphere of Influence unless the area's exclusion would impede the planned, orderly and efficient development of the area.

9. LAFCO may adopt a Sphere of Influence that excludes territory currently within that agency's boundaries. This occurs where LAFCO determines that the territory consists of agricultural lands, open space lands, or agricultural preserves whose preservation would be jeopardized by inclusion within an agency's Sphere of Influence. Exclusion of these areas from an agency's Sphere of Influence indicates that detachment is appropriate.

10. Where an area could be assigned to the Sphere of Influence of more than one agency providing needed service, the following hierarchy shall apply dependent upon ability to serve:

a. Inclusion within a municipality Sphere of Influence.

b. Inclusion within a multipurpose district Sphere of Influence.

c. Inclusion within a single-purpose district Sphere of Influence. In deciding which of two or more equally capable agencies shall include an area within its Sphere of Influence, LAFCO shall consider the agencies' service and financial capabilities, social and economic interdependencies, topographic factors, and the effect that eventual service extension will have on adjacent agencies.

11. Sphere of Influence boundaries shall not create islands or corridors unless it can be demonstrated that the irregular boundaries represent the most logical and orderly service area of an agency.

12. Nonadjacent publicly owned properties and facilities used for urban purposes may be included within that public agency's Sphere of Influence if eventual annexation would provide an overall benefit to agency residents.

13. At the time of adoption of a city Sphere of Influence LAFCO may develop and adopt in cooperation with the municipality, an urban area boundary pursuant to policies adopted by the Commission in accordance with Government Code Section 56080. LAFCO shall not consider any area for inclusion within an urban service area boundary that is not addressed in the general plan of the affected municipality or is not proposed to be served by urban facilities, utilities, and services within the first five years of the affected city's capital improvement program.

14. LAFCO shall review Sphere of Influence determinations every five years or when deemed necessary by the Commission consistent with an adopted work plan. If a local agency or the County desires amendment or revision of an adopted Sphere of Influence, the local agency, by resolution, may file such a request with the LAFCO Executive Officer. Any local agency or county making such a request shall reimburse the Commission for the actual and direct costs incurred by the Commission. The Commission may waive such reimbursement if it finds that the request may be considered as part of its periodic review of spheres of influence.

15. LAFCO shall adopt, amend, or revise Sphere of Influence determinations following the procedural steps set forth in CKH Act 56000 et seq.

## **Response to LAFCO-4**

Refer to Response to LAFCO-3 above for the addition of applicable LAFCO policies and procedures. Refer to Responses to LAFCO-6 and LAFCO-7 below regarding prime farmland and policies.

## **Response to LAFCO-5**

The City acknowledges LAFCO's comment about the annexation process. Refer to the Response to **Master Response 2 – WRF Site and Annexation** for the incorporation of the annexation process.

## **Response to LAFCO-6**

The comment mentions Government Code (GC) 56064 definition of prime agricultural lands, which is used by LAFCO under the Cortese-Knox-Hertzberg Local Government Reorganization Act. As also mentioned in the Response to County-25, the following modifications to the Draft EIR are made on page 3.2-1. Those modifications conclude, per GC 56064, the proposed WRF site, which is being considered for annexation, is not considered prime farmland.

The proposed WRF site is underlain by Cropley clay soils, which consist of clay overlying silty clay loam that is typically found at a depth of 36 to 60 inches (JFR Consulting, 2016). Those soils are designated by the Natural Resources Conservation Science (NRCS) as prime farmland if irrigated. According to the Cortese-Knox-Hertzberg Local Government Reorganization Act and California Government Code 56064, the definition of prime agricultural land is:



an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use...and that qualifies, if irrigated, for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.

Historically, that portion of the project area and its adjacent land has been used for rangeland and has not been irrigated (JFR Consulting, 2013). Currently, the WRF site is not irrigated and neither are immediately adjacent parcels, which are also rangelands used for grazing. There currently is no existing irrigation infrastructure at or around the preferred WRF site. Irrigation feasibility at the proposed project site is low due to the requirement for substantial investment in either pipeline and pumping infrastructure to convey water to the site or construction of onsite groundwater wells, followed by installation of onsite piping for irrigation. As a result, the property in which the proposed WRF is would be located on does not support Prime Farmland (JFR Consulting, 2016). Thus, from a practical perspective, implementation of the proposed project would not remove important areas of prime agricultural potential.

In the Draft EIR, Section 3.13 Public Services addresses the existing services and environmental impacts of providing public services such as water supply and sewer capacity to fire and police response in the project area. Section 3.16 Utilities and Services Systems and Chapter 5 Growth Inducement discuss the sizing of the WRF capacity to meet planned future demand for wastewater treatment and the provision of recycled water to meet the expected demand as planned in the City's 2015 Urban Water Management Plan water supply portfolio. The proposed annexation would include only a 27.6-acre public lot that would include the preferred WRF site, with the unused acreage within that area set aside as an open space or agricultural easement as appropriate. (See **Master Response 2 – WRF Site and Annexation**) As such, the annexation itself would not result in population growth or affect the City's provision of public services. The annexed property would include public use facilities that provide directly a public service. Nor would the SOI result in population growth. That area would continue to be zoned agricultural by the County, as well as rezoned by the City with the same designation.

## **Response to LAFCO-7**

As stated above in Response to LAFCO-7, the City has determined the proposed project would have no significant impact to prime farmland within the County. As such, there would be no prime farmland included in the annexation of the WRF into the City. The only prime farmland that could be affected by the proposed project is already located within the City boundaries. As shown in Figure 3.2-1 in the Draft EIR and stated on page 3.2-13, approximately 1.26 acres of prime farmland within the City's jurisdiction overlaps with the IPR East wellfield area; up to 0.02 acres of prime farmland may be converted to non-agricultural use due to construction of up to 5 wells within this IPR East wellfield area. The Draft EIR determines based on the LESA model the potential impact to prime farmland is less than significant (Draft EIR page 3.2-13). Given no prime farmland would be annexed from the County into the City, LAFCO's policy for a 1:1

substitution ratio to preserve prime farmland would not apply to the proposed project. There is no requirement to offset and preserve prime farmland or establish a conservation easement.

With respect to agricultural buffers, please refer to Response to County-8 and Response to County-29 for modifications that have been made to the Draft EIR to add further clarifying language about the buffer around the proposed WRF. The buffer and fencing around the proposed WRF and access roads implemented as part of the project design would place the operational portion of the proposed WRF more than 50 feet away from the neighboring agricultural uses.

The following LAFCO agricultural policies have been added to Section 3.2.2 in response to the comment. Addition of those policies does not result in additional environmental impacts other than those analyzed throughout the Draft EIR. Consistency with those policies will be demonstrated by the City and LAFCO during the annexation proceedings:

### ***San Luis Obispo LAFCO Policies and Procedures***

#### **2.9 Agricultural Policies**

1. Vacant land within urban areas should be developed before agricultural land is annexed for non-agricultural purposes.
2. Land substantially surrounded by existing jurisdictional boundaries should be annexed before other lands.
3. In general, urban development should be discouraged in agricultural areas. For example, agricultural land should not be annexed for nonagricultural purposes when feasible alternatives exist. Large lot rural development that places pressure on a jurisdiction to provide services and causes agricultural areas to be infeasible for farming should be discouraged.
4. The Memorandum of Agreement between a city and the County should be used and amended as needed to address the impacts on and conversion of Agricultural Lands on the fringe of a city.
5. The continued productivity and sustainability of agricultural land surrounding existing communities should be promoted by preventing the premature conversion of agricultural land to other uses and, to the extent feasible, minimizing conflicts between agricultural and other land uses. Buffers should be established to promote this policy.
6. Development near agricultural land should not adversely affect the sustainability or constrain the lawful, responsible practices of the agricultural operations.
7. In considering the completeness and appropriateness of any proposal, the Executive Officer and this Commission may require proponents and other interested parties to provide such information and analysis as, in their judgment, will assist in an informed and reasoned evaluation of the proposal in accordance with these policies.

8. No change of organization, as defined by Government Code 56021, shall be approved unless it is consistent with the Spheres of Influence of all affected agencies.

9. Where feasible, and consistent with LAFCO policies, non-prime land should be annexed before prime land.

10. The Commission will consider feasible mitigation (found in the following guidelines) if a proposal would result in the loss of agricultural land.

11. The Commission encourages local agencies to adopt policies that result in efficient, coterminous and logical growth patterns within their General Plan and Sphere of Influence areas and that encourage protection of prime agricultural land in a manner that is consistent with this Policy.

12. The Commission may approve annexations of prime agricultural land only if mitigation that equates to a substitution ratio of at least 1:1 for the prime land to be converted from agricultural use is agreed to by the applicant (landowner), the jurisdiction with land use authority. The 1:1 substitution ratio may be met by implementing various measures:

a. Acquisition and dedication of farmland, development rights, and/or agricultural conservation easements to permanently protect farmlands within the annexation area or lands with similar characteristics within the County Planning Area.

b. Payment of in-lieu fees to an established, qualified, mitigation/conservation program or organization sufficient to fully fund the acquisition and dedication activities stated above in 12a.

c. Other measures agreed to by the applicant and the land use jurisdiction that meet the intent of replacing prime agricultural land at a 1:1 ratio.

13. Property owners of agricultural lands adjacent to a LAFCO proposal shall be notified when an application is submitted to LAFCO.

## **Response to LAFCO-8**

The City will implement future SOI Conditions of Approval as applicable. The comment is noted.

## **Response to LAFCO-9**

The City appreciates the comments submitted by LAFCO. The comment has been noted.



Air Pollution Control District  
San Luis Obispo County

May 17, 2018

RECEIVED

MAY 21 2018

City of Morro Bay  
Public Works Department

Mr. Rob Livick  
City of Morro Bay Public Works Department  
955 Shasta Avenue  
Morro Bay, CA 93442

SUBJECT: APCD Comments Regarding the Morro Bay Water Reclamation Facility

Dear Mr. Livick:

Thank you for including the San Luis Obispo County Air Pollution Control District (APCD) in the environmental review process. We have completed our review of the Draft Environmental Impact Report (DEIR) for the proposed project located at South Bay Boulevard & Highway 1 in Morro Bay. The proposed project is a new water reclamation facility which would provide wastewater treatment services for the city of Morro Bay and potentially for additional surrounding communities or customers. The project would include decommissioning and demolition of the existing Morro Bay-Cayucos Wastewater Treatment Plant, and construction of a lift station near that site, with pipelines from that location to the new facility and back. The project would allow the city to produce and reuse advance-treated recycled water and would include a pipeline to a groundwater replenishment area, 3 to 5 injection wells, and several monitoring wells.

*The following are APCD comments that are pertinent to this project.*

#### GENERAL COMMENTS

As a commenting agency in the California Environmental Quality Act (CEQA) review process for a project, the APCD assesses air pollution impacts from both the construction and operational phases of a project, with separate significant thresholds for each. **Please address the action items contained in this letter that are highlighted by bold and underlined text.**

#### CONSTRUCTION PHASE IMPACTS

Based on the DEIR emission estimates using the CalEEMod computer model, the construction phase would exceed APCD's quarterly emission tier 1 thresholds for ROG+NOx and diesel PM identified in Table 2-1 of the CEQA Air Quality Handbook (available at the APCD web site: [slocleanair.org](http://slocleanair.org)). **Prior to permit issuance, the applicant needs to demonstrate how the construction phase impacts will be below the level of significance as identified in the APCD's CEQA Handbook.** The APCD recommends on-site mitigation from construction activities to the greatest extent possible.

To mitigate air quality concerns, the DEIR proposes implementation of the APCD Standard Mitigation Measures (measure AQ-1b) and Best Available Control Technology for Construction Equipment (measure AQ-1c), which are copied below for clarity. Appendix C of the DEIR includes the CalEEMod reports of unmitigated and mitigated construction emission estimates for the project. The mitigated estimate assumes that all construction equipment used on the project will be Tier 4. As a practical matter, it may be difficult to find a contractor who can guarantee that all equipment on the project would be Tier 4 compliant. **Prior to commencement of construction activities, the applicant should submit to the APCD an equipment list, detailing each piece of off-road equipment to be used on the project, including the equipment serial number, engine model year, engine emission tier, and emission family number for each. If the list contains other than Tier 4 equipment, a revised CalEEMod run for annual mitigated construction emissions, using the list of specific equipment proposed for the project and demonstrating quarterly emissions below the APCD thresholds of significance should then be submitted.**

#### Standard Mitigation Measures for Construction Equipment

The standard construction equipment mitigation measures for reducing nitrogen oxide (NO<sub>x</sub>), reactive organic gases (ROG), and diesel particulate matter (DPM) emissions are listed below and in section 2.3.1 of the APCD's 2012 CEQA Handbook. **These measures are applicable to all projects where construction phase emissions exceed APCD thresholds:**

- Maintain all construction equipment in proper tune according to manufacturer's specifications;
- Fuel all off-road and portable diesel powered equipment with California Air Resources Board (CARB) certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);
- Use diesel construction equipment meeting CARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation;
- Use on-road heavy-duty trucks that meet the CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;
- Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NO<sub>x</sub> exempt area fleets) may be eligible by proving alternative compliance;
- All on and off-road diesel equipment shall not idle for more than 5-minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit;
- Diesel idling within 1,000 feet of sensitive receptors is not permitted;
- Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
- Electrify equipment when feasible;
- Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and,
- Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel.

#### Best Available Control Technology (BACT) for Construction Equipment

If the estimated construction phase ozone precursor emissions from the actual fleet for a given Phase are expected to exceed the APCD's threshold of significances after the standard mitigation measures are factored into the estimation, then **BACT needs to be implemented to further reduce these impacts. The BACT measures can include:**

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1. Further reducing emissions by expanding use of Tier 3 and Tier 4 off-road and 2010 on-road compliant engines;
2. Repowering equipment with the cleanest engines available; and
3. Installing CARB Verified Diesel Emission Control Strategies. These strategies are listed at: [arb.ca.gov/diesel/verdev/vt/cvt.htm](http://arb.ca.gov/diesel/verdev/vt/cvt.htm)

#### Dust Control Measures

Construction activities can generate fugitive dust, which could be a nuisance to local residents and businesses in close proximity to the proposed construction site. **Projects with grading areas that are within 1,000 feet of any sensitive receptor (Residences, Bayside Care Center, Casa de Flores, Lila Keiser Park, Morro Bay High School, etc.) shall implement the following mitigation measures to manage fugitive dust emissions such that they do not exceed the APCD's 20% opacity limit (APCD Rule 401) or prompt nuisance violations (APCD Rule 402).**

- a. Reduce the amount of the disturbed area where possible;
- b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site and from exceeding the APCD's limit of 20% opacity for greater than 3 minutes in any 60-minute period. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible. **Please note that since water use is a concern due to drought conditions, the contractor or builder shall consider the use of an APCD-approved dust suppressant where feasible to reduce the amount of water used for dust control.**  
Please refer to the following link for potential dust suppressants to select from to mitigate dust emissions:  
<http://www.valleyair.org/busind/comply/PM10/Products%20Available%20for%20Controlling%20PM10%20Emissions.htm>
- c. All dirt stock pile areas should be sprayed daily and covered with tarps or other dust barriers as needed;
- d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible, following completion of any soil disturbing activities;
- e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established;
- f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD;
- g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used;
- h. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;
- i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114;
- j. "Track-Out" is defined as sand or soil that adheres to and/or agglomerates on the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto any highway or street as described in California Vehicle Code Section 23113 and California Water

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Code 13304. To prevent 'track out', designate access points and require all employees, subcontractors, and others to use them. Install and operate a 'track-out prevention device' where vehicles enter and exit unpaved roads onto paved streets. The 'track-out prevention device' can be any device or combination of devices that are effective at preventing track out, located at the point of intersection of an unpaved area and a paved road. Rumble strips or steel plate devices need periodic cleaning to be effective. If paved roadways accumulate tracked out soils, the track-out prevention device may need to be modified;

- k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers shall be used with reclaimed water used where feasible. Roads shall be pre-wetted prior to sweeping when feasible;
- l. All PM<sub>10</sub> mitigation measures required should be shown on grading and building plans; and,
- m. The contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints and reduce visible emissions below the APCD's limit of 20% opacity for greater than 3 minutes in any 60-minute period. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD Compliance Division prior to the start of any grading, earthwork or demolition.

#### Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) has been identified by CARB as a toxic air contaminant. Serpentine and ultramafic rocks are very common throughout California and may contain naturally occurring asbestos. This project is located in an area identified by the APCD as a candidate area where NOA may be present (see the APCD's 2012 CEQA Handbook, Technical Appendix 4.4). Under the CARB Air Toxics Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations (93105), **prior to any construction activities at the site, the project proponent shall ensure that a geologic evaluation is conducted to determine if the area disturbed is exempt from the regulation. An exemption request must be filed with the APCD.** If the site is not exempt from the requirements of the regulation, the applicant must comply with all requirements outlined in the Asbestos ATCM. This may include development of an Asbestos Dust Mitigation Plan and an Asbestos Health and Safety Program for approval by the APCD. More information on NOA can be found at [slocleanair.org/business/asbestos.php](http://slocleanair.org/business/asbestos.php).

#### Construction Phase Idling Limitations

This project is in close proximity to nearby sensitive receptors (Residences, Bayside Care Center, Casa de Flores, Lila Keiser Park, Morro Bay High School, etc.). Projects that will have diesel powered construction activity in close proximity to any sensitive receptor shall implement the following mitigation measures to ensure that public health benefits are realized by reducing toxic risk from diesel emissions:

#### **To help reduce sensitive receptor emissions impact of diesel vehicles and equipment used to construct the project, the applicant shall implement the following idling control techniques:**

- 1. California Diesel Idling Regulations
  - a. ***On-road diesel vehicles*** shall comply with Section 2485 of Title 13 of the California Code of Regulations. This regulation limits idling from diesel-fueled commercial motor

vehicles with gross vehicular weight ratings of more than 10,000 pounds and licensed for operation on highways. It applies to California and non-California based vehicles. In general, the regulation specifies that drivers of said vehicles:

1. Shall not idle the vehicle's primary diesel engine for greater than 5-minutes at any location, except as noted in Subsection (d) of the regulation; and,
  2. Shall not operate a diesel-fueled auxiliary power system (APS) to power a heater, air conditioner, or any ancillary equipment on that vehicle during sleeping or resting in a sleeper berth for greater than 5.0 minutes at any location when within 1,000 feet of a restricted area, except as noted in Subsection (d) of the regulation.
- b. **Off-road diesel equipment** shall comply with the 5-minute idling restriction identified in Section 2449(d)(2) of the CARB In-Use Off-Road Diesel regulation.
- c. Signs must be posted in the designated queuing areas and job sites to remind drivers and operators of the state's 5-minute idling limit.
- d. The specific requirements and exceptions in the regulations can be reviewed at the following web sites: [www.arb.ca.gov/msprog/truck-idling/factsheet.pdf](http://www.arb.ca.gov/msprog/truck-idling/factsheet.pdf) and [www.arb.ca.gov/regact/2007/ordiesl07/frooal.pdf](http://www.arb.ca.gov/regact/2007/ordiesl07/frooal.pdf).

**AND**

2. Diesel Idling Restrictions Near Sensitive Receptors (Residences, Bayside Care Center, Casa de Flores, Lila Keiser Park, Morro Bay High School, etc.)
- In addition to the state required diesel idling requirements, the project applicant shall comply with these more restrictive requirements to minimize impacts to nearby sensitive receptors:
- a. Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
  - b. Diesel idling within 1,000 feet of sensitive receptors shall not be permitted;
  - c. Use of alternative fueled equipment is recommended; and
  - d. Signs that specify the no idling areas must be posted and enforced at the site.

Demolition/Asbestos

Demolition activities can have potential negative air quality impacts, including issues surrounding proper handling, abatement, and disposal of asbestos containing material (ACM). Asbestos containing materials could be encountered during the demolition or remodeling of existing structures or the disturbance, demolition, or relocation of above or below ground utility pipes/pipelines (e.g., transite pipes or insulation on pipes). **If this project will include any of these activities, then it may be subject to various regulatory jurisdictions, including the requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M - asbestos NESHAP).** These requirements include, but are not limited to:

- 1) Written notification, within at least 10 business days of activities commencing, to the APCD;
- 2) Asbestos survey conducted by a Certified Asbestos Consultant; and,
- 3) Applicable removal and disposal requirements of identified ACM.



Please contact the APCD Engineering & Compliance Division at (805) 781-5912 or go to [slocleanair.org/rules-regulations/asbestos.php](http://slocleanair.org/rules-regulations/asbestos.php) for further information. To obtain a Notification of Demolition and Renovation form go to the "Other Forms" section of [slocleanair.org/library/download-forms.php](http://slocleanair.org/library/download-forms.php).

#### Lead During Demolition

Demolition of structures coated with lead-based paint is a concern for the APCD. Improper demolition can result in the release of lead-containing particles from the site. Sandblasting or removal of paint by heating with a heat gun can result in significant emissions of lead. Therefore, proper abatement of lead before demolition of these structures must be performed to prevent the release of lead from the site. **Depending on removal method, an APCD permit may be required. Contact the APCD Engineering & Compliance Division at (805) 781-5912 for more information. For additional information regarding lead abatement, contact the San Luis Obispo County Environmental Health Department at (805) 781-5544 or Cal-OSHA at (818) 901-5403. Additional information can also be found online at [www.epa.gov/lead](http://www.epa.gov/lead).**

#### Construction Permit Requirements

Portable equipment, 50 horsepower (hp) or greater, used during construction activities may require California statewide portable equipment registration (issued by CARB) or an APCD permit.

The following list is provided as a guide to equipment and operations that may have permitting requirements, but should not be viewed as exclusive. For a more detailed listing, refer to the Technical Appendices, page 4-4, in the APCD's 2012 CEQA Handbook.

- Power screens, conveyors, diesel engines, and/or crushers;
- Portable generators and equipment with engines that are 50 hp or greater;
- Electrical generation plants or the use of standby generator;
- Internal combustion engines;
- Rock and pavement crushing;
- Unconfined abrasive blasting operations;
- Tub grinders;
- Trommel screens; and,
- Portable plants (e.g. aggregate plant, asphalt batch plant, concrete batch plant, etc).

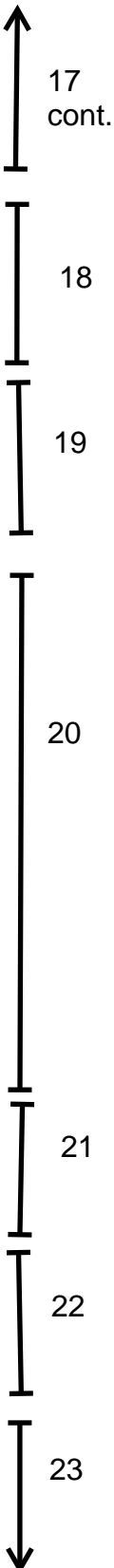
**To minimize potential delays, prior to the start of the project, please contact the APCD Engineering & Compliance Division at (805) 781-5912 for specific information regarding permitting requirements.**

#### **OPERATIONAL PHASE IMPACTS**

Based on the DEIR operational phase emission estimates, the operational phase would likely be less than the APCD's significance threshold values identified in Table 3-2 of the CEQA Air Quality Handbook. **Therefore, with the exception of the requirements below, the APCD is not requiring other operational phase mitigation measures for this project.**

#### Operational Permit Requirements

Operational sources may require APCD permits. The following list is provided as a guide to equipment and operations that may have permitting requirements, but should not be viewed as



exclusive. For a more detailed listing, refer to the Technical Appendix, page 4-4, in the APCD's 2012 CEQA Handbook.

- Portable generators and equipment with engines that are 50 hp or greater;
- Chemical product processing and or manufacturing;
- Electrical generation plants or the use of standby generator;
- Pipelines;
- Public utility facilities;
- Boilers;
- Internal combustion engines;
- Sterilization units(s) using ethylene oxide and incinerator(s);
- Cogeneration facilities; and
- Wastewater treatment plants.

Most facilities applying for an Authority to Construct or Permit to Operate with stationary diesel engines greater than 50 hp, should be prioritized or screened for facility wide health risk impacts. A diesel engine-only facility limited to 20 non-emergency operating hours per year or that has demonstrated to have overall diesel particulate emissions less than or equal to 2 lb/yr does not need to do additional health risk assessment. **To minimize potential delays, prior to the start of the project, please contact the APCD Engineering & Compliance Division at (805) 781-5912 for specific information regarding permitting requirements.**

#### Nuisance

Odor from wastewater treatment activities has the potential to become a public nuisance. As defined in APCD's Rule 402, a person shall not discharge, from any source whatsoever, such quantities of air contaminant or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or public, or which cause or have a natural tendency to cause, injury or damage to business or property. **If this project causes nuisance impacts, the project proponent needs to proactively take steps to reduce these impacts.**

Again, thank you for the opportunity to comment on this proposal. If you have any questions or comments, feel free to contact me at (805) 781-5912.

Sincerely,



Vince Kirkhuff  
Air Quality Specialist

cc: Tim Fuhs, Enforcement Division, APCD  
Gary Willey, Air Pollution Control Officer, APCD

#### Attachments:

1. Naturally Occurring Asbestos – Construction & Grading Project Exemption Request Form, Construction & Grading Project Form

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Air Pollution Control District  
San Luis Obispo County

## Naturally Occurring Asbestos Construction and Grading Project Form

Applicant Information/Property Owner		Project Name	
Address		Project Address	
City, State, Zip		City, State, Zip	
Email for Contact Person		Project Site Latitude, Longitude	Assessors Parcel Number
Phone Number	Date Submitted	Agent	Phone Number
Check Applicable	DESCRIPTION (attach applicable required information)	APCD REQUIREMENT 1	APCD REQUIREMENT 2
	Project is subject to NOA requirements but NOT disturbing NOA (See Website Map) <a href="http://slocleanair.org/rules-regulations/asbestos/noa.php">slocleanair.org/rules-regulations/asbestos/noa.php</a>	Geological Evaluation	Exemption Request Form
	Project is subject to NOA requirements and project is disturbing NOA – more than one acre	Geological Evaluation	Dust Control Measure Plan
	Project is subject to NOA requirements and project is disturbing NOA – one acre or less	Geological Evaluation	Mini Dust Control Measure Plan

**Please note that the applicant will be invoiced for any associated fees.**

### REQUIRED APPLICANT SIGNATURE:

Legal Declaration/Authorized Signature

Date

APCD OFFICE USE ONLY				
Geological Evaluation	Exemption Request Form	Dust Control Measure Plan		Monitoring, Health and Safety Plan
Approved Yes <input type="checkbox"/> No <input type="checkbox"/>	Approved: Yes <input type="checkbox"/> No <input type="checkbox"/>	Approved: Yes <input type="checkbox"/> No <input type="checkbox"/>		Approved: Yes <input type="checkbox"/> No <input type="checkbox"/>
Comments:	Comments:	Comments:		
APCD Staff:	Date Received:	Date Reviewed	OIS Site #	OIS Proj #
Invoice No.	Basic Fee	Additional Fees	Billable Hrs	Total Fees

H:\INFO\Forms\ENFORCEMENT\NOAC&GProjectForm&ExemptionRequest-2016.docx

T 805.781.5912

F 805.781.1002

W [slocleanair.org](http://slocleanair.org)

3433 Roberto Court, San Luis Obispo, CA 93401



Air Pollution Control District  
San Luis Obispo County

## Naturally Occurring Asbestos Construction & Grading Project Exemption Request Form

Applicant Information/ Property Owner		Project Name	
Address		Project Address	
City, State, Zip		City, State, Zip	
Email Address		Project Site Latitude, Longitude	Assessors Parcel Number
Phone Number	Date Submitted	Agent	Phone Number

The District may provide an exemption from Section 93105 of the California Code of Regulations - Asbestos Airborne Toxic Control Measure For Construction, Grading, Quarrying, And Surface Mining Operations for any property that has any portion of the area to be disturbed located in a geographic ultramafic rock unit; if a registered geologist has conducted a geologic evaluation of the property and determined that no serpentine or ultramafic rock is likely to be found in the area to be disturbed. Before an exemption can be granted, the owner/operator must provide a copy of a report detailing the geologic evaluation to the District for consideration. The District will approve or deny the exemption within 90 days. An outline of the required geological evaluation is provided in the District handout **"ASBESTOS AIRBORNE TOXIC CONTROL MEASURES FOR CONSTRUCTION, GRADING, QUARRYING, AND SURFACE MINING OPERATIONS – Geological Evaluation Requirements."** See the APCD Website map: [slocleanair.org/rules-regulations/asbestos/noa.php](http://slocleanair.org/rules-regulations/asbestos/noa.php)

**NOTE: A basic exemption evaluation fee of \$187.50 will be charged.**

### APPLICANT MUST SIGN BELOW:

*I request the San Luis Obispo County Air Pollution Control District grant this project exemption from the requirements of the ATCM based on the attached geological evaluation.*

Legal Declaration/Authorized Signature

Date:

### OFFICE USE ONLY - APCD Required Element - Geological Evaluation

Date Received:	Date Reviewed:	OIS Site #:	OIS Project #:
	APCD Staff:	Approved	Not Approved
Comments:			

H:\INFO\Forms\ENFORCEMENT\NOAC&GProjectForm&ExemptionRequest-2016.docx

T 805.781.5912

F 805.781.1002

W [slocleanair.org](http://slocleanair.org)

3433 Roberto Court, San Luis Obispo, CA 93401



Air Pollution Control District  
San Luis Obispo County

## Naturally Occurring Asbestos (NOA) Fees

Projects where Naturally Occurring Asbestos such as serpentine rock is likely to be found are subject to the State Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations. Grading projects in the APCD planning area for serpentine rock will require prior District approval of an exemption from the ATCM or an Asbestos Dust Mitigation Plan

Effective June 22, 2016, the revised project review fees by the San Luis Obispo County Air Pollution Control District (APCD) are as follows:

	Basic Fee				Additional Fee	
	Geological Evaluation & Full Exemption	Geological Evaluation & Conditional Exemption	Geological Evaluation & one (1) acre or less	Geological Evaluation & more than one (1) acre	Dust Control Plan Review and Approval	Dust Control Plan Review & Approval with Monitoring
Construction, Grading, Roads, Surface Mining, & Quarrying in Serpentine	\$187.50	\$250.00	\$312.50	\$312.50	\$125.00	\$250.00

Prior to any grading activities at your site, a geologic analysis may be necessary to determine if serpentine rock is present. All subject project applicants should complete an exemption form or the Construction and Grading Project form. These forms, maps, and additional information can be found on the District web site at: [www.slocleanair.org](http://www.slocleanair.org)

In order to process the review of your project in the shortest time possible, please contact the District immediately at 805-781-5912

Please note that any necessary San Luis Obispo County Air Pollution Control District staff time or resources expended to provide state regulation compliance determinations to any person, regardless of permit status, may be charged at a rate which reflects labor costs as set by the Air Pollution Control Board and actual costs incurred by the APCD.

## Comment Letter – San Luis Obispo County Air Pollution Control District (APCD)

### Response to APCD-1

The City thanks the APCD for review of its Draft EIR. The comment is noted.

### Response to APCD-2

The City acknowledges the APCD's role in the CEQA process and will address action items related to construction and operational impacts in the comment letter.

### Response to APCD-3

Pages 3.3-19 and 3.3-20 in Chapter 3.3 Air Quality of the Draft EIR state that the project would implement on-site mitigation measures consistent with APCD requirements to reduce ROG, NO<sub>x</sub>, and diesel particulate matter during construction activities, these measures are found in **AQ-1b: Standard Control Measures for Control Equipment, AQ-1c: BACT for Construction Equipment, and AQ-1d: Architectural Coatings**. With the implementation of these mitigation measures, construction phase impacts would be below APCD levels of significance as shown in Table 3.3-5 in Chapter 3 Air Quality of the Draft EIR.

### Response to APCD-4

The following has been added to the Draft EIR, Chapter 3.3 Air Quality, on page 3.3-19 in response to APCD's comment:

**AQ-1c: BACT for Construction Equipment.** The following BACT for diesel-fueled construction equipment shall be implemented during construction activities at the project site, where feasible:

- Further reducing emissions by expanding use of Tier 3 and Tier 4 off-road and 2010 on-road compliant engines where feasible;
- Prior to commencement of construction activities, the applicant shall submit a list of equipment to be used on the project to the APCD. The list would include details of each piece of equipment, including: equipment serial number, engine model year, engine emission tier, and emission family for each. If the list contains other than Tier 4 equipment, a revised CalEEMod run for annual mitigated construction emissions, using the list of specific equipment proposed for the project and demonstrating quarterly emissions below the APCD thresholds of significance shall then be submitted.

### Response to APCD-5

The mitigation measures are included in the Draft EIR, Chapter 3.3 Air Quality, on pages 3.3-19 and 3.3-20. No changes are required in response to this comment.

## Response to APCD-6

The mitigation measures are included in the Draft EIR, Chapter 3.3 Air Quality, on page 3.3-20. No changes are required in response to this comment.

## Response to APCD-7

The following has been added to the Draft EIR, Chapter 3.3 Air Quality, on page 3.3-18 in response to APCD's comment:

The following mitigation measures are required to reduce construction emissions of ROG, NO<sub>x</sub>, and DPM. Although the proposed project's fugitive dust emissions would not exceed Tier 1 or 2 thresholds, SLOAPCD requires any project with grading areas greater than 4.0 acres or that are within 1,000 feet of any sensitive receptor to implement standard fugitive dust mitigation measures. Therefore, Mitigation Measure AQ-1a is also required. Those mitigation measures would help manage fugitive dust emissions such that the Project's fugitive dust emissions would not exceed the APCD's 20 percent opacity limit (APCD Rule 401) or prompt nuisance violations (APCD Rule 402).

**AQ-1a: Fugitive Dust Control Measures.** Construction projects shall implement the following dust control measures so as to reduce PM10 emissions in accordance with SLOAPCD requirements.

- Reduce the amount of the disturbed area where possible;
- Use of water trucks or sprinklers in sufficient quantities to prevent airborne dust from leaving the site and from exceeding the APCD's limit of 20 percent opacity for greater than 3 minutes in any 60-minute period. ~~Water trucks or sprinkler systems shall be used during construction in sufficient quantities to prevent airborne dust from leaving the site.~~ Increased watering frequency shall be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water shall be used whenever possible; and in order to conserve water used for dust control, the contractor or builder shall consider the use of an APCD-approved dust suppressant where feasible. Potential dust suppressants to select from to mitigate dust emissions can found at the link below:  
<http://www.valleyair.org/busind/comply/PM10/Products%20Available%20for%20Controlling%20PM10%20Emissions.htm>
- All dirt stock pile areas shall be sprayed daily and covered with tarps or other dust barriers as needed;
- "Track-Out" is defined as sand or soil that adheres to and/or agglomerates on the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto any highway or street as described in California Vehicle Code Section 23113 and California Water Code. To prevent 'track out', designate access points and require all employees, subcontractors, and others to use them. The Project shall install and operate a 'track-out prevention device' where vehicles enter and exit unpaved roads onto paved streets. The 'track out prevention device' can be device or combination of devices that are effect at preventing track out, located at the point of intersection of an unpaved area and a paved road. Rumble strips or steel plate devices

need periodic cleaning to be effective. If paved roads accumulate track out soils, the track out prevention device may need to be modified;

- The construction contractor shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20 percent opacity for greater than 3 minutes in any 60-minute period, and to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to SLOAPCD Compliance Division prior to the start of any grading, earthwork or demolition.

## Response to APCD-8

Pages 3.3-22 and 3.3-23 of the Draft EIR, Chapter 3.3 Air Quality, acknowledges the proposed project site is in an area that is known to contain naturally occurring asbestos (NOA) and may encounter NOA during excavation and grading activities.

## Response to APCD-9

Page 3.3-23 of the Draft EIR, Chapter 3.3 Air Quality, acknowledges that a geologic evaluation would be required to determine if the area disturbed is exempt from the NOA Air Toxics Control Measure (ATCM). If determined the area is not exempt, then the City will develop a comprehensive removal plan in accordance with the NOA ATCM for the proposed project.

## Response to APCD-10

The City acknowledges diesel powered construction activities shall implement mitigation measures to reduce sensitive receptor exposure to diesel emissions. Mitigation measures to reduce diesel emissions are described in **AQ-1b: Standard Control Measures for Construction Equipment** and **AQ-1c: BACT for Construction Equipment** of the Draft EIR, Chapter 3.3 Air Quality on pages 3.3-19 and 3.3-20.

## Response to APCD-11

Mitigation measures to reduce diesel idling emissions are described in the Draft EIR, Chapter 3.3, Air Quality on pages 3.3-19 and 3.3-20. These include **AQ-1b: Standard Control Measures for Construction Equipment** and **AQ-1c: BACT for Construction Equipment**.

## Response to APCD-12

Page 3.3-19 of the Draft EIR, Chapter 3.3 Air Quality, incorporates **AQ-1b: Standard Control Measures for Construction Equipment**. AQ-1b includes a mitigation measure that limits all on- and off-road diesel equipment idling to no more than 5 minutes. No changes are required in response to this comment.



### Response to APCD-13

Page 3.3-19 of the Draft EIR, Chapter 3.3 Air Quality, incorporates **AQ-1b: Standard Control Measures for Construction Equipment**. AQ-1b includes a mitigation measure that signs would be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit. No changes are required in response to this comment.

### Response to APCD-14

This City acknowledges the APCD's information for where truck idling requirements and exceptions can be found. Comment is noted.

### Response to APCD-15

Mitigation measures to reduce diesel emissions are described in the Draft EIR, Chapter 3.3 Air Quality, on pages 3.3-19 and 3.3-20. These include **AQ-1b: Standard Control Measures for Construction Equipment** and **AQ-1c: BACT for Construction Equipment**. No changes are required in response to this comment.

### Response to APCD-16

The City acknowledges the APCD's concerns for potential asbestos emissions from the project's demolition activities. Comment is noted.

### Response to APCD-17

The following has been added to the Draft EIR, Chapter 3.3 Air Quality, on page 3.3-22 in response to APCD's comment:

If it is determined asbestos containing materials (ACM) would be removed as part of the proposed project's demolition phase, then the City will have the ACM removed in accordance with APCD regulations, as well as the requirements found in the National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M-asbestos NESHAP). Those requirements include, but are not limited to:

1. Written notification, within at least 10 business days of activities commencing, to the APCD;
2. Asbestos survey conducted by a Certified Asbestos Consultant; and,
3. Applicable removal and disposal requirements of identified ACM.

### Response to APCD-18

The City acknowledges the APCD's concerns for potential lead emissions from the project's demolition activities. Comment is noted.

## Response to APCD-19

The following has been added to the Draft EIR, Chapter 3.3 Air Quality, on page 3.3-22 in response to APCD's comment:

If it is determined that existing structures to be removed are coated with lead-based paint, then the construction manager shall consult with the APCD to determine if a permit is required for the lead abatement.

## Response to APCD-20

Project construction equipment would not include portable equipment with a horsepower greater than 50. Based on this, a California statewide portable equipment registration (issued by CARB) or an APCD permit would not be required for any construction equipment.

## Response to APCD-21

This City acknowledges APCD information to minimize potential construction delays. Comment is noted.

## Response to APCD-22

The City acknowledges the comment submitted by APCD. The comment has been noted.

## Response to APCD-23

As stated on page 3.3-23 of the Draft EIR, Chapter 3.3 Air Quality, the project's backup generators would comply with APCD's Rule 204, which requires the backup generators to be equipped with BACT and RACT.

## Response to APCD-24

The proposed project's backup generators would emit 60 pounds of diesel particulate matter per year. Based on this, the proposed project should be prioritized or screened for facility wide health risk impacts. The City will evaluate potential health risk impacts from the backup generators and implement measures in order to comply with the APCD's health risk significance thresholds.

## Response to APCD-25

As stated on pages 3.3-23 through 3.3-25 of the Draft EIR, Chapter 3.3 Air Quality, the project would not affect a substantial number of people with objectionable odors during construction or operations activities.

The City appreciates the comments submitted by APCD. The comment has been noted.

Rob Livick, P.E.  
Public Works Director  
City of Morro Bay  
955 Shasta Avenue  
Morro Bay, CA 93442  
rlivick@morrobayca.gov

**RE: Morro Bay Water Reclamation Facility Draft Environmental Impact Report**

▪ SCH #2016081027

Dear Mr. Livick:

In response to the draft Environmental Impact Report prepared on behalf of the City of Morro Bay (the "City") for its Water Reclamation Facility project, the Cayucos Sanitary District (the "District") provides the following comments.

1. In section 2.4, the project description includes the following: "Brine produced by the treatment process will be discharged to the existing ocean outfall." The District is concerned that brine disposal through the jointly owned ocean outfall may damage and otherwise affect the integrity of the outfall. As you know, the 1993 Settlement Agreement between the District and Morro Bay specifically prohibited use of the jointly owned wastewater treatment plant and outfall for the treatment or discharge of any wastewater from the City's desalination plant, regardless of whether the feed water is brackish water, seawater or any other type of feed water. This issue has never been resolved and there is insufficient data to support use of the jointly owned outfall for this purpose. The District feels strongly that a comprehensive analysis is needed to determine whether the outfall can or should be used for brine disposal. Ultimately, use of the outfall for brine disposal will need to be determined by agreement between the City and the District.

2. In section 2.5.3, the project description of the construction activities in decommissioning the existing jointly owned treatment plant includes the following:

Complete demolition and removal of all structures from the site, except for the outfall air release structure and potentially the headworks/influent lift station. Facilities to remain are expected to be upgraded and used as a part of the proposed project.

More information is necessary to explain why the jointly owned outfall air release structure and headworks/influent lift station are being left in place. How will they be used? In addition to unstudied impacts related to continued use of these jointly owned structures and facilities, there are significant regulatory and liability issues. Ultimately, the decommissioning construction activities will need to be determined by agreement between the City and the District.

3. In section 2.5.3, the project description of the construction activities in decommissioning the existing jointly owned treatment plant includes the following:

Structures and equipment will be completely removed above and below grade. Buried pipe deeper than 6 feet will be filled with a cement slurry and abandoned in place. Trenches and excavation will be backfilled and compacted structural fill and brought up to grade. Equipment will be disposed of or salvaged per the recommendations in the draft FMP.

The District understands that for CEQA purposes, it is important to study the worst-case scenario and that appears to be what was done here. The site and the treatment plant are jointly owned by the City and the District. Ultimately, the decommissioning construction activities will need to be determined by agreement between the City and the District.

As you know, section 14 of the Joint Powers Agreement for the Ownership, Operation and Maintenance of Wastewater Treatment Facilities states, "No relocation, reconstruction, *alteration to*, addition to, or replacement of any portion of the wastewater treatment plant shall occur without the prior written approval by Morro Bay and Cayucos." (Emphasis added.)

Thank you for considering these comments.

Sincerely,



Rick Koon  
District Manager, Cayucos Sanitary District

Cc: Timothy J. Carmel, District Counsel

3 cont.

## Comment Letter – Cayucos Sanitary District (CSD)

### Response to CSD-1

Currently, the existing ocean outfall that is used to discharge effluent from the existing MBCSD WWTP is not used for discharge of wastewater from the City's desalination plant. That existing condition will not be altered by the proposed project. Similar to the CSD's Sustainable Water Project, which proposes to use the existing MBCSD WWTP outfall to discharge brine and tertiary-treated effluent from its new plant, the City's proposed WRF will also discharge brine and tertiary-treated and advanced treated effluent through the existing WWTP ocean outfall.<sup>3</sup> The 1993 Settlement Agreement that pertains to the desalination plant outfall is not applicable to this project. The City owns 65% of the MBCSD WWTP outfall capacity, and the CSD owns 35% of the MBCSD WWTP outfall capacity. The City's continued use of the outfall to that capacity for brine and tertiary-treated effluent would continue to be allowed with no changes to that agreement. However, CSD and the City will need to agree to the process and funding for the decommissioning and demolition of the WWTP and reuse of that site and will memorialize or modify each entity's continued authority to use the outfall.

### Response to CSD-2

The continued use of the MBCSD WWTP outfall by the City and CSD requires maintaining the existing outfall air release structure. The existing headworks/influent lift station will remain part of the City's proposed project as described in the Draft EIR Chapter 2. Since those facilities will remain in their current location, there are no unstudied impacts associated with their continued use.

Decommissioning construction activities will require coordination between the CSD and City, but the range of decommissioning activities would not result in environmental impacts that exceed those analyzed in the Draft EIR.

### Response to CSD-3

Please refer to Response to CSD-2.

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<sup>3</sup> Cayucos Sustainable Water Project, Draft Environmental Impact Report, prepared for Cayucos Sanitary District by Firma Consultants, Inc., January 2017.



**COUNTY OF SAN LUIS OBISPO**  
**DEPARTMENT OF PLANNING & BUILDING**  
**MARVIN A. ROSE, INTERIM DIRECTOR**

May 18, 2018

John Rickenbach  
Program Manager  
City of Morro Bay  
955 Shasta Avenue  
Morro Bay, CA 93442

Subject: Planning and Building Comments on the Morro Bay Water Reclamation Facility  
Draft Environmental Impact Report (2043)

Dear Mr. Rickenbach,

Thank you for the opportunity to comment on the Draft Environmental Impact Report (DEIR) for the Morro Bay Water Reclamation Facility.

The City of Morro Bay is the Lead Agency on the project as it is the primary public agency responsible for implementing the project. The County of San Luis Obispo is a Responsible Agency since it has land use authority in the unincorporated areas of the county and will be issuing permits for the project (only WRF facility site). The County anticipates using the City's EIR as the environmental determination for the required permits and will incorporate the recommended mitigation measures into the County's condition of approval. The Department of Planning and Building understands the project involves construction of the treatment plant in the county's unincorporated area within the Coastal Zone. Development in the Coastal Zone will require a Development Plan / Coastal Development Permit and will be subject to the County's Local Coastal Plan, including Title 23 (Coastal Zone Land Use Ordinance), Coastal Plan Policies, and the Estero Area Plan.

The City of Morro Bay is proposing to construct and operate a water reclamation facility (WRF) on an approximately 10-15 acre area of a 396 acre parcel in an agricultural area. The project site is near Highway 1 and the northern end of South Bay Boulevard, within the unincorporated area of San Luis Obispo County. In addition to the new WRF, the proposed project would include (i) administration, operations and maintenance (O&M) buildings at the WRF site, (ii) a new collection system including a lift station and pipelines to convey raw/treated wastewater flows to/from the new WRF and (iii) a new distribution system to convey recycled water from the WRF to new injection wells in the Morro Valley. The WRF location is within the County jurisdiction and all other project components are within the city boundaries. The Planning & Building Department has reviewed the draft environmental impact report (DEIR) and the following comments address both project description and the environmental assessment information.

## A. PROJECT DESCRIPTION

### Project Description Section 2.4

1. The discussion for the WRF in the DEIR focused on the description, construction and operation of the treatment facility and O&M buildings. Per the Facility Master Plan (Nov 2016), the WRF includes office space, storage, indoor work spaces, and parking for future relocation of other Public Works Department staff from the city. Co-locating other City operation and maintenance facilities at the WRF will be developed during site planning and constructed with the treatment plant.

Please provide additional information in the DEIR discussion on the anticipated impacts related to the traffic and services capacity (water, sewer) for both WRF/ O&M scenario and also, the full buildout and consolidated PW operations in the future.

2. Please provide more information related to the off-site dirt hauling trips and locations, areas of disturbance particularly near the creek/ drainage area, and any identified areas for staging and storage of construction equipment / materials during the construction period. Exported fill/spoil locations may require permits from the County and may have secondary impacts in issue areas such as: Agricultural Resources, Cultural Resources, Biological Resources and Air Quality (dust). If it is impossible to identify sites at this time, criteria for evaluating and selecting site should be included as well as any BMPs related to placement of the export/fill.
3. The City indicated the WRF will be located on a small portion (10 -15 acre) area on a 396-acre parcel in the agricultural area within the County. Discussion on the creation of this new Public Facility lot, applicable entitlement process and permitting agencies, and compliances with relevant County coastal policies and standards for agricultural lands should be included.

## B. DRAFT ENVIRONMENTAL IMPACT REPORT

### **Aesthetics**

#### Regulatory Framework Section 3.1.2

The WRF site is located within the Estero planning area and is subject to standards for Sensitive Resource Area (SRA) and Geologic Study Area (GSA) combining designations including protection of the Morro Area SRA critical viewsheds along Highway 1. The Coastal Zone Land Use Ordinance Section 23.04.210- Visual Resources consists of critical viewshed protection standards. It is recommended that the Regulatory Framework Section include these standards in the discussion.

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Impacts and Mitigation Measures Section 3.1.3

Per Section 23.04.210 visual protection policies require findings that no other sites are feasible in the area and additional mechanism i.e. open space preservation will be utilized in the protection of visual resources in the coastal zone. The impact analysis discussion should include supplemental information to clarify how the standards / requirements of the CZLUO is met. In addition, the implementation of specific design criteria discussed in the DEIR Visual Character (Impact 3.1-3) should be expanded to include measurable mitigations with performance criteria such as color chromas, screening trees or landscaping, retaining wall treatments, grading BMPs, and building outline/ roofline limitations to address visual and silhouetting impacts to ensure visual compatibility with surrounding agrarian landscape and elements.

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**Agriculture and Forestry Resources**

*The following comments are supplementary to the SLO County Agriculture Department letter dated May 16, 2018.*

Regulatory Framework Section 3.2.2

The County coastal agriculture policies establish clear standards and criteria for allowable non-agricultural uses on agricultural land, maintenance and division of agricultural land (Policy 1 to 3). These provisions are granted on the premise that the site is classified as non-prime agricultural land. The discussion in the DEIR should be expanded to include Policy 2 and 3, clear evidence of meeting the non-prime land criterion and requirements for establishing non-agricultural uses, and the conversion (subsequent land division of the WRF site lot) will not compromise the overall agricultural viability of the resulting parcel(s) pursuant to Section 23.04.024 and Section 23.04.050 of the CZLUO.

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Impacts and Mitigation Measures Section 3.2.3

As discussed in the Conversion to Non-Agricultural Use (Impact 3.2-5), the implementation of the proposed WRF would convert up to approximately 4% of the 396-ac parcel to non-agricultural use. The County Coastal Agriculture Policy 3 for Non- Agricultural Uses outlined requirements for development proposals on agriculturally designated areas to not exceed 2% of the gross acreage of the parcel(s) and the utilization of conservation easements as way to protect viable agricultural lands. Please provide supplemental information to support the overage conversion and protection mechanism(s) consistent with the County coastal ordinance and policies.

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**Biological Resources**

Regulatory Framework Section 3.4.2

The County's coastal policies, standards and required findings pertaining to Environmentally Sensitive Habitat Areas (ESHA) protection and development limitations in Sensitive Resource Areas (SRA) are widely encompassed in several documents: LCP ESHA policies, CZLUO Section 23.07.160 -174, Section 23.08.288 Public Utility Facilities (when located in sensitive areas) and

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the local Estero Planning Area standards. It is recommended that the discussion in this section be fully expanded to outline the required findings as the basis for the following discussions in the Impacts and Mitigation Measures section.

Impacts and Mitigation Measures Section 3.4.3

1. The overall discussion in this section should be expanded with more evidence supporting the required findings for development in environmentally sensitive habitat areas pursuant to the LCP ESHA policies, CZLUO Section 23.07 SRA and ESHA policies, and Section 23.08.288 Public Utility Facilities. Note per the Section 23.08.288 standard (d), the standard for development in an environmentally sensitive area required evidence of a feasibility study showing constraints and alternate location(s) analyses. Discussion on alternate sites can be expanded in other sections in the DEIR as applicable but should include adequate site-specific information to meet the aforementioned policies and required findings. *Note: The site is within the Sensitive Resource Area combining designation based on the coastal visual resource criteria as outlined in the local Estero Area Plan.*
2. It appears that no Morro Shoulderband Snail (MSS) surveys were undertaken at the WRF site. Please expand the discussion to include the criteria and/or parameters taken to evaluate the need for the MSS survey at the WRF location.
3. Per the biologist report (Merck, 2017), the WRF study area is considered ESHA due to the presence of the special-status plant species, San Luis Obispo Owl's Clover within bunches of native purple needle grass communities (0.48 ac). However, these bunches are located outside the facility area. In addition, suitable serpentine rock outcrop and soil types to support other special status species are found on the site and the facility area. Please provide more information on why the ESHA designation is not applicable at the WRF area and no impacts are anticipated.
4. The biological mitigation measures should include recommended measures by the biologist (Merck, 2017) including and not limited to: rare plant and habitat mitigation and monitoring plans, pre-construction surveys for the special status plants at the WRF site, redesign to avoid impacts, relocation of species and/or implementation of the mitigation plans if avoidance cannot be achieved.
5. Construction associated with the road, utility and pipe trenching and stormwater/ drainage improvements (i.e. swales, outfalls, or discharge points) may impact the nearby drainage channel and Chorro creek bank. Discussion of the Wetlands Impact 3.4.3 and mitigation measures should cover construction impacts at the WRF site including and not limited to: the full buildout development area, access road and stormwater/ drainage.

6. The BIO-8 mitigation measure should be expanded to include compliances with SLO County CZLUO Section 23.05.020 Grading standards and required setbacks from environmentally sensitive habitats.

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7. The discussion on drainage and erosion control should include SLO County Department of Public Works coordination and review of the SWPPP document in conjunction with the City of Morro Bay during the coastal development permit process and prior to construction activities.

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## **Cultural Resources**

### Regulatory Framework Section 3.5.2

The County Local Coastal Plan policies and CZLUO Section 23.07.104 set forth standards for protecting cultural resources in the coastal zone. In addition, State statute requirements for Native American consultations per Assembly Bill 52 should be mentioned in this section. It is recommended that these policies and standards be included in the regulatory framework discussion.

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### Impacts and Mitigation Measures Section 3.5.3

The DEIR outlined several cultural mitigation measures to reduce the overall anticipated impacts to the cultural resources for the whole project. Though the WRF site is considered having low potential for cultural impacts, the County recommends the mitigation measures to include co-joint County review and approval as these are applicable mitigation measures for the WRF site. In addition, compliance with AB52 Native American consultation process and outcomes should be added to the impact discussions.

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## **Hydrology and Water Quality**

### Regulatory Framework Section 3.9.2

The overall project aspects such as the injection wells and the WRF stormwater drainage system are features that will affect both underlying Morro and Chorro groundwater basins. Construction of the WRF access road and offsite improvements are close to the ephemeral drainage leading to the Chorro Creek. The County LCP Watershed policies outline standards and criterion for new development siting, grading, drainage and erosion control, water extraction and monitoring, and groundwater preservation including a county/city joint groundwater management for the Morro and/or Chorro Basin. The Estero Area Plan also requires any development within the Morro and Chorro Basins to evaluate potential impacts of development on groundwater resources.

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It is highly recommended to expand the discussion here to include the aforementioned policies and standards as the basis for the following discussions in the Impacts and Mitigation Measures Section.

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Impacts and Mitigation Measures Section 3.9.3

1. There are surrounding agricultural county lands within the Morro Basin that will be both directly and indirectly affected by this project. The discussion in this section should be expanded to include supplemental information regarding anticipated impacts to the groundwater basins consistent with the requirements of the LCP policies and the Estero Area Plan standards, particularly on the urban and agricultural/ rural extractions for both existing and future growth scenarios. The discussion should also include relevant information to meet the LCP requirement for a joint groundwater management program which provides for agricultural demand and phased urban growth consistent with available groundwater resources and aquatic habitat protection.
2. Due to the design build approach to the WRF, the final construction scope and design details may not be available at this stage. As proposed, the construction and operations of the WRF may require potential offsite drainage, onsite stormwater retention and roadway grading adjacent to drainage banks. These activities and potential spills may have significant impacts on the overall watershed and groundwater basin. Discussion should be expanded to include potential impacts offsite and to the groundwater basin; and if possible, specific mitigation criterion to mitigate the impacts other than state permitting compliances.

**Transportation and Traffic**

The analysis incorporates data for truck and 4 maintenance employee trips at the WRF site. Please include supplemental information and analysis for the full buildout and a future consolidated Public Work's operation scenario at the WRF facility as described in the WRF Master Plan (2017).

**Air Quality and Odor**

The WRF construction is anticipated to be over a 3-year period and is adjacent to the Bayside Care Center, a sensitive receptor within close proximity. Given the WRF construction is anticipated to last more than one quarter and exceeds SLOAPCD's Tier 1 thresholds, the project will be subject to SLOAPCD's Standard Mitigation Measures and BACT for construction equipment. The County recommends the City consider preparing an overall construction and operational air quality plan that includes (not limited to): fugitive dust control measures, standard control measures for construction equipment, BACT for construction equipment, architectural coating emission limits, and provisional mitigations for odor treatment systems and control technology for future odor abatement, as applicable. This air quality plan should be made available for review and approval by County Planning in consultation with APCD.

## Alternatives

Per the County's Estero Area Plan, the proposed WRF area is within the Sensitive Resource Area (SRA) combining designation, which includes the Critical Viewsheds for the Morros areas, natural landmarks, locations of important plant and animal habitats, and watershed resources. The allowance of Public Utility Facility development in sensitive areas such as on prime agricultural soils, Sensitive Resource Areas, Environmentally Sensitive Habitats is based on a required finding that there is no other feasible location on or off site the property. It is recommended that the discussion in this section be augmented with supplemental information establishing the feasibility of alternate WRF locations in respect to relevant County LCP policies and CZLUO standards for environmentally sensitive habitats protection.

We look forward to reviewing the Final EIR prior to its certification. If you need clarification or additional information regarding any of the information provided in this letter, please do not hesitate to contact me at [ssiong@co.slo.ca.us](mailto:ssiong@co.slo.ca.us) or (805) 781-4374.

Sincerely,



Schani Siong  
Senior Planner

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## COUNTY OF SAN LUIS OBISPO

### DEPARTMENT OF AGRICULTURE / WEIGHTS & MEASURES

Martin Settevendemie, Agricultural Commissioner / Sealer of Weights & Measures

**DATE:** May 16, 2018  
**TO:** Rob Livick, Public Works Director, City of Morro Bay  
**FROM:** Lynda L. Auchinachie, Agriculture Department, San Luis Obispo County  
**SUBJECT:** Morro Bay Water Reclamation Facility Draft Environmental Impact Report (2043)

The City of Morro Bay is proposing to construct and operate a water reclamation facility (WRF) on an approximately 10 to 15-acre area of a 396-acre parcel in an agricultural area. The project site is near Highway 1 and the northern end of South Bay Boulevard, within San Luis Obispo County. The WRF will also include new pipelines and an injection well at other locations within city boundaries. The Agriculture Department has reviewed the draft environmental impact report (DEIR) and has the following comments associated with agricultural:

#### Environmental Setting Section 3.2.1

1. The project includes annexation to the City of Morro Bay through the Local Agency Formation Commission (LAFCO) process. The associated Cortese-Knox-Hertzberg Local Government Reorganization Act's definition of "prime agricultural land" as defined in Government Code 56064 includes:

"Prime Agricultural land" means an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications:

- a) Land that qualifies, if irrigated, for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided irrigation is feasible.

It is recommended that the discussion of prime agricultural land at the location of the WRF, on page 3.2-1, be expanded to discuss irrigation feasibility relative to the definition above.

2. Both the County and the City have coastal and agricultural land use policies aimed at protecting agricultural resources and operations from incompatible uses. Established policies require non-agricultural uses to be compatible with agricultural uses on surrounding lands. Additionally, the CEQA significance criteria in Section 3.2.3 addresses potential incompatibility by evaluating changes in the existing environment which, due to their location or nature, could result in conversion to non-agricultural uses.

To provide a better understanding of the agricultural setting in which the WRF is located, a discussion of the Maino Ranch and its associated conservation easement located on over 1,800 acres of rangeland adjacent to the WRF site is recommended. The intent of the easement is to preserve the land for continued agricultural uses such as the current cow-calf operation. The area closest to the WRF is used for calving and this process could easily be disrupted by intensified activity associated with the WRF. Inclusion of the recommended additional information would enable evaluation of such incompatibilities and ensure the facility has been designed and/or mitigated to be compatible with surrounding agriculture.

#### Regulatory Framework Section 3.2.2

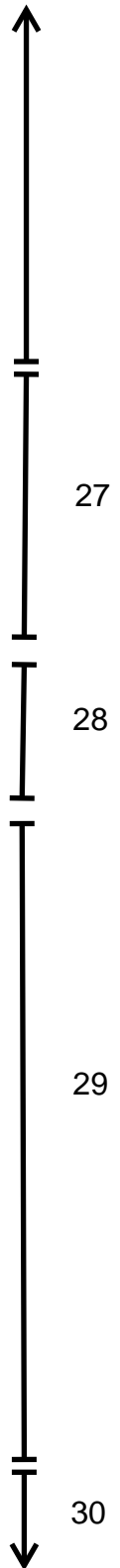
3. The County's Agriculture Element and LAFCO agricultural policies address land use incompatibility issues associated with the development of non-agricultural uses within an agricultural area. It is recommended that the Regulatory Framework Section 3.2.2 include the County's Agriculture Element AGP17 – Agricultural Buffers and relevant LAFCO agricultural policies.

#### Impacts and Mitigation Measures Section 3.2.3

4. The impact analysis for the conversion of prime farmland should be expanded to address LAFCO definition as necessary.
5. It appears the project has incorporated design elements that reduce impacts to agricultural resources, including but not limited to:
  - *Elimination of the corporation yard* which results in the reduction of the amount of agricultural land converted as well as significantly reduces the intensity of activity and uses (e.g. reduce traffic, noise, movement etc.) at the site and, therefore, incompatibilities.
  - *Buffering* neighboring agricultural uses by locating the operational portion of the facility more than 50 feet away. Based on the lower intensity use due to the elimination of the corporate yard, this separation helps reduce incompatibilities.
  - *Fencing* the entire treatment plant and access road allows for both the continuation of cattle grazing and reduction of trespass and other nuisance issues. While the type of fencing was not identified, it is recommended that adjacent ranchers be consulted to ensure fencing adequately addresses potential incompatibilities.

Discussion of these project components in the impacts analysis and in the context of land use policies will provide additional clarity regarding project impacts.

6. The construction phase of the project could present several challenges to neighboring agricultural operators. It is recommended that coordination between neighboring ranchers



and project management occur on a regular basis to ensure project construction impacts are minimized.

Section 3.4 Biological Resources

7. Development in agricultural areas, particularly pipelines, can result in the establishment and spread of noxious weeds on surrounding rangeland or fields. This potential impact should be discussed and appropriate mitigation identified. At a minimum, the mitigation should include the preparation and implementation of a weed control plan by a qualified biologist for invasive weed control and abatement.

Thank you for your consideration. If you have questions, please call 781-5914.



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## Comment Letter – County of San Luis Obispo Department of Planning & Building and County of San Luis Obispo Department of Agriculture (County)

### Response to County-1

The City thanks the County for its review of the Draft EIR. The comment is noted.

### Response to County-2

Since the completion of the draft Facility Master Plan (FMP) in early 2016, the proposed project has been refined to eliminate the Corporation Yard facilities. There is no future project envisioned at this time that would include “full buildout and consolidated PW operations” as mentioned in the comment. As stated in the Draft EIR on page 6-9:

In October 2017, the City Council refined the proposed project goals to reflect concerns related to cost and the ability to implement the proposed project effectively and in a timely manner. As a result, the proposed project was refined not to include moving the City’s Corporation Yard to the preferred WRF location, a concept that had been part of the facility design in the Facility Master Plan. That aspect of the proposed project was removed from the project goals – that is, to design the proposed WRF to allow for other City functions (Minutes – Morro Bay City Council Regular Meeting – October 24, 2017). Thus, the footprint of the proposed project was reduced accordingly with elimination of the Corporation Yard.

The description of the WRF/O&M buildings that would be included in the proposed project can be found in the Draft EIR, Chapter 2, Project Description. Refer to Chapter 3.14 Traffic and Transportation and Chapter 3.16 Utilities and Service Systems for impact analyses related to traffic and water and sewer service capacity for the proposed project.

### Response to County-3

As stated in the Draft EIR on page 2-25, “[s]taging areas for construction are anticipated to be onsite for project components or within existing City properties or City rights-of-way.” The construction contractor and the City and County will work together to identify areas for staging and storage of construction equipment, which may also include Caltrans rights-of-way, once the final design of the proposed project is determined. Construction-related off-site hauling trips are included in the Draft EIR in Section 2.5.3, including a summary table of haul trips in Table 2-6 on page 2-25.

The impact analysis in the Draft EIR has resulted in the inclusion of mitigation measures that identify best management practices (BMPs) for areas of disturbances near creeks and drainages and staging/stockpiling areas. The applicable mitigation measures include Mitigation Measures BIO-2: Avoidance and Protection of Biological Resources, and BIO-8: Construction BMPs to Protect Jurisdictional Features and Aquatic Habitat. Mitigation Measure BIO-8 identifies specific BMPs to be incorporated into the SWPPP that would minimize construction-related impacts to



jurisdictional features, such as that the Erosion Control Plan show all project stockpile and materials staging areas and ensure that these areas are 50 feet away from drainages and conform to BMPs.

## Response to County-4

Please refer to Responses to **Master Response 2 – WRF Site and Annexation** and LAFCO-1 and LAFCO-3 regarding the creation of the new Public Facility lot for the proposed WRF and applicable entitlement process. Please refer to Response to LAFCO-6 and LAFCO-7 regarding agricultural County coastal policies and standards for agricultural lands.

Table 2-10 on page 2-33 of the Draft EIR identifies the required permits to construct the proposed project, including approvals and permits for constructing the WRF such as the Resolution of Determination for City annexation required by LAFCO, the Development Plan required by the County, and the Conditional Use Permit and General Plan/LCP Amendment for the City.

## Response to County-5

The following text from the Coastal Zone Land Use Ordinance (CZLUO) Section 23.04.210-Visual Resources has been added to the Draft EIR, Chapter 3.1 Aesthetics, on page 3.1-8:

The proposed WRF site is located within the Estero planning area and is subject to standards for Sensitive Resource Area (SRA), including protection of the Morro Area SRA critical viewsheds along Highway 1. Pursuant to Section 23.04.210 of the CZLUO, all new development must obtain a land use permit that includes a landscaping plan, grading and drainage plan, lighting plan, fencing plan, and visual analysis, including the use of story-poles as required, that is prepared by a licensed architect, a licensed landscape architect or other qualified professional acceptable to the Director of Planning and Building. The plans and visual analysis shall be used to determine compliance with the following standards:

1. **Location of development.** Locate development, including, but not limited to primary and secondary structures, accessory structures, fences, utilities, water tanks, and access roads, in the least visible portion of the site, consistent with protection of other resources. Emphasis shall be given to locations not visible from major public view corridors. Visible or partially visible development locations shall only be considered if no feasible non-visible development locations are identified, or if such locations would be more environmentally damaging. New development shall be designed (e.g., height, bulk, style, materials, color) to be subordinate to, and blend with, the character of the area. Use naturally occurring topographic features and slope-created “pockets” first and native vegetation and berming second, to screen development from public view and minimize visual intrusion.
2. **Structure visibility.** Minimize structural height and mass by using low-profile design where feasible, including sinking structures below grade. Minimize the visibility of structures by using design techniques to harmonize with the surrounding environment.

3. **Ridgetop development.** Locate structures so that they are not silhouetted against the skyline or ridgeline as viewed from the shoreline, public beaches, the Morro Bay estuary, and applicable roads or highways described in the applicable planning area standards in the area plans, unless compliance with this standard is infeasible or results in more environmental damage than an alternative.
4. **Landscaping for hillside and ridgetop development.** Provide screening of development at plant maturity using native vegetation of local stock, non-invasive, or drought-tolerant vegetation without obstructing major public views (e.g., screening should occur at the building site rather than along a public road). The use of vegetation appropriate to the site shall be similar to existing native vegetation. Alternatives to such screening may be approved if visual impacts are avoided through use of natural topographic features and the design of structures. Provisions shall be made to maintain visual screening for the life of the development.
5. **Land divisions and lot-line adjustments - cluster requirement.** New land divisions and lot-line adjustments where the only building site would be on a highly visible slope or ridgetop shall be prohibited. Land divisions and their building sites that are found consistent with this provision shall be clustered in accordance with Chapter 23.04 or otherwise concentrated in order to protect the visual resources.
6. **Open space preservation.** Pursuant to the purpose of the Critical Viewshed or SRA to protect significant visual resources, sensitive habitat or watershed, open space preservation is a compatible measure. Approval of an application for new development in these scenic coastal areas is contingent upon the applicant executing an agreement with the county to maintain in open space use appropriate portions of the site within the Critical Viewshed or SRA (for visual protection). Guarantee of open space preservation may be in the form of public purchase, agreements, easement controls or other appropriate instrument approved by the Planning Director, provided that such guarantee agreements are not to provide for public access unless acceptable to the property owner or unless required to provide public access in accordance with the LCP.

## Response to County-6

The Draft EIR includes a visual simulation of the WRF from vantage points along Highway 1 (see Figure 3.1-1). The visual simulation accounts for the proposed architectural design criteria for WRF structures included as part of the project description, as well as surrounding topography. The architectural treatments to be applied to the WRF are described as follows on page 2-14 of the Draft EIR:

The overall impression of the architecture of the WRF complex would be intended resemble a dairy farm or ranch. Generally, the proposed building forms would be recognizably agricultural, using simple rectangular floor plates and gable roofs at varying slopes that reflect the use of the enclosed volumes. These building shapes would be articulated where appropriate with clerestories and roof vents. The orientation of and

relationship between roofs would be chosen to maximize solar exposure for the potential application of photovoltaics for power generation.

While the individual buildings would borrow their configuration from the agricultural model, exterior materials would be applied in response to functional requirements for durability and maintainability, and would produce a slightly more contemporary, less literal version of this building type. Roofs would be standing-seam metal, and walls would be a combination of exposed concrete masonry, metal siding, cement board siding, and plaster.

Colors would be selected for compatibility with the prevalent pattern along the neighboring stretch of Highway 1, such as red roofs and white or light brown walls to blend well with the surrounding environment, as seen at Cuesta College, Camp San Luis, and a number of the barns on farm properties. Tree plantings will further reinforce the historical settlement pattern of the area and provide some visual screening of structures, using drought tolerant species such as deodor cedar.

Additional mitigation measures with performance criteria for architectural design are not required. The impact analysis in the Draft EIR has determined that the proposed WRF with the architectural treatments would have less than significant impacts to scenic resources (see pages 3.1-11 through 3.1-21). Given the proposed siting of the WRF facilities, the visual simulation illustrates how the proposed WRF would be visible, albeit only momentarily, by motorists traveling both east and west along Highway 1. Given the architectural treatments applied to the proposed WRF in the visual simulation, the WRF would blend in with the character of the surrounding agrarian landscape. The WRF would be visible in front of hillsides but not silhouetted on top of a hillside.

As described in Response to CCC-5, the onsite siting of the WRF reflects consideration of, and minimization of, all environmental impacts related to construction and operation including excavation, grading, retaining, erosion, and avoidance of sensitive features including drainages and Environmentally Sensitive Habitat Areas (ESHA). That demonstrates there would be no conflict with CZLUO Section 23.04.210.

## **Response to County-7**

The following text from Agricultural Policy 2 and 3 of the County of San Luis Obispo Local Coastal Program, Coastal Plan Policies has been added to Section 3.2.2 of the Draft EIR, page 3.1-6:

### **Policy 2: Divisions of Land**

Land division in agricultural areas shall not limit existing or potential agricultural capability. Divisions shall adhere to the minimum parcel sizes set forth in the Coastal Zone Land Use Ordinance. Land divisions for prime agricultural soils shall be based on the following requirements:

a. The division of prime agricultural soils within a parcel shall be prohibited unless it can be demonstrated that existing or potential agricultural production of at least three crops common to the agricultural economy would not be diminished.

b. The creation of new parcels whose only building site would be on prime agricultural soils shall be prohibited.

c. Adequate water supplies are available to maintain habitat values and to serve the proposed development

Land divisions for non-prime agricultural soils shall be prohibited unless it can be demonstrated that existing or potential agricultural productivity of any resulting parcel determined to be feasible for agriculture would not be diminished. Division of non-prime agricultural soils shall be reviewed on a case-by-case basis to ensure maintaining existing or potential agricultural capability.

### **Policy 3: Non-Agricultural Uses**

In agriculturally designated areas, all non-agricultural development which is proposed to supplement the agricultural use permitted in areas designated as agriculture shall be compatible with preserving a maximum amount of agricultural use. When continued agricultural use is not feasible without some supplemental use, priority shall be given to commercial recreation and low intensity visitor-serving uses allowed in Policy 1. Non-agricultural developments shall meet the following requirements:

a. No development is permitted on prime agricultural land. Development shall be permitted on non-prime land if it can be demonstrated that all agriculturally unsuitable land on the parcel has been developed or has been determined to be undevelopable.

b. Continued or renewed agricultural use is not feasible as determined through economic studies of existing and potential agricultural use without the proposed supplemental use.

c. The proposed use will allow for and support the continued use of the site as a productive agricultural unit and would preserve all prime agricultural lands.

d. The proposed use will result in no adverse effect upon the continuance or establishment of agricultural uses on the remainder of the site or nearby and surrounding properties.

e. Clearly defined buffer areas are provided between agricultural and non-agricultural uses.

f. Adequate water resources are available to maintain habitat values and serve both the proposed development and existing and proposed agricultural operations.

g. Permitted development shall provide water and sanitary facilities on-site and no extension of urban sewer and water services shall be permitted, other than reclaimed water for agricultural enhancement.

h. The development proposal does not require a land division and includes a means of securing the remainder of the parcel(s) in agricultural use through agricultural easements. As a condition of approval of non-agricultural development, the county shall require the applicant to assure that the remainder of the parcel(s) be retained in agriculture and, if appropriate, open space use by the following methods:

**Agricultural Easement.** The applicant shall grant an easement to the county over all agricultural land shown on the site plan. This easement shall remain in effect for the life of the non-agricultural use and shall limit the use of the land covered by the easement to agriculture, non-residential use customarily accessory to agriculture, farm labor housing and a single-family home accessory to the agricultural use.

**Open Space Easement.** The applicant shall grant an open space easement to the county over all lands shown on the site plans as land unsuitable for agriculture, not a part of the approved development or determined to be undevelopable. The open space easement shall remain in effect for the life of the non-agricultural use and shall limit the use of the land to non-structural, open space uses.

Development proposals shall include the following:

- a. A site plan for the ultimate development of the parcel(s) which indicates types, location, and if appropriate, phases of all non-agricultural development, all undevelopable, non-agricultural land and all land to be used for agricultural purposes. Total non-agricultural development area must not exceed 2% of the gross acreage of the parcel(s).
- b. A demonstration that revenues to local government shall be equal to the public costs of providing necessary roads, water, sewers, fire and police protection.
- c. A demonstration that the proposed development is sited and designed to protect habitat values and will be compatible with the scenic, rural character of the area.
- d. Proposed development between the first public road and the sea shall clearly indicate the provisions for public access to and along the shoreline consistent with LUP policies for access in agricultural areas.

As stated on page 3.2-1 of the Draft EIR, the soils at the proposed WRF site are designated as Prime Farmland if Irrigated by the NRCS. The proposed project area is rangeland, historically used for grazing; the proposed WRF site has never been irrigated and is not currently surrounded by irrigated farmland. Please refer to Response to County-25 below, which further addresses irrigation feasibility and explains that the WRF site is not considered prime farmland.

Regarding establishing a non-agricultural use at the WRF site, page 3.2-8 of the Draft EIR defines the Public Utility Facilities requirements of the CZLUO. The compatibility analysis for establishing public utility facilities on lands zoned for Agricultural – Non-Prime soils is on page 3.2-14 of the Draft EIR. The analysis on page 3.2-17 of the Draft EIR explains how the development of the proposed WRF would not compromise the overall agricultural viability of the remainder of the parcel or surrounding parcels as required by the CZLUO. The Draft EIR notes 10 to 15 acres of the preferred site would be used for the WRF. The remainder of the 27.6-acre preferred site would be restricted by an open space or agricultural easement. The remainder of 396-acre parcel would be subject to the provisions of the County or City General Plans. Also, the proposed WRF is being designed to minimize its footprint as much as possible to minimize such effects to agriculture and would maintain the remainder of the rangeland to be contiguous with neighboring parcels (Draft EIR, page 3.2-17).

## Response to County-8

The proposed WRF would be developed within 10 to 15 acres of the greater 396-acre parcel. When this is converted to percentages, the WRF would develop between 2.5 percent and 3.8 percent of the 396-acre parcel for non-agricultural use. As such, on page 3.2-17 of the draft EIR, the text conservatively states “The proposed WRF would convert up to approximately 4% of the 396-acres to non-agricultural use.” Those percentages are estimates based on preliminary design for the WRF. As the proposed project proceeds through the design/build process, the actual footprint of the WRF would be refined and a more precise percentage for conversion of agricultural land would be calculated. In addition, Policy 3 indicates that non-agricultural development should include a “clearly defined buffer provided between agricultural and non-agricultural uses”. In response to the comment, the following text has been added to Impact 3.2-5 on page 3.2-17:

Current agricultural production in the proposed project area is shown in the aerial photograph of Figure 2-2. The proposed WRF site is rangeland that is currently used for cattle grazing (Yeh & Associates, 2017). For almost a century, land use at this site has not changed (Yeh & Associates, 2017). The proposed WRF would occupy 10 to 15 acres of a 396-acre parcel of rangeland, a land use that is considered agricultural. That is the primary project component that has the potential to permanently convert land that is currently being used for grazing to a non-agricultural use. Per the City’s General Plan policies, the proposed project would be in compliance with Policy LU-44, which states that “All non-agricultural development permitted on non-prime agricultural lands shall preserve the maximum amount of lands in agricultural use. The proposed use will result in no adverse effect upon the continuance or establishment of agricultural uses on the undeveloped portion of the property.” Implementation of the proposed WRF would convert between approximately 2.5% and 3.8% up to approximately 4% of the 396-acre parcel to non-agricultural use. The City would purchase 27.6 acres of the 396-acre parcel; the area not directly developed for the proposed WRF. The remainder of the parcel would still be available for grazing or to be placed into an agricultural or open space easement in compliance with County Land Use Ordinance policy 23.04.050. Also, the proposed WRF is being designed to minimize its footprint as much as possible to minimize such effects to agriculture, and would maintain the remainder of the rangeland area in one contiguous and useable parcel. In compliance with the City’s General Plan land use policies and the County’s Agricultural Element agricultural buffer policies, a buffer area is included for the proposed WRF site design to ensure that the operational portion of the facility is located more than 50 feet away from neighboring agricultural uses. The fencing surrounding the proposed WRF facility and access roads allows for the continuation of cattle grazing in neighboring lands as it reduces the potential for trespassing or other nuisance issues. That buffer area and fencing, along with the elimination of a corporation yard within the proposed WRF site, reduces the amount of agricultural land converted to non-agricultural use and helps further reduce land use incompatibilities. Thus, the impact of building the proposed WRF relative to the continued use of agricultural lands is less than significant.

The other project component that has a similar potential to convert agricultural land to non-agricultural use is the proposed IPR East groundwater wells. A small portion of the IPR East wellfield area overlaps with active agricultural lands at the Narrows (see Figure 2-2). Those lands are also FMMP-designated Prime Farmland. However, the results from the LESA model indicate that the conversion of 1.26 acres of Prime Farmland within the proposed IPR East groundwater well injection area to non-agricultural use would not be considered a significant impact to agricultural resources. Therefore, the potential to convert agricultural land to non-agricultural use would be considered less than significant.

## **Response to County-9**

The Estero Area Plan is included in the Biological Resources Regulatory Framework section of the Draft EIR on page 3.4-35. The CZLUO ESHA standards and policies are included in the Draft EIR on page 3.4-36.

## **Response to County-10**

As stated on page 3.4-1 of the Draft EIR, the presence of environmentally sensitive habitat area (ESHA) as defined by the California Coastal Act, the City Local Coastal Program (LCP), and the County LCP has been evaluated in the Draft EIR. Biological Resources Impact 3.4-5, which starts on page 3.4-50 of the Draft EIR, specifically addresses the potential impacts of the proposed project to ESHA. The Draft EIR analysis concludes on page 3.4-51 that the proposed WRF would not impact ESHA:

While the County LCP does identify rare or unusual native plant communities as ESHA, it does not specifically state native perennial grasslands shall be protected. While native grasslands dominated by purple needlegrass are relatively common in the general area (KMA personal observation), the small occurrences of native bunchgrass grassland in the WRF site study area site were intermixed with San Luis Obispo owl's clover, a special-status plant, and therefore should be considered ESHA. However, the proposed WRF facility would be developed outside of the areas that support San Luis Obispo owl's clover and purple needlegrass, and as such its construction would not impact the ESHA.

## **Response to County-11**

No suitable habitat for Morro shoulderband snail (MSS) is present at the proposed WRF site. As stated in the Draft EIR on page 3.4-24, the MSS is found in coastal scrub habitats on Baywood fine sand soil and Dune Lands in the Los Osos and Morro Bay areas. There are no Baywood fine sand soils at the preferred WRF site. In addition, as stated in the Draft EIR on page 3.4-39:

To avoid take of MSS during project construction, during design of the project components, surveys would be conducted in areas with potential habitat. The survey information will be used to locate facilities to avoid MSS habitat. If avoidance of MSS habitat is not feasible, then protocol surveys would be conducted to determine if MSS are present. If MSS are present, then consultation with the USFWS would be conducted as

appropriate and MSS individuals would be relocated from project areas as necessary. **Mitigation Measure BIO-3** outlines all steps to be taken to ensure impacts to MSS are avoided during project construction.

## Response to County-12

Please refer to Response to County-10 above. The footprint of disturbance for the proposed WRF would not encroach on the adjacent areas surveyed for biological resources that include features that are considered ESHA, such as the native bunchgrass grassland intermixed with San Luis Obispo owl's clover and the rock outcropping. See also Figure 3.4-5 in the Draft EIR. Although there is a rock outcropping within the area of disturbance at the WRF site, the Draft EIR states on page 3.4-22 to 3.4-23 that no special-status plant species are present that would qualify as ESHA:

The majority of the special-status plant species identified by the CNDDDB have highly specialized habitat requirements (i.e., they occur on serpentine rock outcrops and serpentine derived soils, active and stabilized coastal dunes, in maritime chaparral, or in brackish marsh habitats, etc.) that do not occur within the study area. Although coastal sand dunes, and the Morro Bay estuary are in relatively close proximity to the study area, they are not present onsite. In addition, the rock outcroppings identified onsite were not strongly influenced by serpentine material, and were carefully searched for any serpentine endemic species. Upslope outside the study area where serpentine rock outcrops were observed were inspected to confirm serpentine endemic species are present in the area, just not within the study area developed for the proposed project.

Species identified in the area by the CNDDDB that are known to occur on serpentine based soils such as La Panza mariposa lily (*Calochortus obispoensis*), Jones layia (*Layia jonesii*), Betty's Dudleya (*Dudleya abramsii* ssp. *bettinae*), and most beautiful jewel flower (*Streptanthus albidus* ssp. *peramoenus*) were not observed in the study area. The gently sloping hills with clay soils dominated by weedy non-native annual grasses and forbs do not provide suitable habitat for these serpentine endemic species.

## Response to County-13

The proposed WRF site has been surveyed twice for special-status plant species. As stated in the Draft EIR on page 3.4-38, the study area contains two occurrences of the San Luis Obispo owl's clover, a CRPR List 1B species, that are outside the proposed development footprint. Native bunchgrass grasslands observed on portions of the proposed WRF site are also outside the development footprint and would not be impacted by the proposed project. Therefore, no direct impacts to special-status species would occur. As stated on page 3.4-38 of the Draft EIR, in order to minimize potential indirect impacts to special-status plant species, implementation of construction worker environmental awareness training and best management practices as described in Mitigation Measure BIO-1: Construction Worker Environmental Awareness Training and Education Program, and Mitigation Measure BIO-2: Avoidance and Protection of Biological Resources, would ensure potential impacts to special status plants are less than significant.



## Response to County-14

As shown in Figure 3.4-8 and stated on page 3.4-27 of the Draft EIR, there is a jurisdictional drainage (Drainage 3, 3A, 3B) in the area north and east of the proposed WRF footprint. That unnamed drainage is a tributary to Chorro Creek. The potential impacts to jurisdictional drainages and associated riparian habitat at the proposed WRF site are covered under Impact 3.4-2 in the Draft EIR. In addition, Mitigation Measure BIO-8: Construction BMPs to Protect Jurisdictional Features and Aquatic Habitat specifically applies to Drainage 3/3A/3B and would ensure indirect impacts to this drainage during construction of the proposed WRF would be less than significant.

Please refer to Response to County-2 above regarding “full buildout.”

## Response to County-15

The City will comply with all applicable regulations and ordinances during implementation of the proposed project, including those of the County’s CZLUO. Inclusion of the CZLUO in a mitigation measure is not necessary to ensure compliance. Mitigation Measure BIO-8 includes a requirement for all stockpile and staging areas to be set back at least 50 feet from sensitive features such as drainages and wetlands.

## Response to County-16

In response to the comment, the following text on pages 3.4-49 and 3.4-50 of the Draft EIR has been modified:

Ensuring sediment-laden runoff does not leave the preferred and proposed project sites during construction, and that post-construction runoff is consistent with pre-construction conditions is essential to reduce impacts to water quality. As described in Chapter 3.9, Hydrology and Water Quality, the City would be required to prepare a SWPPP for the proposed project in compliance with the NPDES General Construction Permit. The SWPPP would include BMPs to control erosion, sedimentation, and hazardous materials release. In addition, construction of the proposed project is also subject to the BMPs included in the City’s Storm Water Management Plan to control runoff and protect water quality during the construction period. In accordance with the Morro Bay Municipal Code for Building Regulations—Stormwater Control (Chapter 14.48), the SWPPP would need to be approved by the City prior to commencement of construction activities. The City also would coordinate review of the SWPPP for the WRF site with the San Luis Obispo County Department of Public Works. Mitigation Measure BIO-8 includes specific BMPs to be incorporated into the SWPPP to minimize impacts to water quality and ensure there are no significant impacts to aquatic habitat downstream of the ephemeral drainages within the project area. With implementation of Mitigation Measures BIO-1, BIO-2, BIO-7, BIO-8, and BIO-9, impacts to migratory wildlife or native wildlife nursery sites would be less than significant.

## Response to County-17

State requirements for Native American consultations per Assembly Bill 52 are included in the Draft EIR in Chapter 3.15 Tribal Cultural Resources. In response to the comment, the CZLUO Section 23.07.104 and County Local Coastal Plan policies regarding protection of cultural resources have been added to the Draft EIR starting on page 3.5-17 as follows:

### **County of San Luis Obispo Coastal Zone Land Use Ordinance**

#### **23.07.104- Archaeologically Sensitive Areas:**

To protect and preserve archaeological resources, the following procedures and requirements apply to development within areas of the coastal zone identified as archaeologically sensitive.

- A. **Archaeologically sensitive areas.** The following areas are defined as archaeologically sensitive:
  1. Any parcel within a rural area which is identified on the rural parcel number list prepared by the California Archaeological Site Survey Office on file with the county Planning Department.
  2. Any parcel within an urban or village area which is located within an archaeologically sensitive area as delineated by the official maps (Part III) of the Land Use Element.
  3. Any other parcel containing a known archaeological site recorded by the California Archaeological Site Survey Office.
- B. **Preliminary site survey required.** Before issuance of a land use or construction permit for development within an archaeologically sensitive area, a preliminary site survey shall be required. The survey shall be conducted by a qualified archaeologist knowledgeable in local Native American culture and approved by the Environmental Coordinator. The County will provide pertinent project information to the Native American tribe(s).
- C. **When a mitigation plan is required.** If the preliminary site survey determines that proposed development may have significant effects on existing, known or suspected archaeological resources, a plan for mitigation shall be prepared by a qualified archaeologist. The County will provide pertinent project information to the Native American tribe(s) as appropriate. The purpose of the plan is to protect the resource. The plan may recommend the need for further study, subsurface testing, monitoring during construction activities, project redesign, or other actions to mitigate the impacts on the resource. Highest priority shall be given to avoiding disturbance of sensitive resources. Lower priority mitigation measures may include use of fill to cap the sensitive resources. As a last resort, the review authority may permit excavation and recovery of those resources.

The mitigation plan shall be submitted to and approved by the Environmental Coordinator, and considered in the evaluation of the development request by the Review Authority.

- D. **Archeological resources discovery.** In the event archeological resources are unearthed or discovered during any construction activities, the standards of Section 23.05.140 of this title shall apply. Construction activities shall not commence until a mitigation plan, prepared by a qualified professional archaeologist reviewed and approved by the Environmental Coordinator, is completed and implemented. The County will provide pertinent project information to the affected Native American tribe(s) and consider comments prior to approval of the mitigation plan. The mitigation plan shall include measures to avoid the resources to the maximum degree feasible and shall provide mitigation for unavoidable impacts. A report verifying that the approved mitigation plan has been completed shall be submitted to the Environmental Coordinator prior to occupancy or final inspection, whichever occurs first.

[Amended 1995, Ord. 2715; Amended 2004, Ord. 3048]

## **County of San Luis Obispo Local Coastal Plan**

### **Chapter 12- Archaeology**

#### **Policy 1: Protection of Archaeological Resources**

The county shall provide for the protection of both known and potential archaeological resources. All available measures, including purchase, tax relief, purchase of development rights, etc., shall be explored at the time of a development proposal to avoid development on important archaeological sites. Where these measures are not feasible and development will adversely affect identified archaeological or paleontological resources, adequate mitigation shall be required. [THIS POLICY SHALL BE IMPLEMENTED AS A STANDARD.]

#### **Policy 3: Identification of Archaeological Sites**

The county shall establish and maintain archaeological site records of data files about known sites. These sensitive areas shall be defined as follows:

- Within rural areas, the county maintains on file a parcel number list of known sites as prepared and updated by the California Archaeological Site Survey Office.
- Within urban areas, the county shall maintain maps in the Land Use Element (combining designation) which reflect generalized areas of known sites. These maps shall be prepared by the California Archaeological Site Survey Regional Office.

Specific archaeological site information shall be treated as confidential to protect the archaeological resources. Development within an archaeological sensitive area shall not occur until a preliminary site survey is conducted for the site, and if necessary, mitigation measures implemented. [THIS POLICY SHALL BE IMPLEMENTED PURSUANT TO SECTION 23.07.106 OF THE COASTAL ZONE LAND USE ORDINANCE.] Early information on sensitive sites where new development is anticipated can be used to design and locate structures and site alterations to eliminate impacts. A preliminary archaeological survey can also help facilitate the timing of construction: if there is no evidence of the potential existence of archaeological resources, construction can commence; if the preliminary survey does indicate the presence of archaeological resources, mitigation measures can be designed into the development. Early identification can save both time and money for the applicant. Concerns have been raised by previous applicants about the expense and time-consuming delay if a project is stopped. Work crews, equipment and capital remain suspended until mitigation measures are drafted. Although all construction must cease if a site is discovered during any phase of construction, a preliminary survey can usually determine the potential extent of resources and thus avert unnecessary delays through an appropriate mitigation plan.

#### **Policy 4: Preliminary Site Survey for Development within Archaeologically Sensitive Areas**

Development shall require a preliminary site survey by a qualified archaeologist knowledgeable in Chumash culture prior to a determination of the potential environmental impacts of the project. [THIS POLICY SHALL BE IMPLEMENTED PURSUANT TO SECTION 23.07.106 OF THE CZLUO.]

#### **Policy 5: Mitigation Techniques for Preliminary Site Survey before Construction**

Where substantial archaeological resources are found as a result of a preliminary site survey before construction, the county shall require a mitigation plan to protect the site. Some examples of specific mitigation techniques include:

- a) Project redesign could reduce adverse impacts of the project through relocation of open space, landscaping or parking facilities.
- b) Preservation of an archaeological site can sometimes be accomplished by covering the site with a layer of fill sufficiently thick to insulate it from impact. This surface can then be used for building that does not require extensive foundations or removal of all topsoil.
- c) When a project impact cannot be avoided, it may be necessary to conduct a salvage operation. This is usually a last resort alternative because excavation, even under the best conditions, is limited by time, costs and technology. Where the chosen mitigation measure necessitates removal of archaeological resources, the county shall require the evaluation and proper deposition of the findings

based on consultation with a qualified archaeologist knowledgeable in the Chumash culture.

- d) A qualified archaeologist knowledgeable in the Chumash culture may need to be on-site during initial grading and utility trenching for projects within sensitive areas.

[THIS POLICY SHALL BE IMPLEMENTED PURSUANT TO SECTION 23.07.106 OF THE CZLUO.]

#### **Policy 6: Archaeological Resources Discovered during Construction or through Other Activities**

Where substantial archaeological resources are discovered during construction of new development, or through non-permit related activities (such as repair and maintenance of public works projects) all activities shall cease until a qualified archaeologist knowledgeable in the Chumash culture can determine the significance of the resource and submit alternative mitigation measures. [THIS POLICY SHALL BE IMPLEMENTED PURSUANT TO SECTIONS 23.05.140 AND 23.07.106 OF THE CZLUO.]

#### **Relationship to the Land Use Element/Coastal Zone Land Use Ordinance**

Archaeological information will remain confidential, and will be used only to assist property owners in the design of development projects in a manner which protects resources. The sensitivity maps, in conjunction with the Site Survey Office's official maps of known sites, will be used to identify known and potential archaeological resources. The CZLUO addresses the protection of archaeological resources through the review process.

#### **Findings**

Through the maintenance of a sensitivity map and parcel number list of known archaeological sites, and through the establishment of pre-construction requirements and appropriate review procedures, the county has greatly improved the methods for protecting archaeological resources. The policies provide for the protection of both known and potential archaeological resources as required by the Coastal Act Section 30244.

## **Response to County-18**

The County is a responsible agency due to its permitting authority over the proposed project. As part of the County's CDP process, additional conditions may be imposed with respect to the mitigation measures included in the Draft EIR, such as review and approval of mitigation measures applicable to cultural resources.

Discussion of compliance with the Native American consultation process per Assembly Bill 52 and outcomes are included in the Draft EIR in Chapter 3.15 Tribal Cultural Resources.

## **Response to County-19**

The proposed WRF site does not overlie the Chorro Valley groundwater basin, and no changes to groundwater extraction would occur in the Chorro Valley groundwater basin as a result of the proposed project. The proposed project does not require groundwater monitoring or management in the Chorro Valley groundwater basin.

As the comment states, the unnamed drainage near the proposed WRF site is a tributary to Chorro Creek, which is a surface water within the boundary of the Chorro Valley groundwater basin. The Draft EIR evaluates the potential indirect impact of the proposed project on water quality in that unnamed drainage under Impact 3.9-2 and describes on page 3.9-31 through 3.9-33 how construction and operation of the proposed WRF would not have significant impacts to water quality. Such protections of water quality in that drainage would also protect water quality downstream in Chorro Creek and the groundwater basin underlying Chorro Creek.

## **Response to County-20**

The comment does not identify the County agricultural lands within the Morro Valley groundwater basin that would be affected by the proposed project. The only agricultural lands in the County that would be affected by the proposed project are at and around the proposed WRF site; those lands are not within the Morro Valley or Chorro Valley groundwater basin (see Response to County-19 above). The proposed project has the potential to directly affect up to approximately 0.02 acres of agricultural land within the boundaries of the City due to the construction injection wells in the Morro Valley groundwater basin (see Draft EIR Figure 2-1 and Figure 2-2). The proposed project would not indirectly affect agricultural lands in the Morro Valley groundwater basins because the recycled water to be injected into the groundwater basin and extracted by the City would not be used for agricultural irrigation but rather potable supply within the City's water system.

Estero Area Plan policies that pertain to groundwater do not apply to the proposed project. A joint groundwater management program, as suggested in the comment, is not required; the proposed project would not provide groundwater to serve agricultural demand or urban demand in the County.

## **Response to County-21**

All components of the proposed project, based on the preliminary design, are included in the Draft EIR. The impacts of constructing and operating the proposed project to onsite and offsite drainages, stormwater, and groundwater are included in the Draft EIR in Chapter 3.9, Hydrology and Water Quality.

## Response to County-22

Please refer to Response to County-2 above regarding “full buildout.”

## Response to County-23

The City will consider the County’s request to prepare a construction and operational air quality plan for the WRF. The comment is noted.

## Response to County-24

As discussed above in Response to County-7, the proposed WRF would result in the development of a public utility facility on agricultural grazing land. In consideration of the allowance for a public utility facility at the preferred WRF site, the City has determined the preferred site is not located on prime farmland (see Response to County-25 below), and the proposed WRF footprint would not directly affect ESHA (see Response to County-10 above). In addition, as summarized in Chapter 6 of the Draft EIR, the City conducted an extensive site screening process to identify the preferred WRF site that is evaluated in the Draft EIR. The City has determined that there is no other feasible offsite WRF location at this time.

Please refer to the Response to CCC-5 regarding onsite siting and layout of the WRF. Changing the location onsite would have potential to directly affect ESHA and Drainages 3A and 3B, whereas the current proposed footprint avoids direct impact to those sensitive features. The visual simulation provided in the Draft EIR illustrates the less-than-significant effect of the proposed WRF as currently sited to visual resources in the coastal zone and Sensitive Resource Area. As explained in Response to CCC-5, the CZLUO development standards for fencing and screening requires public utility facilities to be screened on all sides and an effective visual barrier to be established through the use of a solid wall, fencing and/or landscaping.

The CEQA alternatives analysis has determined there are no significant and unavoidable impacts that require the consideration of another WRF site as an alternative. No additional alternatives are added to Chapter 6 of the Draft EIR as a result of this comment.

## Response to County-25

In response to the County’s comment about prime agricultural land, the following text has been added to page 3.2-1 of the Draft EIR:

The proposed WRF site is underlain by Cropley clay soils, which consist of clay overlying silty clay loam that is typically found at a depth of 36 to 60 inches (JFR Consulting, 2016). Those soils are designated by the Natural Resources Conservation Science (NRCS) as prime farmland if irrigated. According to the Cortese-Knox-Hertzberg Local Government Reorganization Act and California Government Code 56064, the definition of prime agricultural land is:

an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use...and that qualifies, if irrigated,

for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.

Historically, that portion of the project area and its adjacent land has been used for rangeland and has not been irrigated (JFR Consulting, 2013). Currently, the WRF site is not irrigated and neither are immediately adjacent parcels, which are also rangelands used for grazing. There currently is no existing irrigation infrastructure at or around the preferred WRF site. Irrigation feasibility at the preferred project site is low due to the requirement for substantial investment in either pipeline and pumping infrastructure to convey water to the site or construction of onsite groundwater wells, followed by installation of onsite piping for irrigation. As a result, the property in which the proposed WRF is would be located on does not support Prime Farmland (JFR Consulting, 2016). Thus, from a practical perspective, implementation of the proposed project would not remove important areas of prime agricultural potential.

## Response to County-26

In Section 3.2.2 of the Draft EIR, there is a description of the Williamson Act lands located near the proposed project, and Figure 3.2-2 shows the location of these agricultural preserves, including the Maino Ranch to the north and east of the WRF site. In response to the comment, the following text has been added to page 3.2-2 of the Draft:

**Figure 3.2-2** shows the Williamson Act contracted land present in the project area. There are Williamson Act contracted lands located east and north of the proposed WRF site, however none coincide with the location of proposed project components. These Williamson Act lands shown in Figure 3.2-2 include the Maino Ranch. Specifically, the 1,860-acre Maino Ranch includes a 436.4-acre parcel and a 138.3-acre parcel adjacent to the proposed project. Ranching and farming occurs in accordance with “best management practices” according to management plans by the owners, limiting future development (MBNEP, 2018).<sup>4</sup> The area of Maino Ranch closest to the proposed project is used for calving. Additionally, none of the project facilities would be located on land designated as Timber Production Zones or Forest land.

## Response to County-27

In Section 3.2.2 on page 3.2-7 of the Draft EIR, the following text about the County’s Agriculture Element Agricultural Buffer Policy was added:

### **Policy AGP17: Agricultural Buffers**

- a. Protect land designated Agriculture and other lands in production agriculture by using natural or man-made buffers where adjacent to non-agricultural land uses

<sup>4</sup> Morro Bay National Estuary Program (MBNEP), Restoration & Conservation, available at: <http://www.mbnep.org/restoration-conservation/>, accessed June 5, 2018.



in accordance with the agricultural buffer policies adopted by the Board of Supervisor (see Appendix C).

### **Appendix C: Agricultural Buffer Policies**

#### **Agriculture Buffer Distance Determination**

The buffer is placed on the developer's property and will be recorded as a distance from the property line to the proposed occupied structure. However, the total buffer distance calculation and recommendation is measured from proposed occupied structure to the edge of the agricultural operation. The buffer will allow for such land uses as landscaping, barns, storage buildings, orchards, pastures, etc., while protecting the agricultural use and the public's health and safety.

##### **1. General Guidelines**

A. Determinations are made based on all relevant site and project criteria, practical knowledge of agricultural practices, technical literature, contact with other professionals within the University, industry, government agencies and training.

B. "Margin of safety" and "probability" concepts are used in determining setback distances.

C. The department's land use reports will identify recommended mitigation measures and will not provide alternatives.

D. Existing dwellings adjacent to agricultural use may already negatively impact agriculture. Buffer mitigations address reducing future or additional impacts and aren't necessarily affected by existing dwellings unless the extent of existing development is such that the proposal does not significantly worsen the land use conflict already present.

##### **2. Buffer Distance Ranges by Crop**

Agricultural practices associated with the production of crops are the most important contributing factor to land use conflict when development occurs in close proximity to agricultural areas. Since production practices vary considerably by type of crop, buffer distances may vary accordingly. Ranges in distance are necessary due to the influence that site or project specific factors may have.

##### **Non-Intensive Agricultural Uses:**

Dry farm field crops, orchards and vineyards - 100-200 feet

Rangeland/pasture - 50-200 feet

Site specific non-crop factors (such as topography, prevailing wind direction, and elevation differences) and proposal specifications often affect the final buffer distance recommendation within ranges listed in Number 1 and 2. Significant overriding factors or land unsuitable for agricultural use could justify recorded buffers less than the indicated range.

The LAFCO agricultural policies have been added to Section 3.2.2 of the Draft EIR. Refer to the Response to LAFCO-7 for these agricultural policies.

## Response to County-28

The impact analyses for the conversion of prime farmland are included on pages 3.2-13, 3.2-14, 3.2-17 and 3.2-18 of the Draft EIR. The LAFCO definition of prime farmland is the same as that presented above by the County in Comment 25. (See LAFCO Comment 6 and Response to LAFCO-6.) Based on the County and LAFCO definitions of prime farmland and lack of irrigation feasibility, the conclusion in the Draft EIR that the WRF site is not considered prime farmland does not need to be modified.

## Response to County-29

The County's suggestion the City consult with neighboring ranchers regarding the type of fencing to be built around the proposed WRF is noted for the record. The following text is added to the discussion about agricultural land use zoning on pages 3.2-14 and 3.2-15 of the Draft EIR:

The proposed WRF would be located on lands designated as Agriculture under the County's General Plan. According to the County's General Plan and Land Use Ordinance, public utility facilities (such as a treatment plant) are allowed within lands zoned for Agricultural – Non-Prime soils, subject to special standards or permit procedures such as approval of a Development Plan (County Coastal Zone Land Use Ordinance 23.08.288). A Development Plan is similar to a Minor Use Permit in that its application includes a preliminary floor plan, architectural elevations, adjacent land uses, landscape plan, grading plan, construction schedule, cross-sections, and public access locations and includes a public hearing. A Development Plan requires the development or project is consistent with the Coastal Zone Land Use Ordinance, which could result in minimizing the proposed project's disturbance at the site and including fencing or visual screening.

Construction of the proposed WRF and connecting pipelines in agricultural areas could result in the spread of noxious weeds on surrounding rangelands or fields. Specifically, ground disturbance and regular movement of vehicles into and out of the property could increase the potential for an introduction of invasive weed species which may impair the agricultural use of the surrounding areas. As part of the Development Plan, a landscape plan would select plants that are native and drought tolerant and that protect and preserve native species and natural areas (CZLUO Section 23.04.186(c)(4)), minimize the potential for introduction and establishment of invasive species. A weed control plan may also be included as part of the landscape plan. A weed control plan would include methods, success criteria, and a monitoring and reporting program.

As a result, acquisition of appropriate permits would allow the WRF to be constructed and operated on agricultural land. Furthermore, the buffer and fencing around the proposed WRF and access roads implemented as part of the project design would place the operational portion of the proposed WRF more than 50 feet away from the

neighboring agricultural uses and allow for the continuation of neighboring cattle grazing and reduce any land use incompatibilities. Therefore, impacts related to conflicts with existing zoning for agricultural use would be considered less than significant.

Also, please refer to the Response to County-8 above.

### **Response to County-30**

The City acknowledges the County's recommended coordination between neighboring ranchers and project management during construction. The comment is noted.

### **Response to County-31**

In response to the County's request, a discussion about the potential introduction of invasive weed species on neighboring agricultural lands has been added to pages 3.2-14 and 3.2-15 of the Draft EIR. Please refer to Response to County-29 above.

**From:** [Scot Graham](#)  
**To:** [Jennifer Jacobus](#); [Michael Nunley \(mnunley@mknassociates.us\)](#); [John Rickenbach](#); [Rob Livick](#)  
**Subject:** FW: New Water Reclamation Facility  
**Date:** Thursday, April 12, 2018 8:48:17 AM

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FYI

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**From:** Fred Collins [mailto:fcollins@northernchumash.org]  
**Sent:** Thursday, April 12, 2018 8:26 AM  
**To:** phil@farwestern.com  
**Cc:** Scot Graham <sgraham@morrobayca.gov>; Violet <whitesageherbs@aol.com>; J A <jag\_peace2u@hotmail.com>; 'Barry Price' <bprice@appliedearthworks.com>  
**Subject:** New Water Reclamation Facility

Hello Phil,

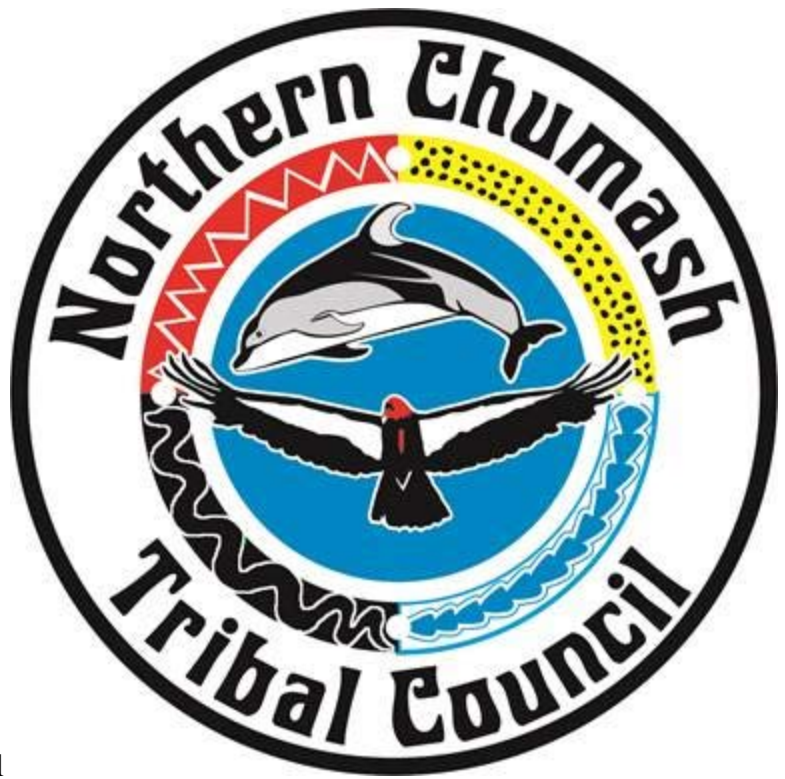
The Northern Chumash Tribal Council Inc., is in receipt of your letter dated March 22, 2018, RE: City of Morro Bay New Water Reclamation Facility Project Update, and has once again reviewed the proposed waste water project, as we stated in an earlier recommendation, NCTC stated in our previous comments, that the placing of a sewer line into or near our Chumash Nations Sacred Sites is not acceptable, go back to the engineers and reroute the pipelines around the Chumash Nation Sacred Sites, any incursion into or near our Sacred Sites is disrespectful and downright mean. There is not one person in Morro Bay or anyone working on this project that would allow the First Peoples to place a sewer line through their families cemetery/resting place, not one would say, go ahead and run that sewer line through our families burial blot and if it breaks go ahead and dig up my families blot and fix it. Far Western did the same thing in the Los Osos sewer project, we find your work to be divisive and totally out of touch with the First Nations Peoples, your company has shown great disrespect by supporting these types of horrible transgression of the Spirit of the First People, there is NO reason that engineers working on this project that can come up with a pipeline rout that will miss all our Chumash Sacred Sites, this can be done very easily. Please make this happen, reroute the pipeline to avoid all Chumash Sacred Sites, thank you.

Fred Collins  
Chairman

1

2

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## Comment Letter – Fred Collins

### Response to Collins-1

*CEQA Guidelines* Section 15121 states “an EIR is an informational document which will inform public agency decision makers and public generally of the significant environmental effect of a project, identify possible way to minimize the significant effects, and describe reasonable alternatives to the project” and “the information in the EIR does not control the agency’s ultimate discretion on the project.” As an informational document, the EIR will allow the City, as the Lead Agency, to make an informed decision about whether to proceed with the proposed project.

Also, according to *CEQA Guidelines* Section 15126.6(a), an EIR must “describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.” *CEQA Guidelines* Section 15126.6(f)(1) states “among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries...and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site.” As the Lead Agency, the City will decide whether to proceed with the proposed project or whether to accept or reject any of the identified alternatives.

Because of the previous years of studies and evaluations of a large range of alternative sites, the City has found there are only three viable alternatives that address basic project objectives and reduce one or more identified impacts, including the No Project Alternative required by CEQA. As described in Section 6.1.4.1 of the Draft EIR, the City Council determined there is no feasible alternative location for the proposed WRF because the CCC would not permit a project west of Highway 1, the Giannini site had no cost advantages, and due to risk of litigation the Righetti site is not feasible. Therefore, a pipeline must be constructed to connect to the proposed WRF. Under Alternative 2, an alternative pipeline alignment has been considered between the proposed WRF and the lift station and IPR West wellfield to determine if significant impacts can be reduced or avoided.

Alternative 2 would result in construction of all the same facilities as the proposed project, except for a segment of the raw wastewater pipeline that would have a different alignment and result in the construction of approximately 2,500 linear feet of additional pipeline. The additional pipeline construction would be along Embarcadero Road to the west of the existing WWTP and proposed lift station, traveling south and then east along Pacific Street, and meeting with the currently proposed raw wastewater pipeline at Butte Street. That segment under Alternative 2 would result in construction near two different and known cultural resources sites, may result in geotechnical challenges along the waterfront, and would result in a significant increase of construction impacts related to traffic, air quality and noise due to the location of construction within higher traffic corridors (residential and commercial), and the location of construction equipment relative to sensitive receptors (residences). Further, that segment of pipeline under Alternative 2 would require additional rights of way through residential property.

The City considered alternatives that would avoid or lessen the significant environmental effects of the proposed project, while attaining most of the project objectives, consistent with *CEQA Guidelines* Section 15126.6(a). Significant impacts of the proposed project include unavoidable direct and cumulative impacts to historical and archaeological resources and human remains due in part to construction of the proposed conveyance pipelines. Comparison of Alternative 2 impacts to the proposed project impacts indicate Alternative 2 would meet the proposed project's objectives, and would result in a reduction in impacts on number of cultural resources sites. However, Alternative 2 would increase the costs to the City related to construction and would result in more severe impacts on air quality, noise, and traffic. Therefore, the Draft EIR identified the proposed project as the environmentally superior alternative.

The City appreciates and understands the commenter's concerns regarding Native American sacred sites. This comment has been included in the Final EIR and will be considered by the City as part of its deliberations regarding the proposed project.

## **Response to Collins-2**

*CEQA Guidelines* Section 15126.4(b) provides guidance on mitigation measures related to archaeological resources and states:

(3) Public agencies should, whenever feasible, seek to avoid damaging effects on any historical resource of an archaeological nature. The following factors shall be considered and discussed in an EIR for a project involving such an archaeological site:

(A) Preservation in place is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.

(B) Preservation in place may be accomplished by, but is not limited to, the following:

1. Planning construction to avoid archaeological sites;
2. Incorporation of sites within parks, greenspace, or other open space;
3. Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site.
4. Deeding the site into a permanent conservation easement.

(C) When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provisions for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. Such studies shall be deposited with the California Historical Resources Regional

Information Center. Archeological sites known to contain human remains shall be treated in accordance with the provisions of Section 7050.5 Health and Safety Code. If an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation.

Mitigation Measure CUL-3: Avoidance and Preservation in Place of Archaeological Resources requires the City to consider avoidance of archaeological resources qualifying as, or potentially qualifying as, historical resources and unique archaeological resources (including known sites with Native American human remains) through project re-design, consistent with *CEQA Guidelines* Section 15126.4(3)(A). In the event avoidance and preservation in place of a resource is determined by the City to be infeasible in light of factors such as project design, costs, and other considerations, then Mitigation Measure CUL-4: Development of an Archaeological Resources Data Recovery and Treatment Plan will be implemented for that resource, consistent with *CEQA Guidelines* Section 15126.4(3)(C).

*CEQA Guidelines* Section 15064.5(d) provides guidance on treatment of Native American human remains and states:

When an initial study identifies the existence of, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission as provided in Public Resources Code section 5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the Native American Heritage Commission.

*CEQA Guidelines* Section 15064.5(e) further describes the process for discovery and treatment of Native American human remains, which includes compliance with California Health and Safety Code 7050.5 and California Public Resources Code Section 5097.98, and requires no further disturbance, contacting the County Coroner and Native American Heritage Commission, assignment of a Most Likely Descendant, and re-interring the remains and any associated grave goods in a location that will not be subject to further disturbance. The Draft EIR also included mitigation regarding discovery and treatment of Native American human remains – Mitigation Measure CUL-14: Inadvertent Discovery of Human Remains, located on page 3.5-33 of the Draft EIR, which requires compliance with the policies and procedures outlined in California Health and Safety Code 7050.5 and California Public Resources Code Section 5097.98, as described above.

While it is the goal of the City to avoid unnecessarily disturbing Native American human remains, in the event they are encountered during project-related ground disturbance, the City will comply with all applicable laws and statutes regarding discovery and treatment of Native American human remains, consistent with *CEQA Guidelines* Sections 15064.5(d) and 15064.5(e).



### **Response to Collins-3**

With regard to the comment about Far Western Anthropological Research Group, Inc. (Far Western) and their work, Far Western is a cultural resources firm who has been working in cultural resources management since 1979. All of the Principals and Principal Investigators on staff meet the Secretary of the Interior's Professional Qualification Standards for archaeology and also meet the qualifications for the Register of Professional Archaeologists, as do many of the Senior Archaeologists and Staff Archaeologists.

The Secretary of the Interior's Professional Qualification Standards are those used by the National Park Service, and have been previously published in the Code of Federal Regulations, 36 CFR Part 61. The qualifications define minimum education and experience required to perform identification, evaluation, registration, and treatment activities. For archaeology, the minimum professional qualifications are a graduate degree in archeology, anthropology, or closely related field plus: (1) at least one year of full-time professional experience or equivalent specialized training in archeological research, administration or management; (2) at least four months of supervised field and analytic experience in general North American archeology, and (3) demonstrated ability to carry research to completion. In addition to these minimum qualifications, a professional in prehistoric archeology shall have at least one year of full-time professional experience at a supervisory level in the study of archeological resources of the prehistoric period. A professional in historic archeology shall have at least one year of full-time professional experience at a supervisory level in the study of archeological resources of the historic period. The primary preparers of the cultural resources technical work for the proposed project meet the Secretary of the Interior's Professional Qualification Standards for archaeology.

The Register of Professional Archaeologists is a listing of archaeologists who have agreed to abide by an explicit code of conduct and standards of research performance, who hold a graduate degree in archaeology, anthropology, art history, classics, history, or another germane discipline and who have completed a thesis or dissertation (or its equivalent) that addresses a substantive archaeological research question. The primary preparers of the cultural resources technical work for the proposed project are on the Register of Professional Archaeologists and adhere to their bylaws, code of conduct, and standards of research performance.

Regarding the comment about re-routing the pipeline, the commenter is referred to Response to Collins-1.



# Northern Chumash Tribal Council

*A Native American Corporation - NorthernChumash.org*

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City of Morro Bay  
Rob Livick  
Morro Bay, Public Works Director

May 14, 2018

Re: Morro Bay Draft EIR Waste Water System

Northern Chumash Tribal Council, Inc. comments and recommendations for Draft EIR Waste Water System:

**Prehistoric Setting**, the Northern Chumash Tribal Council, Inc. (NCTC), does not agree with the archaeological determination of “Cultural Periods”, for Indigenous Peoples the breaking down of our Life Times/Ways is the first step to dehumanize the First Peoples, some anthropologist/archaeologist have been breaking the Indigenous Community into pieces, so that our culture and heritage can be slowly destroyed. Piece by pieces, when you break the Life Ways of a First Peoples, it is much easier to catalog and affect in a negative way. NCTC elders view the Life Ways of the Northern Chumash Peoples to be one Continuum, still alive, reaching back to the very beginning of our Life Ways here over 15,000 years ago, our artifacts are alive with the energies of our Ancestors, our Village Sites are alive with the energies of the Ancestors, all of our Sacred Places are alive with the Ancestors energies and the energies of the current living Northern Chumash Peoples. NCTC is working 24/7/365 to protect 1% of the 100% of all the land that the Northern Chumash lived upon, and that all people in Morro Bay live on today, we have been the stewards of this amazing land for millennium, we have been fighting to save our culture and heritage for hundreds of years, which has been torn apart piece by piece, one project at a time. We the Indigenous Peoples the Northern Chumash are alive and well in One Continuum.

**Ethnographic Setting**, at the time of European contact there was only one Indigenous Peoples living in Morro Bay, (see Bob Gibson Ethnographic of the Salinan, John P. Harrington Chumash Territories), the Chumash Nation as a whole knows where our lands are located, all seven Chumash Tribal Governments including the Santa Ynez Federally recognized Chumash speak with one voice, the Northern Chumash lands extend from Lime Kiln Creek, or there about, to Mission San Miguel, and there were no Salinan’s in Morro Bay before 1500, therefore all the California Native American Northern Chumash Cultural Resources are from only one Nation, the Northern Chumash Nation, the Cultural Resources in the City of Morro Bay are 100% Northern Chumash. During the historic period of the Missions the Salinas were moved into San Luis Obispo County to work at the Missions.

**Chumash**, there are over a million ways to describe the Northern Chumash Nation, and there are many authors who have written wonderful things about the Chumash Nation, but, in this instance to quote

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Kroeber (1925) as the person to describe the Chumash Peoples is the Greatest Insult that anyone could perpetrate on an Indigenous Peoples, Kroeber not only never set foot in Chumash Nation Lands, not like Bob Gibson and John P. Harrington who walk our lands extensively, but, Kroeber is known as the one of the most evil persons that has ever been, from the lens of the Indigenous Peoples, his words are repulsive to all Indigenous Peoples, it is our opinion, and direct knowledge that California's Native American anthropology is inexorably marked by the sustained drama between the California Native American man called Ishi from the Yahi tribe and Alfred Kroeber, the German-American founder of the anthropology department at the University of California, Berkeley. In many ways, California anthropology's changing relationship to Native peoples, engendered in colonial power relations is symbolically played out in the extended Ishi drama that spans parts of three centuries. To this day, almost one hundred years after his death, Ishi draws anthropology into question as his life sheds light on the dark sides of anthropology and California history. His story bears revisiting as a healing dynamic, pertinent to California Chumash anthropology and California Chumash communities becoming whole once again.

Ishi was the survivor of one California tribe extinguished, like hundreds of other California Native tribes, by the genocidal onslaught of US military attacks, vigilante civilian assaults, scalp fees, legalized slavery, wholesale massacres of California Native Americans by White settlers, and the willful destruction of Indigenous social systems. Ishi was wandering alone in search of food when he was arrested in 1911 and then released to anthropologists Alfred Kroeber and T. T. Waterman, who held Ishi as a living museum artifact or spectacle viewed by thousands of visitors and myriad photographers until Ishi's death in 1916. At the time of Ishi's death, Kroeber notwithstanding his promise to the contrary became complicit in having Ishi's brain separated from his body and delivered to the Smithsonian, presumably in the "interests of anthropological science." Theodora Kroeber, Alfred Kroeber's partner, published a book in 1961 about Ishi, whose title, *Ishi in Two Worlds: A Biography of the Last Wild Indian in North America* encapsulates a prevalent anthropological ideology positing an imagined Indian extinction "last" and savagery "wild Indian", extending to the entirety of "North America".

In California a new movement to heal the past history and passed anthropology are on the forefront for the California Native American communities, born from the story of Ishi and the epic Indigenous effort to reunite Ishi's brain with other body parts, eighty years after his death. The Indigenous oral tradition of activist Art Angle's Native community had kept alive knowledge of the desecration of Ishi's human remains at the hands of anthropological scientist. In 1997 that historical remembrance motivated Indigenous demands for Ishi's repatriation from the Smithsonian Institution, where his brain was warehoused for decades.

That complicated repatriation effort ultimately motivated a collective apology from UC Berkeley's Department of Anthropology in 1999, which stands as a landmark truth speaking healing document: "what happened to Ishi's body, in the name of science, was a perversion of our core anthropological values, we are sorry for our department's role, however unintentional, in the final betrayal of Ishi, a man who had already lost all that was dear to him at the hands of Western colonizers. We recognize

that the exploitation and betrayal of California Native Americans is still commonplace in American society.”

In a later statement UC Berkeley Department of Anthropology professors reneged on the apology, yet opted to “invite the people of Native California to instruct us in how we may better serve the needs of their communities through our research related activities.” This conciliatory invitation, together with the conciliatory stance of the Maidu and Pit River Native Peoples, who initiated and carried out the movement to give Ishi proper burial, can well, be regarded as a milestone in an emergent California Truth and Reconciliation movement.

The cultivation of an anthropology that serves the needs defined by Indigenous communities is also of relevance with the Chumash homeland. The openly painful yet fruitful dialogue between California Indigenous communities and some anthropologists occasioned by the Ishi experience marks a qualitative new interaction.

We bring forward the concept of truth and reconciliation because its practices and commissions have served to repair the human suffering and devastation resulting from mass injustices, systematic violence, or genocide in many places around the world. Truth and reconciliation practices such as collective testimony and truth telling, community rebuilding, and establishment of new healing relationships have helped to address historic trauma in places such as Guatemala, South Africa, and some United States cities. Recent proposal for a United States Truth Commission that would address the long legacy of civil and humans rights violation by the United States against Indigenous Peoples include that by Waziyatawin Angela Wilson entitles “Relieving our Suffering: Indigenous Decolonization and United States Truth Commission.”

Ishi’s brain is but the tip of the iceberg, lest we forget, the relationship of “exploitation and betrayal” pertains not only Ishi’s human remains but to anthropology as a whole, because there are thousands of Indigenous people held captive in the warehouses of today’s museums, universities, and private collections around the world today, Chumash artifact are highly regarded around the world, the Chumash Nation has been the most studied Indigenous Nation in the Americas, they have collected our artifact in all major countries and museums around the world, and, as it stands, a prominent sector of California Chumash anthropology is fraught with colonial legacy that can well benefit from revisiting the Ishi story and subsequent truth and reconciliation dynamics.

It is our opinion that Far Western Anthropological Research Group (FWARG) has worked with and contributed to the prominent sector of Chumash anthropology that is fraught with colonial legacy that can well benefit from revisiting the Ishi story and subsequent truth and reconciliation dynamics. As an example; the work that was done by Far Western for Caltrans on the Salinan – Chumash border, 2005, in this work they use animal breeding and migration patterns in conjunction with unsubstantiated theory from Kroeber concerning where the location is of this most disputed boundary. This document was produced in the last few years, and is in a long line of documents that we believe FWARG has created telling the Chumash story from their eyes, whereby this document and others that they have

written need to be revisited with an Indigenous oversight. This Caltrans document was created in conjunction with John Johnson from the Santa Barbara Museum of Natural History.

Among the Chumash, the best known twentieth century anthropologist was John Peabody Harrington. Although Harrington and Kroeber are long gone, anthropology's often fractured relationship to California Chumash Peoples is set forth, for example, in some contemporary anthropological debates surrounding today's Chumash and in part by institutions that control much of the public discourse concerning "Chumash". Like the Bureau of Indian Affairs, some Santa Barbara anthropologist assumes the powerful role of identifies authenticator and gatekeepers over ethnic identities. Anthropologist John Johnson of the Santa Barbara of Natural History has established a hierarchical Chumash identity model based on what he terms "ancestry." His ancestry approach serves as a key tool for dividing, silencing, dismissing, and delegitimizing entire sectors of living Chumash Peoples, while favoring and fostering other sectors. Anthropologist Brain Haley and Larry Wilcoxon similar proclaim the "Chumash Traditionalists lack the kinds of biological and cultural linkages with the region's aboriginal past that they claim" as they highlight anthropologists' federal roles a "delineators of Chumash identity." They quote national guidelines that empower them and other anthropologists to act as "judges of the genuineness and authenticity of tradition" in evaluating traditional cultural properties such as, for example, Point Conception.

The anthropological imaginary constructs and reduces living Chumash peoples into supposed opposing and mutually exclusive monolithic binaries. For example, Brain Haley and Larry Wilcoxon categorize and divide the Chumash in terms of as "new-Chumash/ex-Californios" and "old Chumash"; or the "traditionalist" and non-traditionalist." Although appearing to be critical of federal traditional cultural property guidelines, anthropologist Haley and Wilcoxon stop short of revealing the economic development and economic ramifications are at the heart of their considerations and discussion of the Chumash Identity and of Point Conception as a sacred site. A portion of their study was funded by California Commercial Spaceport, Inc., the very same aerospace firm seeking to build a space port at Point Conception. Among the many published dissenting replies to Haley, anthropologist Jon M. Erlandson is particularly insightful as it contextualizes Haley and Wilcoxon's article with the political power struggles, "over control of the past". Erlandson indicates, "Native American groups have squared off against powerful developers, corporation, government agencies, museums, universities, and archaeological contractors over the control of archaeological sites, investigations, or collections. These battles have made the more radical Native American groups which including many traditionalist Chumash, a host of powerful enemies." Erlandson speaks to the broader decolonizing historical context and process. Although anthropologist Haley and Wilcoxon's deconstructive approach to identity seeks to lie bare "the processes through which people form ideas about their history, identity, heritage, and traditions," they do not frame Chumash Traditionalism or re-emergence as a part of the historic global, national, and local collectively organized decolonizing movements. Instead they cast the onset of Indigenous revitalization and Civil rights Movements in individualistic, belittling terms resembling the actions of a disgruntled drug addict getting up from a couch: "Individuals have shed former ethnic identities' to become Chumash following transformative life crises and experiences, including divorce, battles with substance dependency, participation in museum project to construct a Chumash canoe or Tomol."

In a 2005 article entitled “How Spaniards Became Chumash” anthropologist Haley and Wilcoxon continue to examine the ancestry claims and “identity changes” of specific Santa Barbara families they continue to label “neo-Chumash.” They also continue to refer back to their 1997 article that “showed founding Traditionalists lacked Chumash ancestry.” In fact they hardly look beyond changes in ethnic labels. Anthropologist Haley and Wilcoxon seem highly duplicitous. Although they begin to indicating that they do not want to dismiss “these neo-Chumash as anomalous fakes,” they then use scathing, dismissive language to indirectly liken them to “simulacra” who like Disneyland “symbolize the pervasive substitution of simulation for reality.” They repeatedly refer to the “neo-Chumash” as “descended almost exclusively from the people who colonized California for Spain” and as “a clear case of whole cloth fabrication.” Anthropologist Haley and Wilcoxon disregard the effects of their research models upon living Chumash communities. Writing within a small Chumash community, they use thinly veiled references to specific living families and individuals, pitting selected quotes against one another, deepening divide. Julianne Cordero observes that such binary models of Chumash identity “have for year’s violently polarized local mixed heritage, indigenous families.”

In their discussion anthropologist Haley and Wilcoxon reduce “ethnic identity” and their perceived changes in ethnic identity within Santa Barbara families to changes in ethnic labels applied reliably or not by officialdom: by the Spanish census of 1790, by mission records, and by the US Census Bureau. They conflate or equate the living dynamics of cultural identity change with ethnic label changes; they put forward dichotomies of “ancestry” that belie their professed motion of identity as a fluid category. They use the term “neo-Chumash” to mark boundaries and distinctions among the Chumash. Anthropologist Haley and Wilcoxon construct the “neo-Chumash” as distinct from the “Chumash” whom they imagine as “descended from contact era villages and who have maintained a continuous identity as local indigenes.”

In spite of community outcry, especially among the Chumash, and academic critique from colleagues, Santa Barbara Museum of Natural History anthropologist John Johnson also continues to assume the privileged power wielding role of arbiter and clearinghouse of Chumash identity, using written records and later DNA. He divides the Central Coast Chumash into “three concentric circles” A, B, C and dismissively assigns the term “neo-Chumash” to the circle C label, which he defines in terms of what is “lacks.” In his schema they “lack genealogical evidence of Chumash ancestry” while circle B has “some degree of Chumash ancestry.” Johnson’s “circle A are “people who descend from the indigenous Chumash populations who inhabited south central California and who have continuously maintained their identity as Indian communities.” Even if we set aside the ahistorical notion that any group of Chumash has “continuously maintained their identity as Indian communities,” Johnson’s pseudoscientific Chumash taxonomy is hierarchical, essentialist, and unreliable. He refers to circle A as “easily traceable” through various records of officialdom. He concludes his three page article by congratulating himself for helping “all who seek to determine if they have traceable California Indian ancestry.” Johnson and other anthropologist questionable practice of reducing Indian Identity to genealogies that he considers “traceable” through the records of violent colonizing institutions, mission systems, the reservation system, the US government systems, is highly problematic. This train of thought curiously reduces Chumash identity to a tenuous “ancestry” connection ostensible locatable in

the unreliable and incomplete mission records. In reality many Chumash fled from the mission areas and also avoided the later reservation process controlled by colonizers. Anthropology and Johnson fully ignores the non-reservation and non-mission Chumash Family histories never captured through officialdom's "records." This anthropological notion of "traceable ancestry" also ignores, for example, ceremonial kinship relations beyond "blood" relations. What is worse as we envision a healing anthropology, Johnson's categories mentally divide a living, breathing Indigenous community. Chumash scholar, Deana Dartt-Newton, curator of the Portland Museum of Natural History, one of the largest western Native American museum on the west coast, points out that Johnson's anthropological categories divide Chumash communities that are in fact interrelated: "As anthropologist define authenticity, they artificially divide the extended family networks that constitute the native community. Today, the people who some anthropologist claim are from the old families and possess ancient knowledge are no more authentic than those anthropologist Johnson, Haley, Wilcoxon and others Identify as neo-Chumash, they simply lack documentation of mission Indian ancestry."

Johnson's notion of a tribe that "has continuously maintained their identity as Indian communities" is an oddly static notion of "identity" that does not include culture, history, or sensitivity to contemporary Chumash community dynamics. Implicit in Johnson's taxonomy is the notion of authenticity, or what Eric Wolf has called the "mythology of the pristine primitive, that denies the facts of ongoing relationships and involvements." Johnson and many other anthropologists do not account for the ways in which the unrecorded widespread rape of Chumash women by colonial power holders under missionization, for example, changed the taxonomies of blood and ancestry he imagines as "traceable" within written records. Anthropologist Johnson and his followers fully ignore the historical presence of colonial violence. In the words of Ned Blackhawk, "given the histories of displacement, captivity, and violence that characterize Indian - white relations, the idea of pinpointing biological, racial ancestry amidst such social turbulence seems counterproductive at best." Johnson's research like anthropologist Haley and Wilcoxon's is in fact productively tied to economic development and land claims. As Julianne Cordero points out: "Not only are a series of flawed tests inadequate to infallibly identify an entire peoples, but Johnson's data disputing the indigenous identity of local Chumash peoples are used by landowners, local governments and developers, and are challenged by those same local peoples." Also, California's Native American Heritage Commission relies on Johnson's problematic ancestry research to help designate "MLDs" who make decisions concerning the disposition of Chumash burials at construction sites.

Vine Deloria Jr. observes, "Indianness' has been defined by whites for many years. Always they have been outside observers looking into Indian society form a self-made pedestal of preconceived ideas coupled with an innate superior attitude toward those different from them." Current anthropological efforts to define, categorize, and then identify the "authentic" Chumash while dismissing the rest in fact maintain existing anthropological positions of social privilege over the people they are "researching." Anthropologists who contrast an imagined authentic and inauthentic Chumash assume a position of power to discredit certain Chumash sectors while they privilege those they imagine "have maintained a continuous identity." They alienate many and favor others within a fractured Chumash community, thus augmenting the historical trauma from which Chumash communities seek to heal. Decolonial theorist Linda Tuwawai Smith alludes to the fact that "at the heart of such a view of

authenticity is a belief that indigenous cultures cannot change, cannot recreate themselves, and still claim to be indigenous. Nor can they be complicated, internally diverse or contradictory. Only the West has that privilege.

In direct response to anthropologist Haley and Wilcoxon, anthropologist Anders Linde-Laursen puts forward a view of the Chumash that is nonhierarchical and that accounts for the complexity of Chumash or any other culture: “Chumash or another invented and historically changing sociocultural formation must be regarded as possessing a complexity of compounded, contested, and contradictory identities.” Chumash scholar Deana Dart-Newton argues for the crucial importance of recognizing Chumash ethnic mixture as central to survival and at the core of what is Chumash. In her analysis she is one of the core histories denied in the dominant discourse.” What is at stake for those who espouse that dominant discourse? Jon M. Erlandson comments on changing power relations in the era where the native talks back and reclaims:

***“For many museum professionals intent on protecting their collections, for archaeologists who long for the good old days when they could dig where they pleased without interference, for biological anthropologists who fear that analysis of skeletal remains will no longer be possible, and for cultural resource consultants who have made millions of dollars as the sole authorities on Native American culture, there is much to fear from newly assertive and empowered Native American groups.”***

More recently, emergent Chumash scholars have also taken issue with various elements of the Santa Barbara anthropological establishment, indicating that John Johnson is “part of a legacy of cultural negation and damage carried on through the use of anthropological method.” Julianne Cordero indicates,

***“Johnson, in his current capacity as curator of anthropology at the Santa Barbara Museum of Natural History, created an official-looking “Pedigree of Indian Blood” form. This form does very little besides document a very few Chumash individuals’ connection to another set of forms, the mission registers and US census records, Johnson’s textual reconstruction of Chumash History and genealogy and his position of scientific certainty are part of a legacy of cultural negation and damage carried on through the use of an anthropological method not designed to deal with fluid nature of intermarriage and multicultural identity.”***

For Julianne Cordero as contemporary Chumash woman scholar, Chumash health and healing through self-determination and through the establishment of sustainable reciprocal relationships are central concerns: “Chumash and Californio families are, by allying ourselves with the larger community, working within an ancient model of gathering power and performing health. We have for generations prayed for, and now receive, our *‘atiswin* power to begin healing and supporting each other, power to recover from centuries old collective trauma, power to flourish, and power to protect and encourage the flourishing of our homelands.”



Chumash identity is much more complicated than label changes, and all labels, such as Spaniard, are multifaceted and overlap. In fact, the distance from “Mexican” or Spaniard” to “Chicana/o” to “American” to “Chumash” is often in name only and certainly fluid. Ethnic labels that might appear to clearly demarcate difference tend to designate overlapping cultural realities, these realities tend to be permeable, slippery, or even interchangeable. Ethnic labels, just like their varied cultural realities, mark interrelationships more than separations. Like scores of other tribal groups, many Chumash found it historically necessary to at times self-designate as “Mexican” or “American” or “Spanish” or “Californio” over extended periods of time. Some of the Chumash elders in Santa Barbara confided that their self-identification as “Mexican” during much of their lives provided a modicum of social protection. Often sheer survival was at stake. Also, these changing labels reflect the very real intercultural relationships and mixing of cultures that happen everywhere.

During the brutal era of colonial nation-state formation, from the 1770 until recent times, the national designations such as “Mexican” or “American” or “Spanish” could provide tribal people with camouflage or safe haven from tribal persecution and genocide. National labels could occlude tribal provenance, and they served as an umbrella for multiple tribal peoples. Many of them de-tribalized or de-Indianized, some later re-tribalized or re-Indianized in safer times. De-tribalization sometimes involves only a semantic label change, as Guillermo Bonfil Batalla reasons: “De-Indianization has been achieved when, ideologically, the population stops considering itself Indian, even though the lifeway may continue much as before. Such communities are now Indian without knowing that they are Indian.”

One of the most striking examples of semantic de-Indianization has to do with the so-called Spanish soldiers who came northward in the 1700s from what is now Mexico, colonizing for the Spanish Crown. Most of those “Spanish soldiers” were Indians from the Yaqui and Sonora/Sinaloa and Baja California tribes. The fact that these Indians are referred to in culture as “Spaniards” illustrates that semantic de-Indianization, both as a dynamic of social categorization, and, as a historiographical ideology that tends to erase Indians. The second largest group of Santa Barbara Mission and Presidio “Spanish soldiers” was comprised of recently free Afro-Mexican slaves. Chumash scholar Deana Dart-Newton intimates that John Johnson may be in the midst of reimagining what “Spanish soldiers” were. She quotes on Chumash community member:

***I went to a lecture fairly recently that John Johnson gave at the Center for Genealogy Studies about his DNA research with Presidio soldiers that came up from Mexico. He determined that 80 percent of the soldiers were Indian regardless of what their caste had been documented as. And 40 percent of that 80 were indistinguishable from Chumash DNA. We laughed at the irony that research by the man dedicated to distinguishing the real Chumash from “Mexican” interlopers would prove that most of the people comprising these two supposedly “distinct” groups are, in fact all related.***

With regard to the misguided anthropological efforts to separate the Chumash from “neo-Chumash” and other ethnic labels, ethnologist Anders Linde-Laursen significantly points to the “external circumstances” that create a blur between labels:

*However, by choosing only one group-signifying criterion we lose sight of the fact that identities are fluid, established through processes in which now one, now another criterion (perhaps contradictory) compete for prominence. Thus it seems very probable that most of all persons who identify themselves as Chumash also sometimes identify themselves as Chicano or something else seemingly incompatible, depending on external circumstances. Consequently I find a more comprehensive understanding of the fluidity of identities useful. Not only are identities fluid historical products but the processes through which they are represented and demanded containing competing elements, for instance, Chumash or Chicano.*

For our Chumash community, the umbrella “Mexican” or “Spanish” label, for example, often represented the possibility of social inclusion, staving off the social exclusion or death that came of self-designating as Native “india” or “indio.” National labels could occlude dangerous personal cultural realities and specificities. In that sense the claim can be made that “Mexican” or Chicana/o in many cases implies a tribal, de-tribalized, or re-tribalized Indian. Historically there are no clear demarcation lines between the labels Chumash, California, Spanish, Mexican, or even Mexican American. After Mexican independence from Spain in the 1820s California gradually became part of the Mexican nation, and the Chumash technically became “Mexicans” until the United States waged war against Mexico and annexed the northern half of the Mexican nation by 1848. When California became part of the United States, the California legislature passed a law denying citizenship to California Native peoples, including, of course, the Chumash. In the US Southwest the term “Mexican” was in part utilized as a pantribal umbrella from which many tribal native people later emerged or “came out” as Indigenous during the Civil Rights Movement. That coming out is part of Chumash reemergence.

Re-emergence or tribal re-vitalization flies in the face of various anthropological declarations of Chumash “extinction,” such as that by Thomas Blackburn, who in 1975 refers to “the extinct, fascinating, and possibly unique culture of the Chumash Indians of southern California.” Vine Deloria Jr. comments on the re-Indianization or re-tribalization process, “According to the scholars, community Indians should have vanished long ago. The thought that Indians might detribalize, recolonize and recustomize will short many a fuse in the universities.” Many Chicanos/as also re-tribalized, “came out” and claimed their Native heritage, in what Cherrie Maraga has called “Indigenismo: The Re-Tribalization of Our People.” Moraga’s “Our People” references both a re-Indigenized tribe she calls Chicano Nation and/or other forms of Chicana/o re-tribalized or came out as Chumash. Chumash reemergence of course in no way implies a cultural or political homogeneity of any kind, but rather a multiplicity and complexity of standpoints and experiences. Santa Ynez Chumash elder Juanita Centeno described the social dynamic of self-protection that motivated Chumash community members to not claim Chumash identity in a racist society:

*Sometimes I blame my parents, because they tried to take things away from us, the Indian ways. They thought they were doing us good by saying, “don’t even mention you’re an Indian. If you go and ask for a job, say you’re Spanish, or Italian, or Portuguese, or something else. Don’t say you’re Indian. If you say you’re an Indian you’re not going to get the job.” Sure enough, we’d forget. We’d say, “Well, we’re Indian.” “Well, we’ll call you if we need you. We’ll call you.” They never called us.*

The recent words of Sarah Moses, a Santa Ynez Chumash elder, similarly hold true for many Chumash: “I would never even tell people I was Chumash, I would say I was Mexican.” Some of the Chumash in Santa Barbara also claimed “Mexicanness” to some degree, having grown up as Spanish speakers in the Santa Barbara Mexican/Chumash barrios, while others grew up as English speakers, and still others as bilinguals.

As a parallel, Yaqui Indians in Arizona were often virtually indistinguishable from other “Mexicans.” When the Yaqui were accorded federal tribal recognition in 1978, many individuals officially changed labels. Tohono O’Odham tribal member Lucinda Hughes-Juan recalls: “At that time many Yaquis had to decide whether to continue on as Mexicans or whether to declare themselves officially Yaqui. The term “Mexican” had always been considered a step up from being Indian.” Chumash Nation, Chicana/o Nation, Mexica Nation and other tribal/ethnic groups thus offer plenty of cultural fluidity where individuals and families over time move in and out of ethnic labels in chameleon like fashion. Still, some of the Santa Barbara anthropological establishment clings to labels they treat as bounded and mutually exclusive.

The fields of anthropology and archaeology, which in some measure emerged as the intellectual projects accompanying the economic disenfranchisement and physical decimation of Indigenous peoples worldwide at the hands of new nation-state empires established on Indigenous lands. The physical decimation of Native populations frequently references the pillaging of village sites and burials by so many archaeologist and grave robbers. The pillaging movements on Chumash land began in the eighteenth century and continues to this day. Bruce Miller is among the very few to report on the systematic plundering of Chumash cultural resources at village sites: “In the 1870s an intense interest in the Chumash developed. This intensity was not directed at the living people but towards the relics and buried artifacts of their fading culture.” Miller references the highly lucrative and destructive transnational business of looting Chumash village sites. The chief clients were museum collections in Washington, Paris, Moscow, Madrid, and London.

What the Indigenous Peoples denounce as “grave robbing” has been standard colonial practice since anthropology’s early history. Franz Boas, considered by many as the founder of anthropology in the United States, as well as Ales Hrdlicka, founder of physical anthropology, had no qualms about desecrating Indigenous burial grounds and unearthing thousands of Indigenous human remains and cultural properties. What David Hurst Thomas refers to as “Skull Wars,” have also been waged upon Chumash land. Anthropologist John P. Harrington collected valuable stories, extensive oral testimony, and linguistic material from Chumash elders along with pillaging graves and village sites; he collected artifacts for shipping to his employer, the US government’s Smithsonian Institution, Bureau of American Ethnology, in spite of the Chumash elders’ exhortations concerning the sacredness of burials. Harrington, together with David Banks Rogers, excavated and removed all of one village mound, now called Burton Mound, in 1924. Prior to Harrington, three different groups of archaeologists had looted the “Burton Mound” and offered the materials for sale to museums all over the world.

Harrington's legacy casts both light and shadows. Kent G. Lighfoot who has extensively documented the involvement of anthropologist in the process of federal land allocation to some California Native groups and in the denial of land to others, on the one hand notes how Harrington was a "tireless and meticulous fieldworker," yet on the other faults Harrington "But his secretive behavior and refusal to publish or share his field data did little to help the cause of local Indians in the early decades of the twentieth century. He kept his volumes of field notes which could be provided critical information about the deep histories of Central Coast peoples locked away, while decisions were being made about federal land grant allocation."

In whole the largely troubled relationship with so many anthropologist and archaeologists exists through today, but on the other hand there are relationship of mutual respect and reciprocity that have been established in some cases, Barry Price of Applied EarthWorks, Jon Erlandson University of Oregon and some other have built a respectful way of listening to Chumash concerns. In spite of the critique of anthropology that has issued forth from within and outside Indigenous communities, the legacy of classical anthropology and anthropology and so many of its Western categories of cognition, classification, and control in some measure continue to buttress hierarchical and disenfranchising race/gender/economic relations with Native peoples to this day. With regard to anthropological knowledge concerning the Chumash, we witness how the institutionalized anthropological knowledge produced by dominant normative institutions, be they museums, schools, or universities, enjoys visibility, circulation, power, and legitimacy. In this regard, an examination of the Santa Barbara Museum of Natural History's official booklet *California's Chumash Indians*, published in 1996 and reissued in 2002, merits our attention. That booklet is a segment of the longer *Chumash People: Materials for Teachers and Students*, printed in 1982; revised 1991. Both publications prominently inform public opinion concerning the Chumash, while they also manifest, in condensed form, standard strategies of a colonial historical whitening about the Chumash. Those strategies include the generous use of euphemisms that blur that smooth over Chumash genocide; the use of the passive voice to avoid naming the subject/agents of colonization; the deployment of an assimilationist nationalist master narrative; the tone of colonial inevitability; a steady colonial gaze and implicit glorification of a linear and seemingly irreversible colonial process; a distortive selective use of facts leading the readership to almost sigh with relief that White American has supplanted Chumash society and lifeway's; and the omission of Chumash voice and agency. Absolutely no living Chumash people were involved in the project. In fact, only three short paragraphs are dedicated to the living Chumash. Both publications tell us the "the Chumash are not extinct" and that "they are proud of their history, their spiritual values, and their cultural history." However, not a single living Chumash person is quoted.

The museum's aforementioned publications situate the silent Chumash almost entirely in the frozen long-ago time. The museum's pamphlet euphemizes Indian bondage and slavery within the Santa Barbara Mission as "Indian labor." The fact that colonizers often relied on physical force to recruit and maintain Indians in the missions is converted to a matter of friendly persuasion: "The Chumash were urged to leave their native villages." The violent colonization process is further neutralized as the museum pamphlet authors imply that the Chumash themselves eagerly recruited for the mission system: "the first Chumash to learn the new way of life went back to the villages and brought more Indians to the missions." Gone are the "Spanish soldiers," the Catholic mission whipping posts, torture

dungeons, sexual violence by soldiers and priests, the loss of personal autonomy and ensuing decline in births among the Native populations, as well as the colonial destruction of Native social systems and of ecological systems, and the Catholic missionaries' persecution of Native spiritual practices. The Chumash Holocaust is trivialized into "the populations of the villages declined to the point where their religious and social systems broke down." The publications' exclusion of Chumash voices, as legitimate speaking/writing subjects, as "knowers," is consistent with its overall strategy to disguise or embellish colonialism and its violence's. The almost entirely passive-voiced writing makes it appear as if the population decline happened by itself or was due only to diseases. "Their religious and social systems broke down." Who did the breaking? How did they break? It was the Indians' fault; we did it to ourselves.....

The Santa Barbara Museum of Natural History's publication leaves the reader with a fairly idealized and benevolent image of Catholic missionization and colonization. The pamphlet, for example, fails to engage historical evidence concerning how the mission imposed a starvation diet upon mission Indians, weakening our resistance to disease and our ability to survive even without disease. For example, two-thirds of Chumash children brought into the missions died before age five. Although the successful Mexican wars of independence from Spain ultimately terminated the Spanish Catholic mission system by the mid-1830s, the Mexican nation greatly expanded the expropriation and privatization of Indian lands. Spanish rule from 1769 to 1821 had issued twenty private land grants, whereas Mexican rule, from 1821 to 1846 authorized five humored land grants, very few of them to Indigenous communities and individuals. Dispossession of communally held ancestral Native lands, along with expanded forms of enslavement and genocide, greatly increased with the arrival of US Americans and their Gold Rush in the 1840s.

The Santa Barbara Museum of Natural History booklet mentions the arrival of American after 1848 "to farm or run businesses." American westward imperial expansionism into the Chumash homeland would appear a matter of stalwart individuals wanting to do business in the context of an occasional racism perpetrated by random small groups. The booklet notes: "Many whites believed that Indians were either 'wild savages' to be destroyed or inferior 'diggers' to be laughed at or pitied." Such writing erases the fact that the genocide of Indian tribes was planned and executed not only by "many whites" but systematically by officialdom of the state of California and the United States government, by the judicial system, and by law enforcement. That period from 1848 to the 1890s was perhaps the bloodiest, may elders refer to it as "all out, total all out violence....It was an extremely terrible time for our people" After California became part of the United States, the California legislature institutionalized and enforced even more systematic and widespread forms of violence against Native peoples. The Santa Barbara Museum of Natural History's pamphlet systematically downplays the very violence that provided the museum with prime Chumash land adjacent to mission lands worked by captive Chumash laborers.

The museum's website is also problematic. It telescopes thousands of years of Chumash civilization into an abbreviated timeline entitled "Time of Cultural Change in South Central California." What is implied by the museums' decision to terminate the Chumash timeline with "Missionization"? What about cultural changes after Catholic missionization? The museum effectively obscures contemporary

living Chumash communities as it assumes authority over defining and representing Chumash peoples. When it does focus on living communities, typically through curator John Johnson, the museum wields power in highly controversial ways.

The museum's construction of history illustrates the unequal power relations, an elder describes: "Studying any people is an act of power over them. Researchers control the product and they disseminate it." In the "Chumash Indian Hall" with a Chumash diorama, manifests a wax-museum approach to human identity and history. The museum's taxidermy-like Chumash Indian Hall exhibit once again positions the Chumash in that frozen long-ago time. Raymond Corbey ties such ethnographic showcases "to the imperialism of nineteenth-century nation states" as he assigns ethnographic exhibits to "the wider context of the collecting, measuring, classifying, picturing, filing, and narrating of colonial Others during the heyday of colonialism" The museums' curators have the power, authority, resources and official space to present this frozen Chumash diorama, and this power implies many things, all of them tied to the legacy of enduring unequal colonial power relations installed and maintained by Eurocolonization. For Chumash communities, historical trauma is a central component of that legacy.

Beyond the appropriation of the Chumash as cultural "others," the Santa Barbara Museum of Natural History's exhibit reinscribes "Chumash" and the Indigenous within the purview of Euro-America's "natural history" while the absence of a White diorama implicitly positions Euro-Americans in a separate category. Chumash/California scholar Deana Dartt-Newton has undertaken a sustained analysis of California museum representations of Native peoples in her groundbreaking dissertation "Negotiating the Master Narrative: Museums and the Indian/Californio Community of California's Central Coast." She includes the Santa Barbara Museum of Natural History in her conclusion that "the four museums discussed above represent Indian people in a past, primitive, and natural state, predominantly occurring in dark, unappealing spaces. For these venues to bring Indian life to the fore in their narratives would require tackling issues of colonization, land tenure, sovereignty, and racism which began with the arrival of Europeans." She also signals the connection between the representation of Chumash by museums and some scholars and the continuation of historical trauma: "Today the Native communities of the Central Coast resemble so little the representations made of them that Native people hardly recognize themselves there. This disconnection contributes to continued marginalization as well as to experiences of sustained historic trauma."

Chumash scholar Deanna Dartt-Newton's research and writing contribute centrally to healing Chumash history, as she incorporates a host of Central Coast Chumash community voices, as well as community demands and critiques of the museum. Not least of those Chumash demands is that for the return of the seafaring plank canoe named Kelek. The Santa Barbara Museum of Natural History laid claim to the Kelek in 1976, bolted the Kelek to the museum ceiling, and has dismissed Chumash demands for its return to the community.

Given the museum's occlusion of traumatic colonial and continuing violence, it is worth remembering/restating highlights of that recent violent history that Chumash communities have resisted and survived against all odds. In 1849 California's first Constitutional Convention denied

“Indians and their descendants” voting rights. After California became part of the United States of America in 1850, the politicians of the new Golden State enacted laws legalizing Indian slavery and installing White supremacy as a matter of law. In an Orwellian distortion of language, the California legislature named its first 1850 legalizing Indian slavery an “Act for the Government and Protection of Indians.” Under the guise of “protecting” Indians, Section 3 of the act stipulated that:

***Any person having or hereafter obtaining a minor indian, male or female, from the parents or relations of such indian minor, and wishing to keep it, such person shall go before a justice of the peace in his township, with the parents or friends of the child, and if the justice of the peace becomes satisfied that no compulsory means have been used to obtain the child from its parents or friends...shall give to such person a certificate, authorizing him or her to have the care, custody, control, and earnings of such minor, until he or she attains the age of majority, male 18, female 15.***

Throughout the nineteenth century, Euro-American slave traders routinely hunted Native American and sold them at auction for prices ranging between fifty and two hundred dollars. Historian James Rawls indicates, “So what we have here in California during the Gold Rush, quite clearly, was a case of genocide, mass murder that was legalized and publicly subsidized.” Clifford E Trafzer and Joel R. Hyer, for example, published documents from the 1848-68 genocide in the collection *Written Accounts of the Murder, Rape, and Slavery of Native Americans during the California Gold Rush, 1848-1868*. California Natives were routinely hunted, captured, and either killed or sold at auction: “The slave traders frequently murdered the troublesome parents as they were gathering up the children, a tactic that allowed the slavers to sell their little charges as orphans.

It is incumbent upon us to remember that the violence was systemic and enacted merely by a few vigilantes or errant slave traders but a collaborative effort launched by US government policy, its military and law enforcement, and by the California judicial system. Governmental institutions protected the bounty hunters, slave traders, and Euro-American land grabbers, settlers, and ranchers. It is necessary to bring the extent of violence to mind to understand the degree of contemporary “whitewashing.” Native peoples responded to the onslaught by organizing armies of self-defense throughout the country. Some of the best-known leaders of the resistance are Joaquin Murrieta, Tomas Tajochi, Mangas Coloradas, and Cochise.

The Santa Barbara Museum of Natural History’s booklet would be insignificant, were it not paradigmatic of historiography emanating from such of institutionalized officialdom, which, knowingly or unknowingly serve as the localized extensions of state and national efforts to neutralize, define, and control native peoples. Ned Blackhawk describes historiography’s trend to minimize violence directed at Native population as complicit with the celebration of US nationhood: “Despite an outpouring of work over the past decades, those investigating American Indian history and US history more generally have failed to reckon with the violence upon which the continent was built. Violence and American nationhood, in short, progressed hand in hand.” The occlusion of violence, particularly nation-state violence visited upon the Chumash by colonialism, today tacitly legitimizes colonial politics, making the unspoken justification of history’s violent outcomes far easier. If the bloodshed that created and sustains the American nation-state is whitewashed, the current national and state

apparatus appears benevolent, inevitable, and even “naturalized.” Once the dispossession and enslavement of Native peoples is occluded, the glory of California’s economy can be celebrated as the work of enterprising White Americans. Among the Santa Barbara Museum of natural History’s most glaring erasures are the many Chumash resistance struggles across history. They omit every single Chumash uprising, indictments of the Catholic missions and newly imposed nation-state systems, as well as the more subtle resistance efforts by contemporary Chumash peoples. More contemporary struggles, such as the 1978 Point Conception Occupation also go unmentioned. Yet the broader epic story of that struggle over Point Conception remains to be written and will require its own book.

The physical Point Conception Occupation was the most publicized and dramatic aspect of a longer protracted struggle whose legal component began in 1977 and did not end until 1982. The 1977 federal lawsuit against Western LNG, who hoped to place an industrial development at Point Conception, was filed on behalf of the newly formed Santa Barbara Indian Center represented by attorney Marc McGinnes, general counsel and executive director of the newly formed Environmental Defense Center, a public interest law firm. The legal team argued for the rights of First Peoples and asserted rights of cultural continuity pertaining to the land and desecration of the land. With regard to the court battles, Marc McGinnes recalls, “We lost at every level, but we held them up for years and we fought for every inch.” Western Liquid Natural Gas filed a countersuit against the Point Conception occupiers, charging them with “trespassing” on private property. In addition to the lawsuits fought out in court system, the US Federal Energy Regulatory Commission held hearings in Washington, D.C., and Santa Barbara. This huge culture class around Point brought national and international public attention to Native spiritual issues, while also generating alliances and coalitions with diverse groups, including the American Indian Movement, the Native American rights Fund and California Indian Legal Services. Ultimately, Western Liquid Natural Gas abandoned its designs on Point Conception in the 1980s. More importantly, as a landmark struggle for spiritual reemergence, the Point Conceptions Occupation signals Chumash revitalization; it brought healing upon the land and people.

A healing dynamic emerges not only from Point Conception but also from continued reclamation struggles since then. In the mid-1990, Chumash communities and their allies organized to build the Elye’wun tomol and paddle from the Chumash mainland to the island site of Limuw, for the second time in recent history. The subsequent establishment of the Chumash Maritime Association marks another significant step toward Chumash community self-governance and spiritual revitalization.

A new generation of critically engaged anthropologists and historians of the Chumash is on the rise. In 1989 Peter Nabokow noted that “There is a major book on the Chumash that cries out to be written.” In 1991 James A Sandos calls for a new Chumash-centered history that respects Chumash humanity and seeks to view Indians acting on their own terms, for their own reasons, “in light of their own cultural norms and values.” Lynn Gamblee’s 2008 *Chumash World at European Contact: Power, Trade, and Feasting among Hunter Gatherers*, does meet the call for a “major book on the Chumash.” Gambles’s focus is largely pre-colonial and includes daily life, ceremonial activity, and a discussion of broader social structures and dynamics. While exceptionally detailed and well researched, the volume mainly compiles many previously written materials without in-depth critical commentary or original



analysis. In its marked reliance on excavations from a host of Chumash burial sites that have been disturbed and desecrated, Gambles' book shows itself at odds with traditional Chumash "cultural norms and values." Although the title refers to the time period "at European Contact," the colonial encounter and its aftermath are circumvented.

With regard to breaking new healing ground, some California anthropologist and historians do offer sustained innovative and critical engagements with California Indigenous history, knowledge, and lifeways. Notably, a number of historians manifest the will and determination to center Indigenous experience and voice; to highlight Indigenous agency; to bring into focus Indigenous faces, names, historical self-affirmations and resistances. Historians such as Edward Castillo, Robert H. Jackson, Antonia Castaneda, Robert F. Heizer, Lisbet Haas, and Steven W. Hackel, for example, systematically shed light on California Indian agency and perspectives usually obscured within much of mainstream and even Indian-sympathetic historiography and anthropology. Castaneda's meticulous work on gender issues, Hass's volume, *Conquests and Historical Identities in California, 1769-1936*, and Hackel's *Children of Coyote, Missionaries of Saint Francis: Indian-Spanish Relations in Colonial California 1769-1850* reconstruct the complexities of early California histories and Indigenous agency. Jackson and Castillo highlight the complexity of Indigenous resistances within the mission system in Indians, Franciscans, and Spanish Colonization. However, these works are not specifically Chumash-focused.

Significantly, there is an emergent New Chumash research, a Decolonial research agenda, in the works, challenging many aspects of established Chumash research and changing the terms and categories of analysis. A new Chumash-centered research will necessarily be rooted in an Indigenous knowledge system whose traditions of practice, categories of cognition, classification, knowledge production, storage, and transmission arise from a Chumash knowledge system. Chumash scholar Deana Dartt-Newton and Jon M. Erlandson, for example, signal the advent of a New Chumash Research that puts forward new Chumash research paradigms. For Example, they critique Santa Barbara anthropologist Daniel O. Larson, John R Johnson, and Joel C. Michelson, who claim that Chumash Indians moved to the Spanish missions owing to "climactic conditions" rather than as a matter of colonial oppression. Chumash scholar Deana Dart-Newton and Erlandson indicate, "We recognize that deeply submerged or ingrained in the intellectual history of Western science, resistance to a full accounting of this apocalyptic history is still widespread."

**Salinan**, no Salinans in the City of Morro Bay before 1500, (see Bob Gibson *Ethnographic of the Salinan*, John P. Harrington *Chumash Territories*).

**Historic Setting**, Morro Rock was first named by the Northern Chumash 15,000 years ago, Lisamu.

**Identification of Cultural Resources in Project Site**, no meaningful consultation with the Northern Chumash Nation has occurred, Indigenous Peoples knowledge is paramount. Must be peer reviewed, by an archaeological company, in good standing with the Northern Chumash.

**Known Cultural Resources:** Must be peer reviewed by an archaeological company in good standing with the Northern Chumash.

**Buried Archaeological Site Assessment,** Northern Chumash Cultural Sacred Places and Sites are not, “prehistoric archaeological sites”, they are Northern Chumash sites, NCTC does not agree with this sensitivity mapping. Must be peer reviewed by an archaeological company in good standing with the Northern Chumash.

**Paleontological Resources Records Search,** paleontological resources are a part of the Northern Chumash cultural heritage, many stories are created from the ancient ones.

**Local,** we are not archaeological resources, all the language should be changed to Native American resources instead of “archaeological” resources.

**Policy 4.03:** “with areas identified as having potential archaeological (change) sites” many areas have not been identified, and therefore under CEQA AB 52 meaningful consultation my require surveys where Native American resources have not been identified.

Policy 4.0: “can determine the significance of the resources” Northern Chumash consultation must be included for any mitigation measures. a. with consultation with Northern Chumash, c. coverage of any kind is not acceptable, avoidance is the only alternate.

**B. Archaeological Reconnaissance.** 1. Potential archaeological sites, change to Native American sites: “resource inventory” change by adding, “and Northern Chumash consultation”. 2. Change to Native American resources:

Must Change all references to archaeological resources to Native American resources. a. must include Northern Chumash meaningful consultation. b. Must include Northern Chumash meaningful consultation, archaeologist are not superior to Native Americans, as much as they think that they are because of the educations and other monetary motivations, the court of California have stated that California Native American have equal standing with all scientist, making evaluations and determinations, no archaeologist should be making decision without California Native American Meaningful Consultation. i. not a Northern Chumash recommendation, leave it alone, Never cover Sacred Sites, Avoidance is the mandate.

**Impact Analysis,** must change all “archaeological resources” to “Native American Resources”

NCTC is requesting a peer review of all impacts, by a qualified archaeological company that is in good standing with the Northern Chumash Community, Barry Price Applied EarthWorks.

NCTC is disputing all findings in this section, California Native American Northern Chumash Cultural Resources are too precious, we have lost 99% percent of our cultural resources and history, the Native American Community deserves the best, not the lowest bidder.

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cont

**Mitigation Measures CUL-1 and CUL-6 through CUL-9** findings are disputed, these findings were done without any California Native American Northern Chumash meaningful consultation, and are in violation of the Northern Chumash protocols for determinations, mitigations, and must be rewritten with consultation with Northern Chumash Tribal Governments and must be peer reviewed by an archaeological company in good Standing with the Northern Chumash. Each and every one of the Mitigation Measures are disputed, mitigation measures are meant to preserve, we are talking about the Preservation of the Northern Chumash Nation, we deserve better, and we can do better, the Northern Chumash know how to enter into discussion and make determinations that will protect and preserve Northern Chumash Culture and Heritage for our future generations.

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## Comment Letter – Northern Chumash Tribal Council (NCTC)

### Response to NCTC-1

*CEQA Guidelines* Section 15125 “Environmental Setting” states an “EIR must include a description of the physical environmental conditions in the vicinity of the project,” that “environmental setting will normally constitute the baseline physical conditions,” and the “description of the environmental setting shall be no longer than is necessary to an understanding of the significant effects of the proposed project and its alternatives.” Also, that section states “knowledge of the regional setting is critical to the assessment of environmental impacts.”

Section 3.5.1 Environmental Setting of the Draft EIR provides a brief summary of the prehistoric setting of the project site as understood by professional archaeologists (see pages 3.5-4 to 3.5-5 of the Draft EIR). It is not intended to be a comprehensive description of the setting of the project site, but instead provides an overview in which to assess the environmental impacts, consistent with *CEQA Guidelines* Section 15125.

The City understands the NCTC has a different perspective on the timeline of occupation for Indigenous Peoples and views the Northern Chumash occupation of the Morro Bay as one continuum. That comment has been included in the Final EIR and the information provided by the commenter is hereby incorporated by reference.

### Response to NCTC-2

Both the Chumash and the Salinan are included in the Ethnographic Setting since both groups currently have ties to the Morro Bay area. The first recorded European exploration of the area was not until 1542, when Juan Rodríguez Cabrillo sailed up the coast of California. That is after 1500, the date at which the commenter notes the Salinan first occupied Morro Bay. However, the City understands there is some disagreement about pre-contact occupation of the Morro Bay area by the Salinan. In response to this comment, the text on pages 3.5-5 and 3.15-1 of the Draft EIR has been revised as follows:

At the time of European contact of the Morro Bay area (ca. 1542), the preferred and proposed project sites were occupied by two Native American groups: the Chumash and the Salinan. Since there is some disagreement about the pre-contact boundaries for each group (see Gibson, 1983b; Kroeber, 1925; Mason, 1912; Milliken 2010; and Milliken and Johnson 2005), the following discussion focuses on the post-contact period.

### Response to NCTC-3

Regarding the use of Kroeber as a reference, the City understands the NCTC has a different perspective on the use of Kroeber as a citation and appreciates the information provided by the commenter. This comment has been included in the Final EIR and the information provided by the commenter is hereby incorporated by reference.

## Response to NCTC-4

The commenter is referred to Response to NCTC-2.

## Response to NCTC-5

In response to this comment the text on page 3.5-6 of the Draft EIR has been revised as follows:

Morro Rock, the prominent landmark at the entrance to Morro Bay, was first named by the Northern Chumash and was called *Lisamu*. It was later named again by Spanish explorer Juan Rodriguez Cabrillo during his voyage of the California coast in 1542. Cabrillo called the rock “El Moro,” because it resembled the head of a Moor, the people from North Africa known for the turbans they wore.

## Response to NCTC-6

Regarding the comment about consultation with the NCTC, pages 3.15-3 to 3.15-7 of the Draft EIR describe the Native American outreach that was conducted by the City and its cultural resources consultant, Far Western. Fred Collins, Spokesperson for the NCTC, responded to a request for information from Far Western via a telephone call on March 21, 2017, and expressed concerns about potential impacts of the proposed pipeline alignment within and adjacent to Lila Keiser Park and suggested rerouting the alignment to avoid the park and Morro Creek. Mr. Collins requested an in-person meeting with the City and County. A representative of the City, John Rickenbach, met with Mr. Collins and his representative, Barry Price of Applied Earthworks, on May 4, 2017. They discussed the proposed project and potential concerns Mr. Collins might have with the proposed project.

Regarding the comment about peer review, qualified archaeologists on staff with the City’s CEQA consultant, ESA, peer reviewed all cultural resources documentation provided by Far Western.

## Response to NCTC-7

The commenter is referred to the response regarding peer review in Response to NCTC-6.

## Response to NCTC-8

Regarding the comment prehistoric archaeological sites are Northern Chumash sites, the Draft EIR uses terminology in keeping with CEQA terminology (i.e., historical resources, archaeological resources, human remains, tribal cultural resources). The use of the term “prehistoric” is commonly used to refer to Native American archaeological sites from the pre-contact era.

Regarding the comment about peer review, the commenter is referred to Response to NCTC-6.

## Response to NCTC-9

The City understands the NCTC has a different perspective on paleontological resources and views them as part of the Northern Chumash cultural heritage. This comment has been included in the Final PEIR and the information provided by the commenter is hereby incorporated by reference.

## Response to NCTC-10

This comment relates to pages 3.5-16 to 3.5-17 of the Draft EIR, which quote the *City of Morro Bay Local Coastal Land Use Plan* (1982) and *City of Morro Bay Zoning Code 17.48.310: Protection of Archaeological Resources*, and the City cannot change the language in the Draft EIR since it is a direct quote. Mitigation Measure CUL-3: Avoidance and Preservation in Place of Archaeological Resources requires the City to first consider avoidance of all archaeological resources that qualify as, or potentially qualifying as, historical resources or unique archaeological resources under CEQA through proposed project re-design unless determined to be infeasible, and indicates that “preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement.”

## Response to NCTC-11

This comment refers to page 3.5-17 of the Draft EIR, which is quoting the *City of Morro Bay Zoning Code 17.48.310: Protection of Archaeological Resources*, and the City cannot change the language in the Draft EIR since it is a direct quote. Several mitigation measures provide opportunities for Native American input on cultural resources, such as CUL-4: Development of an Archaeological Resources Data Recovery and Treatment Plan, CUL-5: Development of a Cultural Resources Monitoring and Mitigation Program (CRMMP), CUL-6: Construction Worker Cultural Resources Sensitivity Training, CUL-7: Archaeological Resources Monitoring, CUL-8: Native American Monitoring, CUL-9: Inadvertent Discovery, and CUL-14: Inadvertent Discovery of Human Remains. As noted in Response to NCTC-10, Mitigation Measure CUL-3: Avoidance and Preservation in Place of Archaeological Resources requires the City to first consider avoidance of all archaeological resources that qualify as, or potentially qualifying as, historical resources or unique archaeological resources under CEQA through proposed project re-design unless determined to be infeasible, and indicates that “preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement.”

## Response to NCTC-12

The commenter is referred to Response to NCTC-10 and NCTC-11.

## Response to NCTC-13

Regarding this comment about replacing the term “archaeological resources” with “Native American Resources,” the impacts analysis uses the CEQA terms provided in the threshold

questions in Appendix G of the *CEQA Guidelines* (historical resources, archaeological resources, unique paleontological resources, and human remains). Additionally, not all archaeological resources are Native American in origin.

Regarding the comment about peer review of all impacts, the Draft EIR is a public document and all members of the public, including Mr. Price, were welcome to comment on the Draft EIR during the comment period. An additional opportunity to comment on the Final EIR will be available at the joint Planning Commission/WRFCAC meeting and the City Council's certification hearing.

Regarding the comment about disputing all findings in the impacts analysis section of Chapter 3.5 of the Draft EIR, according to *CEQA Guidelines* Section 15126.2 "an EIR shall identify and focus on the significant environmental effects of the proposed project...Direct and indirect significant effects of the project on the environment shall be clearly identified and described." The Draft EIR shall also "describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance" and "the reasons why the project is being proposed, notwithstanding their effect." The Draft EIR acknowledges that impacts of the proposed project to historical and archaeological resources and human remains would be significant and unavoidable even after implementation of mitigation. The Draft EIR identified the proposed project as the environmentally superior alternative based on a variety of factors (see Chapter 6 Alternatives Analysis). The Draft EIR is an informational document that allows the lead agency to make an informed decision whether to approve or disapprove a project or alternative. As the Lead Agency, the City will decide whether to proceed with the proposed project or whether to accept or reject any of the identified alternatives.

The City appreciates and understands the commenter's concerns regarding Native American cultural resources. This comment has been included in the Final EIR and will be considered by the City as part of the deliberations to approve or disapprove the proposed project.

## **Response to NCTC-14**

*CEQA Guidelines* Section 15126.4(b) provides guidance on mitigation measures related to archaeological resources and states:

(3) Public agencies should, whenever feasible, seek to avoid damaging effects on any historical resource of an archaeological nature. The following factors shall be considered and discussed in an EIR for a project involving such an archaeological site:

(A) Preservation in place is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.

(B) Preservation in place may be accomplished by, but is not limited to, the following:

1. Planning construction to avoid archaeological sites;
2. Incorporation of sites within parks, greenspace, or other open space;
3. Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site.
4. Deeding the site into a permanent conservation easement.

(C) When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provisions for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. Such studies shall be deposited with the California Historical Resources Regional Information Center. Archeological sites known to contain human remains shall be treated in accordance with the provisions of Section 7050.5 Health and Safety Code. If an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation.

Mitigation Measure CUL-3: Avoidance and Preservation in Place of Archaeological Resources requires the City to consider avoidance of archaeological resources qualifying as, or potentially qualifying as, historical resources and unique archaeological resources (including known sites with Native American human remains) through project re-design, consistent with *CEQA Guidelines* Section 15126.4(3)(A). In the event avoidance and preservation in place of a resource is determined by the City to be infeasible in light of factors such as project design, costs, and other considerations, then Mitigation Measure CUL-4: Development of an Archaeological Resources Data Recovery and Treatment Plan will be implemented for that resource, consistent with *CEQA Guidelines* Section 15126.4(3)(C).

Also, as noted in Response to NCTC-11, several mitigation measures provide opportunities for Native American input on cultural resources, such as CUL-4: Development of an Archaeological Resources Data Recovery and Treatment Plan, CUL-5: Development of a Cultural Resources Monitoring and Mitigation Program (CRMMP), CUL-6: Construction Worker Cultural Resources Sensitivity Training, CUL-7: Archaeological Resources Monitoring, CUL-8: Native American Monitoring, CUL-9: Inadvertent Discovery, and CUL-14: Inadvertent Discovery of Human Remains.

Regarding the comment about peer review of mitigation measures, as noted in Response to NCTC-12, the Draft EIR is a public document and all members of the public, including an archaeological company chosen by the Northern Chumash, were welcome to comment on the Draft EIR during the comment period. An additional opportunity to comment on the Final EIR will be available at the City Council's certification hearing.





May 17, 2018

Rob Livick, P.E.  
Public Works Director  
City of Morro Bay  
955 Shasta Avenue  
Morro Bay, CA 93442

### Comments on Morro Bay Water Reclamation Facility DEIR

Dear Mr. Livick,

Please consider this letter as comment to the Morro Bay Water Reclamation Facility Draft Environmental Impact Report.

**1. DEIR does not adequately address the potentially significant downstream impacts from spills or natural disasters to protect the Morro Bay estuary and adjacent wetlands.**

a. The description of impact 3.9-2 (page 3.9-31) describes the potential of surface water or groundwater quality impacts in the event of a pipeline rupture or accidental spill at the WRF as less than significant. This determination does not adequately weigh the value of the Morro Bay estuary as a nationally designated waterbody through the National Estuary Program, home to two state marine protected areas, and a designated Important Bird Area. These designations indicate the high value of the habitat and resources in the bay, which make a potential sewage spill a significant event. Limited circulation in the back part of the bay means that any sewage making its way down stream could take weeks to flush out, causing significant harm (based on previous circulation studies by our program and others). Previous spills at the California Men's Colony treatment plant have resulted in elevated nutrient, chlorine, and bacteria levels in Chorro Creek. Although the proposed project will not release treated effluent to Chorro Creek or its tributaries, a major spill event could have similar impacts in the bay itself. The estuary not only supports sensitive wildlife but also two commercial oyster farms, an active commercial fishing harbor, and many recreation-focused businesses. A spill event could have human health effects as well as economic impacts. Morro Bay National Estuary Program views potential spill events as a significant impact that should be mitigated by project design or location. The DEIR should specifically explain how spills will be contained and what backstop measures will be put in place. The current description only vaguely states that spills will be contained on-site.



b. The determination for impact 3.9-2 (3.9-31) assumes that other regulatory requirements will ensure that the project activities will have a less than significant impact. These other regulatory requirements include NPDES permitting, completed SWPPP, and State General Waste Discharge Requirements. However, these other permit requirements and plans are not available to the public to review and provide comment. Therefore, it is difficult to determine if they will be sufficient to make this impact less than significant. The EIR should specify actions, performance criteria or standards that will be accomplished by these other regulatory requirements. This remains a potentially significant impact and mitigations to avoid spills contaminating the wetlands and estuary (especially the back bay) should be specified.

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**2. The proposed site introduces a new industrial use into an open space area that is zoned as agricultural. The DEIR does not fully address mitigation for this impact.**

a. The WRF will introduce a quasi-industrial (albeit public) use to agriculturally designated open space, potentially opening the door for other developments/land uses, public or otherwise. This is a potentially significant impact not fully addressed by the growth inducement section (5.6.2) or land use planning section (impact 3.10). Furthermore, the Estuary Program obtained and monitors a conservation easement on the parcel immediately adjacent to the proposed site; the purpose of the conservation easement is to protect the wetlands and estuary from impacts from future development in the lower watershed. A mitigation measure requiring the remainder of the proposed project site be retained in a conservation easement (or other permanent, protected status) should be added to help mitigate this potentially significant impact.

3

**3. Project may result in increased groundwater resources for the city of Morro Bay but does not provide for mitigating the impacts of existing groundwater wells in the Chorro Creek area.**

a. The DEIR states in Section 5.5 that the recycled groundwater component of the project will allow the city to reduce reliability on State Water Project (SWP) allocation and improve reliability of its water supply. This argument is used to state that the project will not increase the projected water supply for the City in the future. Since the DEIR does not state a future plan to reduce use of the Chorro Valley wells, the project may very well increase water supply if those wells are used to the full capacity of their permit and SWP allocation remains similar to current conditions. The DEIR should more adequately address the possibility of increased water supply and under what conditions that might happen.

b. The Chorro Valley wells are sometimes used by the city during the dry season and can impact streamflow in Chorro Creek. The city's groundwater permit for the use of these wells limits their use to times when there is at least 1.4 cubic feet per second of flow in the creek. This permit condition is sometimes difficult to meet, given that

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the city needs these wells when other sources (like SWP) are not available. In previous years, SWP water has been off-line for maintenance in the fall. Unfortunately, fall is also a time of low flows in the creek. As the proposed project creates improved water supply via recycled water, the increased supply should be used to reduce the use of the Chorro Valley wells, thus maintaining surface flows and reducing impacts to steelhead and other sensitive species.

#### **4. DEIR states alignment with the Comprehensive Conservation and Management Plan for the Morro Bay Estuary and this needs to be corrected.**

- a. The Comprehensive Conservation and Management Plan for the Morro Bay Estuary (CCMP) is assessed as part of the Land Use and Planning section 3.10 on the top of page 3.10-15. The DEIR states “No Conflict. The Comprehensive Conservation and Management Plan for Morro Bay, BMP-12, supports the increase in treatment levels and the upgrades for recycled water distribution both of which the proposed project incorporates...” BMP-12 from the CCMP was written in 2012, prior to the consideration of the proposed WRF site. When written, the wastewater treatment plant was located outside the Morro Bay watershed. BMP-12 was not intended to support a site within the watershed. BMP-12 also specifically states, “If the plant upgrade incorporates recycled water distribution, the estuary may benefit by a reduction in the use of wells adjacent to Chorro Creek.” However, the DEIR frames the recycled water component of the project as a potential to reduce the city’s reliance on the State Water Project allocation and does not reflect any intention to reduce use of the Chorro Valley city wells, adjacent to Chorro Creek. (See the last paragraph of Section 5.5, pages 5-6 and 5-7.) Therefore, the Estuary Program does not agree that BMP-12 presents no conflict to the proposed project. Instead, BMP-12 supports the general idea of increased treatment and reduced use of the Chorro Valley city wells. **The DEIR should state that the CCMP (BMP-12) supports increased treatment at the current wastewater treatment site and reduced use of the Chorro Valley city wells and makes no statement of support of a new site.**
- b. Chapter 3.4 (Page 3.4-34) describes components of the CCMP without providing a direct reference to the document. The CCMP should be directly referenced, as other resources in this section are referenced to source materials.

#### **5. DEIR should provide specific actions, performance criteria, or standards when describing mitigation of water quality impacts.**

- a. The description of impact 3.9-4 (page 3.9-37) describes the potential of erosion, siltation, and flooding due to changes in topography and drainage patterns. The impact determination is based on other regulatory requirements, as stated previously for impact 3.9-2. It is difficult to determine if they will be sufficient to make this impact less than significant. The EIR should specify actions, performance



criteria or standards that will be accomplished by these other regulatory requirements.

- b. The description of impact 3.9-5 (page 3.9-39) describes the potential for increased stormwater runoff due to increased pervious surfaces at the proposed site. The impact determination is based on other regulatory requirements, as stated previously for impacts 3.9-2 and 3.9-4. It is difficult to determine if they will be sufficient to make this impact less than significant. The EIR should specify actions, performance criteria or standards that will be accomplished by these other regulatory requirements.

**6. DEIR should include in the biological resources impact discussion the need for keeping planned technologies up to date.**

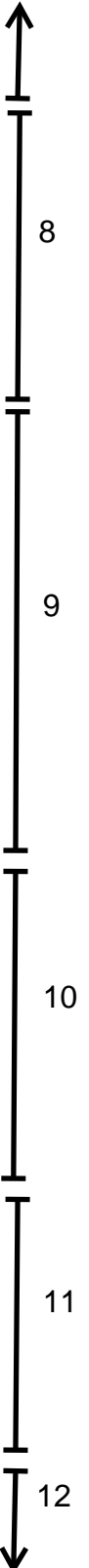
- a. Impacts 3.4-2 (page 3.4-44), 3.4-3 (page 3.4-46), 3.4-4 (page 3.4-49), and 3.4-5 (page 3.4-50), rely on the use of trenchless construction as essential to reducing impacts. Trenchless construction methods have been advancing rapidly over the past few years and the Estuary Program encourages the city to continue to assess these mitigation measures and the planned technology to ensure that the most reliable and least impactful method that is feasible for the project can be employed. Continual assessment of planned technology for trenchless construction and other methods relevant to this section should be included in the impacts discussions as a component of best practices.

**7. DEIR should more fully describe specific technologies in a manner that can be assessed for impacts.**

- a. Section 3.8 briefly explains Clean in Place technology on page 3.8-15 but provides no detail. Impact 3.8-1 describes the routine use of hazardous materials for operation of the proposed WRF. However, the lack of detail about the Clean in Place technology makes it difficult to assess whether this impact is less than significant. The DEIR should provide a fuller description of how Clean in Place technology will operate at the facility.

**8. Geology mitigation measures should consider future climate conditions and cumulative impacts.**

- a. Geotechnical investigation described in mitigation measure GEO-1 (page 3.6-16) should consider the cumulative impacts of geologic activity and climate/weather events such as wildfire and intense storms. Structural mitigation should be able to withstand multiple events at once, as experienced recently in Santa Barbara County.
- b. Mitigation measure GEO-2 (page 3.6-18) should include restoring vegetated areas with native plants to improve erosion control and minimize risk of environmental





impacts from non-native species, such as spreading outside the project area and competing with native species.

- c. The DEIR states that mitigation measure GEO-2 (page 3.6-18) would address erosion impacts because existing regulatory requirements demand features that minimize erosion. This mitigation measure and other regulatory requirements should be implemented under considerations of precipitation patterns that are expected to occur over the life of the plant – increased storminess, more intense rain events happening less often, and other predicted changes to our region’s climate.

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**9. The DEIR should include one or more alternative site(s) outside the Morro Bay estuary watershed, given the significance of this resource and potential impacts.**

- a. The DEIR states in Chapter 6 (Alternatives Analysis) that previous work to assess 17 sites for the WRF was sufficient to determine that only the proposed site is feasible. However, the previous site assessments did not necessarily consider the differences in environmental impacts between sites. Given the potential for impacts to cultural and environmental resources, the DEIR should examine another site more fully. The Morro Bay watershed and estuary has special designation through the EPA’s National Estuary Program. The bay is also an Audubon Important Bird Area and home to two state Marine Protected Areas. These special designations serve to protect the wildlife, habitats, and beneficial uses of the bay. Taken together, the bay’s special status highlights its importance to our community and nation. Given the importance and sensitivity of the Morro Bay estuary, a site outside the watershed may be an environmentally superior alternative and should be included in the alternatives assessment.

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Thank you.

Sincerely,

A handwritten signature in blue ink, appearing to read "Lexie Bell", followed by a horizontal line.

Lexie Bell  
*Executive Director*

## Comment Letter – Morro Bay National Estuary Program (MBNEP)

### Response to MBNEP-1

As stated in the comment, the operation of the proposed project would not include the release of effluent to Chorro Creek or its tributaries or to Morro Bay estuary. Operation of the proposed project would result in the discharge of tertiary-treated effluent and brine to Estero Bay only. Please refer to **Master Response 3 – Accidental Release and Impacts to Morro Bay Estuary** for additional information.

### Response to MBNEP-2

An explanation of the NPDES General Construction Permit for Storm Water Runoff, Storm Water Pollution Prevention Plans (SWPPPs) and best management practices (BMPs), and the City's Storm Water Management Plan are included on pages 3.9-18 to 3.9-21 of the Draft EIR, prior to the discussion of Impact 3.9-2 on page 3.9-31. Compliance with those regulatory requirements are mandated by law and additional mitigation is not required.

### Response to MBNEP-3

Implementation of the proposed project would not conflict with, or have an adverse effect on, the continued use of surrounding parcels for grazing or other agricultural uses. Figure 3.2-2 of the Draft EIR acknowledges the surrounding parcels that are established agricultural preserves as Williamson Act parcels. The proposed WRF would be fenced and screened and would not encroach on neighboring parcels. The Draft EIR states that although 10 to 15 acres would be converted to non-agricultural use, the remainder of the parcel would still be available for grazing or to be placed into an agricultural or open space easement. Also, the proposed WRF is being designed to minimize its footprint as much as possible to minimize such effects to agriculture (Draft EIR, page 3.2-17). See Response to LAFCO-7 regarding the requirements for a conservation easement as a result of the proposed project. See also Response to County-7.

Regarding the potential for the proposed WRF to lead to the development of the remainder of the parcel and result in population growth, the proposed annexation would include only the 27.6-acre parcel, which would include the 10 to 15-acre preferred WRF site, with remaining acres available to be placed into an agricultural or open space easement. As such, the annexation itself would not result in population growth or affect the City's provision of public services. The annexed property would include public use facilities that directly provide a public service. See also **Master Response 2 – WRF Site and Annexation**.

## Response to MBNEP-4

A description of the City's water supply portfolio is included in the Draft EIR on pages 3.16-2 and 5-6. Table 3.16-2 in the Draft EIR includes projections for the City's water supply and demand from 2020 through 2035, per the City's 2015 Urban Water Management Plan (UWMP). The water supply portfolio includes recycled water, estimated at the time at 650 AFY. Currently, according to estimates from the Master Water Reclamation Plan, the Draft EIR states that the proposed WRF could produce up to 825 AFY of recycled water for indirect potable reuse (page 5-6). As stated on page 3.16-3, the water supply portfolio demonstrates water supply reliability for the Morro Bay due to the diversity of water sources that can be used to meet demand during normal years and multiple dry years when imported water through the State Water Project (SWP) is restricted. The City is estimated to have adequate water supply to meet demand in dry years through 2035 (City of Morro Bay, 2016).

The water supply portfolio for the City also includes groundwater supplies from the Chorro Valley and Morro Valley groundwater basins. As stated in the Draft EIR on page 5-6, the City's groundwater pumping is limited by existing groundwater permits to 1,142.5 AFY and 581 AFY, respectively, from the Chorro Valley and Morro Valley groundwater basins. The Draft EIR acknowledges on page 5-6 "the nitrate concentrations in both basins exceed the Primary Maximum Contaminant Levels for drinking water. The City has a water treatment system that can remove nitrates from Morro Valley groundwater. However, there is no treatment process in place at the Chorro Valley wells. However, the 2015 UMWP assumes treatment would be provided at the Chorro Valley wells to meet potable water quality requirements."

As stated in Section 5.5 of the Draft EIR, implementation of the proposed project would not increase the projected amount of water supply anticipated for the City in the future, but would rather increase the percentage of the City's water supply supplied by recycled water and groundwater and decrease dependency on water supplied by the SWP. Imported water from the SWP is the primary source of water in the City's water system and consisted of 87.3 percent of the City's water supply in 2015 (Draft EIR, page 5-6). The availability of imported water supplies is dependent on the amount of precipitation in the watershed, the amount of that precipitation that runs off into the watershed, water use by others in the watershed and the amount of water in storage in the SWP's Lake Oroville at the beginning of the year. Variability in the location, timing, amount and form (rain or snow) of precipitation, as well as how wet or dry the previous year was, produces variability from year to year in the amount of water that is available for the SWP (Draft EIR, page 5-6). The proposed project would allow the City to increase the reliability of its water supply. The addition of potable water resulting from the proposed project's indirect potable reuse component would reallocate the percentages of the water sources used by the City, but would not exceed the total amount of water supply the City has planned for in the 2015 UMWP. As such, the proposed project would not create a new or expanded water supply that could create an indirect growth inducement potential (Draft EIR, page 5-8).

## Response to MBNEP-5

Please refer to Response to MBNEP-4 above. The proposed project is providing recycled water for the City's water supply portfolio as anticipated in the 2015 UWMP. The proposed project is a

water supply reliability project, that will reduce reliance on imported water from the SWP. The City's water supply portfolio allows for flexibility in the use of imported water, groundwater, surface water, and recycled water based on seasonal and annual precipitation and drought conditions. The City anticipates groundwater from Chorro Valley to be part of its water supply portfolio in the future. The City will continue to comply with all terms and restrictions associated with its groundwater permit in the Chorro Valley groundwater basin.

## Response to MBNEP-6

Please refer to Response to MBNEP-5 regarding future use of Chorro Valley wells. The MBNEP's disagreement with the City's conclusion regarding conflict with the Comprehensive Conservation and Management Plan (CCMP) BMP-12 due to the preferred location of the proposed WRF is noted. In response to the comment, the following modification is made to the text of the Draft EIR on page 3.10-15:

### Environmental and Cultural Resource Policies and Programs

#### V. Morro Bay Estuary and Its Watershed

##### A. Policies, Cayucos and Rural Area

5. Where feasible, implement applicable provisions of the Comprehensive Conservation and Management Plan for Morro Bay published by the Morro Bay National Estuary Program through special programs, land use planning strategies, review of development proposals, and public education.

**No Conflict-Partial.** The Comprehensive Conservation and Management Plan for Morro Bay Estuary, BMP-12, supports the upgrade of the existing MBCSD WWTP "because increasing the treatment level of the effluent could have beneficial impacts to the estuary." BMP-12 states that although Morro Bay does not directly receive effluent from the WWTP, "it is possible that the diluted treated wastewater does occasionally enter the bay through the harbor mouth." As such, increasing the treatment level of effluent discharged through the outfall could have beneficial effects to the estuary. In accordance with BMP-12, the proposed project would serve to increase the level of treatment provided to effluent discharged through the outfall.

In addition, BMP-12 includes reduction in the use of City wells adjacent to Chorro Creek. The proposed project does not modify the City's proposed operation of the Chorro Creek wells.

increase in treatment levels and the upgrades for recycled water distribution both of which the proposed project incorporates.

Additional discussion of consistency with the Comprehensive Conservation and Management Plan is discussed in Chapter 3.4 Biological Resources.

In response to the comment, the following text has been modified on page 3.4-34 of the Draft EIR:

### ***Morro Bay National Estuary Program***

The Morro Bay National Estuary Program (MBNEP) seeks to identify a network of interconnected lands to focus conservation efforts that provide critical habitat for sensitive species; high biodiversity patterns; essential ecosystem services and functions; and provide the greatest opportunity for biodiversity to adapt naturally in a changing and variable environment. In order to do this, the ~~Program~~ MBNEP has developed the Comprehensive Conservation and Management Plan (MBNEP, 2012 Update), which



identifies, among other things, action plans to be implemented to support the conservation and sound management of the estuary and watershed. The following action plans has identified the following needs for biological resources that are pertinent to the proposed project:

### **Response to MBNEP-7**

An explanation of the NPDES General Construction Permit for Storm Water Runoff, NPDES MS4 permit, Storm Water Pollution Prevention Plans (SWPPPs) and best management practices (BMPs), the City's Storm Water Management Plan, and the NPDES General Industrial Permit for Storm Water Runoff are included on pages 3.9-18 to 3.9-21 of the Draft EIR, prior to the discussion of Impact 3.9-4 on page 3.9-37. Compliance with those regulatory requirements are mandated by law and additional mitigation is not required.

### **Response to MBNEP-8**

An explanation of the NPDES General Construction Permit for Storm Water Runoff, NPDES MS4 permit, Storm Water Pollution Prevention Plans (SWPPPs) and best management practices (BMPs), the City's Storm Water Management Plan, and the NPDES General Industrial Permit for Storm Water Runoff are included on pages 3.9-18 to 3.9-21 of the Draft EIR, prior to the discussion of Impact 3.9-5 on page 3.9-39. Compliance with those regulatory requirements are mandated by law and additional mitigation is not required.

### **Response to MBNEP-9**

In Chapter 2 of the Draft EIR (page 2-28), the description of proposed project construction methods includes trenchless construction methods including suspension of pipelines on existing bridges or directional drilling or jack and bore methods. The City has not committed to a specific trenchless construction method. If the City implements the proposed project, then available technologies would be considered and evaluated based on constraints and feasibility criteria (e.g., costs and environmental commitments), and the most appropriate and available trenchless methods will be selected.

### **Response to MBNEP-10**

The Clean in Place chemical storage facility is described on page 2-12 of project description in the Draft EIR. The description is copied here for convenience of the reader:

#### **Clean in Place Chemical Storage Facility**

A Clean in Place (CIP) chemical storage facility would be constructed for hazardous materials containment and handling. The CIP facility would include a metal canopy to cover chemical tanks, bins, and/or totes in a concrete containment area. Hazardous materials associated with the treatment process include MF/RO membrane cleaning chemicals, disinfection chemicals, and other treatment-related chemicals. Chemicals such as sodium hypochlorite, citric acid, sodium bisulfite, and sulfuric acid would be stored in the CIP. All bulk chemical storage would be located in chemical containment areas fitted

to contain spills. Spills would be conveyed to blind sumps for manual pumping and disposal by truck.

## Response to MBNEP-11

The Geotechnical Investigation required by Mitigation Measure GEO-1 would identify a multitude of subsurface geologic and seismic hazards specific to the area around each proposed project facility, and provide structural recommendations to be incorporated into the proposed project design. As such, the Geotechnical Investigation would consider the cumulative effects of such geologic and seismic hazards. The Geotechnical Investigation is not intended to provide design criteria to mitigate potential impacts associated with wildfire and intense storms. Please refer to Impact 3.8-7 on page 3.8-22 of the Draft EIR that evaluates impacts associated with wildfire. Please refer to Impact 3.9-6 on page 3.9-41 of the Draft EIR that evaluates impacts associated with flood hazards.

## Response to MBNEP-12

In response to the comment, Mitigation Measure GEO-2 on page 3.6-18 of the Draft EIR has been modified as follows:

**GEO-2: Post-Construction Site Restoration.** After construction of project pipelines, disturbed areas shall be managed to control erosion, including without limitation: repaving areas within roadways, restoring vegetated areas (with native plants if applicable), and regrading surfaces to minimize changes in drainage patterns.

## Response to MBNEP-13

Mitigation Measure GEO-2, as modified above under Response to MBNEP-12, applies to post-construction restoration of pipeline alignments. The City will be required by the State Water Resources Control Board to implement post-construction erosion control measures in accordance with the SWPPP prepared for the project, as explained on pages 3.6-10 and 3.6-11 of the Draft EIR. In accordance with CEQA, the analysis in the Draft EIR considers the existing baseline conditions (Draft EIR, page 1-9); Mitigation Measure GEO-2 ensures impacts relative to such baseline conditions are less than significant.

## Response to MBNEP-14

As explained in Chapter 6 of the Draft EIR, the only potentially significant and unavoidable impacts associated with the proposed project would be to cultural resources. The impacts would be the result of implementing the proposed pipelines across Morro Creek, and would not be associated with construction of the proposed WRF facility itself. There are no significant and unavoidable impacts identified in the Draft EIR due to construction or operation of the WRF treatment facility component of the proposed project. As such, a pipeline alternative that may lessen or avoid impacts to cultural resources is considered (see Alternative 2 on page 6-12 of the Draft EIR). Based on the CEQA requirements for the analysis of alternatives, no alternative WRF site is required to be considered due to the Morro Bay estuary. The proposed project would not have significant impacts to the Morro Bay estuary. Please refer to **Master Response 1 – Alternatives** and **Master Response 3 – Accidental Spills and Impacts to Morro Bay Estuary**.



**SIERRA  
CLUB**  
SANTA LUCIA  
CHAPTER



**SURFRIDER  
FOUNDATION**  
San Luis Obispo  
Chapter



05/18/2018

To: City of Morro Bay

Re: Comments on Draft EIR for Morro Bay Water Recycling Facility

Good day,

Thank you for the opportunity to comment on the Draft Environmental Impact Report for the Morro Bay Water Recycling Facility. Please accept these comments on behalf of the Surfrider Foundation San Luis Obispo Chapter ("Surfrider"), San Luis Obispo Coastkeeper, and the Santa Lucia Chapter of the Sierra Club ("Sierra Club"), which have been vocal and active in efforts to upgrade the City's existing wastewater treatment plant for well over the past decade.

Surfrider Foundation's mission is the protection of our ocean, waves, and beaches through a powerful activist network. The San Luis Obispo Coastkeeper is the only environmental watchdog dedicated solely to enforcement of water quality, watershed protection, and coastal planning regulations in San Luis Obispo and northern Santa Barbara counties. The Sierra Club practices and promotes the responsible use of the Earth's ecosystems and resources, the protection and restoration of the quality of the natural and human environment and the use of all lawful means to carry out these objectives. We applaud the Morro Bay City Council and its citizens who support protections of Morro Bay's coastal resources. Managed retreat of the city's wastewater treatment plant, combined with tertiary treatment and groundwater recharge, is a sound investment which will benefit Morro Bay's citizens and businesses for many years.

Our chapters agree with the City Council's selection of the South Bay Blvd ("SBB") site for the Water Recycling Facility ("WRF"). The site has passed through multiple layers of public feedback and site alternative analysis, and we believe the SBB site will avoid

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many obstacles presented by alternative sites. In construction of the SBB site, for aquifer recharge sites, and for pipelines, we note the report's recognition that *"the proposed project could result in significant and unavoidable impacts to cultural resources (historic and archaeological resources and human remains) that cannot be reduced to less than significant levels, even with mitigation measures"*. We ask that the City make every effort to reach out to our local tribal leaders to assure the cultural heritage and artifacts are protected to the greatest extent possible during construction.

2 cont.

We are also concerned with the WRF's infrastructure which will remain in the coastal zone south (and west) of Highway 1. Primarily, we are concerned with the sewage lift station pumps and pipelines to be built near the existing Corporation Yard located on Atascadero Road. We feel the project as proposed in the Draft EIR lacks redundancy for pump failure in this zone, and improvements can be made to the project which will reduce environmental impacts in this regard. Without addressing this deficiency and incorporating into the project back-up infrastructure which will provide redundancy for sewage pump failure, we believe that the potential future impacts to water quality are not less than significant, and thus that further analysis and project revision is necessary to mitigate impacts to less than significant levels.

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We believe it would be beneficial to analyze an alternative which would include a constructed wetland to be located on the existing wastewater treatment plant ("WWTP"), downgrade from the pump station planned near the Corporate Yard. A constructed wetland project at the existing site of the Morro Bay WWTP would help mitigate some of the project's significant impacts. With brine re-directed from the ocean outfall to the wetland, the project could also decrease the impacts of brine discharge to the ocean ecosystem. Furthermore, a constructed wetland in this location would serve many beneficial functions: "slow the flow" during a sanitary sewer overflow; stormwater management; dedicated open space in the coastal zone; carbon sequestration (reduction in Greenhouse Gases); and aquifer recharge. Incorporation of a constructed wetland could make the project more attractive for grant funding opportunities.

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Thank you for your consideration.



Surfrider Foundation San Luis Obispo

Brad Snook

Chair, Surfrider Foundation San Luis Obispo

[chair@slo.surfrider.org](mailto:chair@slo.surfrider.org)

(805) 440-9489

A handwritten signature in black ink, appearing to read "Andrew Christie". The signature is fluid and cursive, with a large, stylized "S" at the end.

Sierra Club – Santa Lucia Chapter

Andrew Christie, Director

[andrew.christie@sierraclub.org](mailto:andrew.christie@sierraclub.org)

(805) 543-8717

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Gordon Hensley,

San Luis Obispo Coastkeeper

Environment in the Public Interest

EPI-Center, 1013 Monterey Street

San Luis Obispo, CA 93401

E-mail: [coastkeeper@epicenteronline.org](mailto:coastkeeper@epicenteronline.org)

Phone & Fax: 805-781-9932

## Comment Letter – Sierra Club Santa Lucia Chapter, Surfrider Foundation San Luis Obispo Chapter, San Luis Obispo Coastkeeper

### Response to SC/SF/Coastkeeper-1

The City acknowledges the commenter's support for upgrade of the City's existing wastewater treatment plant and managed retreat. The comment is noted for the record.

### Response to SC/SF/Coastkeeper-2

The City acknowledges commenter's support for the site selection of the South Bay Boulevard (SBB) site for the proposed WRF; and it is noted for the record. Regarding requests the City reach out to local tribal leaders, pages 3.15-3 to 3.15-7 of the Draft EIR describe the Native American outreach that was conducted by the City and its cultural resources consultant, Far Western.

### Response to SC/SF/Coastkeeper-3

The proposed project includes a lift station in one of two locations (1A or 5A), both of which would be located in the coastal zone as well as a 100-year flood hazard zone. The Draft EIR explains on page 3.9-41 that the lift station would be floodproofed and designed to be at least two feet above the base flood elevation in accordance with the Morro Bay Municipal Code (Subdivision 14.72.050 (A)(3)(a) and (b)). The structure would be watertight with walls substantially impermeable to the passage of water. The design of the lift station would ensure its continued operation in the event of a flood, ensuring raw wastewater is pumped to the WRF without interruption, thus avoiding wastewater backup and spills. The lift station design also would include a backup generator to ensure uninterrupted operation in the event of a power outage (Draft EIR, page 3.9-41). These design features would minimize potential impacts to water quality due to lift station pump failure. In addition, please refer to **Master Response 3 – Accidental Spills and Impacts to Morro Bay Estuary**.

### Response to SC/SF/Coastkeeper-4

The City acknowledges the Surfrider Foundation's suggestion for the future use of the decommissioned WWTP site. The City is currently preparing the General Plan Update/LCP, which will include a land use designation for the WWTP site and guide future development at the site. With respect to mitigating significant effects, the only significant and unavoidable impacts that are identified in the Draft EIR pertain to cultural resources. While there may be benefits associated with constructed wetlands in general, the development of wetlands at the WWTP site would not serve to mitigate any significant environmental effects as suggested in the comment. The Draft EIR does not identify significant impacts due to discharge of brine through the exiting ocean outfall.

**From:** [Rob Livick](#)  
**To:** [Jennifer Jacobus](#); [jfrickenbach\\_aol.com](#)  
**Subject:** FW: DEIR  
**Date:** Monday, April 23, 2018 2:30:10 PM

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**From:** Mccraywa <mccraywa@aol.com>  
**Sent:** Monday, April 23, 2018 2:29 PM  
**To:** Rob Livick <rlivick@morrobayca.gov>  
**Subject:** DEIR

**TO:** Rob Livick, PE/PLS, City of Morro Bay, email: [rlivick@morrobayca.gov](mailto:rlivick@morrobayca.gov)  
**FROM:** Wallace McCray ASLA, 225 Marina Morro Bay email: at [mccraywa@aol.com](mailto:mccraywa@aol.com)  
**SUBJECT:** Draft Environmental Report (EIR) written comments  
**DATE:** 23 April, 2018

## DEIR (Aesthetics)

The DEIR indicates that impacts to “aesthetics” were “less than significant” and require no mitigation. The consultants are suggesting that the proposed project aesthetics are less important, less worthy of attention and less noteworthy (definitions of significant)

All person made projects, if seen by people will have a significant visual impact. All planned constructed developments (buildings, roads, sewer treatment plants, residential housing) will have an impact on the aesthetics. People will see these projects. There will be visual (aesthetic) impact.

All projects require visual resource mitigation. Aesthetics are usually considered at the design, construction and implementation states. Therefore the proposed City of Morro Bay’s water reclamation facility, where seen, will require visual resource mitigation.

The guidelines used should be to make any above the ground “water reclamation facility” developments “subordinate to the characteristic landscape”. Design and build it to look like it belongs to the surrounding areas or to the surrounding building or utility structures. Use color and building elements to mitigate the visual resources. For example bulldozing the Native American sites will require mitigation. The contractors will have to reshape the impacted soil. This requires reshaping the landforms back to their natural form. This is called visual mitigation. It is easy to do.

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## DEIR (No project alternative)

In my past career, I have been project manager of two major DEIR projects. I have never seen or reviewed a DEIR that dismissed the “no project alternative” outright. Most no project alternatives that I am familiar with required the author to address each resource impact equally. This would allow management (**City staff and Council**) to make decisions based on resource impact facts, not pre-subjective consultant values.

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Thanks and good luck...

Wally



## Comment Letter – Wallace McCray

### Response to McCray-1

The City thanks Mr. McCray for submitting comments. The commenter is referred to CEQA Guidelines Appendix G, which presents the thresholds of significance for impacts to aesthetics. As stated in CEQA Guidelines subdivision 15064(b), the impact determination is “based to the extent possible on scientific and factual data” and “an ironclad definition of significant effect var[ies] with the setting.” As lead agency, the City has discretion to determine the level of significance, based on technical analysis performed and factual data available. The “less than significant” determination does not, as the commenter suggests, mean the impact is “less worthy of attention” or “less noteworthy,” or the proposed project would not be visible at all. The “less than significant” impact determination in the first three impact statements for aesthetics discussed on pages 3.1-11 through 3.1-19 of the Draft EIR is based on the specific thresholds included in CEQA Guidelines Appendix G for aesthetics resources, which pertain to specific impacts to scenic vistas, State scenic highways, and visual character. The City determined no mitigation measures are required. However, as discussed on page 3.1-18 of the Draft EIR, the proposed WRF building forms and architecture would be informed by development along the Highway 1 corridor, with the overall impression of the WRF complex as a dairy farm or ranch. The specific architectural treatments to be applied to the proposed WRF structures during the design process are described in the Draft EIR project description on page 2-14. Because of these design considerations, impacts would be less than significant.

### Response to McCray-2

As discussed on page 2-14 and 3.1-18 of the Draft EIR, the proposed WRF building forms and architecture would be informed by development along the Highway 1 corridor, with the overall impression of the WRF complex intended to resemble as a dairy farm or ranch. Because of those considerations, which will be incorporated into the design, impacts would be less than significant and no mitigation would be required.

Regarding the reshaping of natural landforms, implementation of Mitigation Measure GEO-2: Post-Construction Site Restoration would ensure areas disturbed due to pipeline construction and installation are restored, including paved areas and vegetated areas.

### Response to McCray-3

CEQA Guidelines subdivision 15126.6(e)(3)(c) states that a lead agency should proceed to analyze the no project alternative “by projecting what would reasonably be expected to occur in the foreseeable future if a project were not approved.” CEQA Guidelines subdivision 15126.6(d) states an EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis and comparison with the proposed project. On page 6-11, the Draft EIR describes potential impacts may arise from not implementing the proposed project. That analysis concludes the No Project would not meet any of the project objectives, would not achieve the benefits provided by the project, and would be infeasible since RWQCB requires improved effluent quality. While the commenter may be accustomed to seeing the No Project Alternatives

analyzed a specific way, the CEQA Guidelines don't specify a particular format and the method used in the Draft EIR is reasonable and meets legal requirements, when considering the nature of and need for the proposed project. Please also refer to **Master Response 1 – Alternatives** for additional information.

1331 San Bernardo Creek Road  
Morro Bay, CA 93442

May 3, 2018

Rob Livick, PE/PLS  
Public Work Director  
City of Morro Bay  
955 Shasta Avenue, Morro Bay, CA 93442

Dear Mr. Livick,

Subject: WRF Draft EIR

I have some concerns regarding the Draft EIR primarily dealing with site access and building sizes.

Site Access

There are currently no plans that I am aware of as to how access to the site will occur from South Bay Boulevard and Teresa Drive. The proposed easement is 60 feet wide with a 24 foot paved surface. This size is out of proportion to what would appear to be needed given the limited amount of traffic the WRF will require. By contrast, many county roads have 40 foot easements with about 20 feet of paved surface.

My property boundary is roughly the centerline of the existing paved surface of Teresa Drive at South Bay Boulevard. As far as I know my property is not being considered as part of the easement. Regardless, it would appear that Teresa Drive will have to be altered in order to accommodate the WRF access. What will be the effects of the alteration and possible expansion? When will the costs, environmental and related impacts of these changes be addressed? I would assume this would have to be part of the WRF EIR. Being the adjacent landowner I am uncertain as to how the access to the WRF site will impact my ability to access my own property and to what sort of fencing is being proposed between the driveway easement and my property.

Building Size

The Operation Building referenced in the Draft EIR is 7000 SF. This would appear to be grossly out of scale for what would be necessary for 4 on site employees. In order to decrease costs, visual and environmental impacts, is consideration being made to reduce the size of the Operation Building? Likewise, is the 5600 SF Maintenance Building size being scrutinized?

Thank you for consideration of my concerns.

Sincerely,

  
John J. Maino

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## Comment Letter – John Maino

### Response to Maino-1

The City thanks Mr. Maino for submitting comments. The Draft EIR on page 2-12 identifies the fact an easement to access the preferred WRF site is still being developed by the City.

Construction and operational impacts associated with use of Teresa Road to access the preferred WRF site are addressed in the Draft EIR on page 3.14-10. The analysis in the Draft EIR covers any impacts to Teresa Road and South Bay Boulevard as a result of construction and operation of the project. Access easements are typically finalized during the design stage, at which time the City will confirm all impacts analyzed in the Draft EIR have been addressed, and will work with all landowners to obtain the necessary access easements.

### Response to Maino-2

As shown on Figure 2-4, the WRF Operation Building (7,000 SF) and the WRF Maintenance Building (5,600 SF) constitutes a small portion of the overall project site. As described on page 2-13 of the Draft EIR, the Operations Building would provide facilities other than for the four permanent employees (*i.e.*, the reception area, conference room, break room, copy room, janitorial room, sample storage room, operations center, restrooms, uniform storage and wash room, map room, server/electrical room, and an outside boot wash). The final design of those facilities will be determined through the design-build process, which will evaluate the proposed project and modify it as needed to more closely suit the required functionality of the overall facility.

City of Morro Bay

MAY 10 2013

Rec'd City Hall

Rob Livick, P.E., Public Works Director  
City of Morro Bay,  
955 Shasta Avenue  
Morro Bay, CA 93442

Dear Mr. Livick:

Regarding the WRF Draft EIR and, to a larger extent, the potential Water Reclamation Facility in general, henceforth referred to as the "sewer plant", the proposed plan to move the plant to the Southbay Blvd. location is literally fraught with problems.

Plans to move the plant from its current location, where it has been working safely and efficiently for well over 60 years, to pristine agricultural land outside of town will lead to a number of problems and concerns.

Aside from the 150 to 167 million dollar price tag, which will do irreparable financial harm to thousands of Morro Bay citizens, digging up the town to reroute the current piping system will have a significant negative effect on any businesses along the chosen streets, as well as a negative impact on tourism. This will seriously decrease the tax revenue to the city. Morro Bay depends on sales tax revenue and spending of dollars by tourists, which is now Morro Bay's primary industry.

Then there is the potential problem of running afoul of the Chumash Indian protected tribal lands and possible artifacts, which could significantly impact the cost and timeframe for constructing the plant, if not closing down the project altogether.

Everyone who is not involved in the extremely corrupted effort to move the plant, originally spearheaded by the mayor, due to his own personal agenda, knows that the plant is perfectly safe at its current location. In fact, everyone who is directly involved with the corrupted effort, including you, knows that the plant is safe at its current location.

It is NOT at risk of rising sea levels or a 100 year flood of biblical proportions. Numerous plants along the coast of California, as well as the east coast of the United States, are much closer to the ocean's edge and far more vulnerable to such natural climate changes or disasters.

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However, the vast majority, if not all of these plants, are scheduled to remain at their existing locations, with funding being provided to simply build short concrete walls (berms) or earthen levees around them. This is an affordable method of protecting these plants even though, again, our plant is not at such risks. However, constructing such a berm to satisfy the nay sayers and doomsday believers would still be an affordable option.

The current plant can be either upgraded to add increased filtration, to satisfy the Regional Water Quality Control Board's or the EPA's criteria, or a new, more technologically advanced plant can be constructed on the abandoned Hanson Concrete Plant site. Either way, the cost would be limited to as little as 20 million dollars to as much as 54 million dollars, considerably less than the current estimated cost of from 150 to 167 million dollars. A price tag that may not include the cost of the lift station, the destruction of the current plant or the inevitable cost overruns.

So, who will benefit from a totally unaffordable plant at the Southbay Blvd. location? Obviously, the company that gets the contract, the TRI-W Corporation, who will make money off the land they sell to the city for the new plant, and the right they will gain to develop their land on the east side of Highway 1 and, of course, anyone who accepts money under the table, and off of the record, for awarding such a contract. The names of several different people come to mind.

And who will lose from the totally unaffordable sewer plant at the Southbay Blvd. location? Technically, every property owner in Morro Bay but, more importantly, the low income people, the retirees on a fixed income, and the renters, who will be forced to pay higher rents to cover the costs. Any or all of these folks may be forced to move out of town or, at the very least, make difficult choices between paying for food, medication or inflated sewer and water rates.

So, what decision should be made? The city and its citizens should band together, return to the California Coastal Commission, a governing board made up essentially of liberals, who are suppose to care about the average low income and elderly citizens, and request that they issue a permit to enlarge or replace the current sewer plant at its current location, since it is NOT at risk of anything and does NOT impede anyone's view.

I truly believe that a permit to refurbish or rebuild the sewer plant at its current location was denied simply because the mayor asked, in fact urged, the California Coastal Commission to do so. This was clearly driven by the mayor's own personal agenda, and was never in the best interest of the majority of the citizens of Morro Bay.

The original project manager of the 34 million dollar sewer plant, designed back in 2011, felt that the California Coastal Commission could have just as easily approved a permit to leave the plant at its current location, had they been asked to do so. After all, the plant exists in an industrial area with a commercially developed, decades old, carbon footprint, which makes it nearly impossible to return it back to its pre 1954 condition.

Commercializing and industrializing pristine agricultural land, directly above a creek that feeds the estuary and sensitive wildlife habitat, poses a totally unnecessary, irresponsible and reckless risk to both the environment and the innocent people of Morro Bay.

Respectably submitted by:



Mark C. Hanson  
2736 Birch Avenue  
Morro Bay, California 93442  
(805) 225-1378

## Comment Letter – Mark Hanson

### Response to Hanson-1

The City thanks Mark Hanson for submitting comments. The City has spent many years evaluating the options for upgrading the City's wastewater treatment infrastructure to meet regulatory requirements to protect ocean water quality. The alternative development process including the alternative of remaining at the existing location is discussed in **Master Response 1 – Alternatives**. The Draft EIR evaluates the temporary impacts of installing additional pipelines and provides mitigation measures to minimize the disruption as much as possible. Environmental impacts of installing pipeline within roadways constitutes a temporary impact and would not permanently impact the business community. As required by Mitigation Measure TRAF-1, a Traffic Control Plan would be implemented that requires access to be maintained to individual properties during construction. In addition, the proposed pipeline would be installed at approximately 150 feet per day, as described on page 2-28 of the Draft EIR. As such, the disruption to any one business location would be limited to approximately one week or less.

### Response to Hanson-2

Section 3.5.3 of the Draft EIR discusses the proposed project impacts to cultural resources (historical, archaeological, and paleontological resources), and Section 3.15.3 of the Draft EIR discusses the impacts to tribal resources.

The commenter is referred to Section 1.2 of the Draft EIR (pages 1-1 to 1-4) which discusses background of the project, including the RWQCB's requirements to upgrade the treatment facility to full-secondary treatment and reasons for the relocation of the treatment facilities. The existing plant requires significant upgrading pursuant to an RWQCB order. The City cannot meet the order at the current location due to the previous denial from the California Coastal Commission (CCC) of such a project. The commenter's statement about the safety of the existing WWTP site and coastal hazards is addressed in the CCC comment letter as the CCC emphasizes the need to move the WRF from the existing WWTP.

### Response to Hanson-3

Page 3.9-9 and Figure 3.9-4 shows the existing WWTP is located within a FEMA 100-year flood zone. Page 1-3 of the Draft EIR explains the CCC's denial of upgrading the existing WWTP at the current site due to several reasons including failure to avoid coastal hazards, which include sea level rise, as stated in the CCC's comment letter included in this Final EIR. The commenter's suggestion to construct a berm or earthen levee to protect the existing WWTP has been noted.

### Response to Hanson-4

The City notes Mr. Hanson's comment regarding upgrading the existing plant on the existing site. As indicated on page 1-3 of the Draft EIR, the City attempted to upgrade the existing site; however, the CCC denied that option due to inconsistency with the City's LCP zoning provisions, failure to avoid coastal hazards, failure to include a sizeable reclaimed water component and the



plant is within an LCP-designated sensitive view area. The Hanson Concrete Plant alternative site mentioned in the comment is adjacent to the existing treatment plant site. That location is within the coastal zone and subject to the same restrictions from the CCC as the existing plant location. Since the same impacts and CDP restrictions would apply to a location immediately adjacent to the existing facility, it was not considered as an alternative to the existing site. Please refer to **Master Response 1 – Alternatives**. The comment raised related to the costs of implementing the proposed WRF plant, including the cost of the lift station and decommissioning the existing plant, are unrelated to the CEQA analysis required of an EIR. Per CEQA Guidelines Section 15064(e), “economic and social changes resulting from a project shall not be treated as significant effects.”

## **Response to Hanson-5**

The City notes Mr. Hanson’s comment regarding rebuilding the existing WWTP at its existing location. Please refer to pages 1-1 to 1-4 of the Draft EIR, which provides background information regarding the reasons for the relocation of the treatment facilities and the history of previous denial of a CDP for upgrade of the current WWTP. Please refer to **Master Response 1 – Alternatives**. Please also refer to the CC’s Comment letter in this Final EIR and Response to CCC-3, which states the CCC’s goals for moving public infrastructure away from the shoreline and areas of coastal hazards and making shoreline property available to other uses such as public access and recreation.

The noted impacts of the proposed project to agricultural land, wildlife, and drainages and creeks can be found in the Draft EIR in Chapter 3.2, Chapter 3.4, and Chapter 3.9, respectively. The Draft EIR concludes in each of those sections a new treatment plant can be built in the preferred location without resulting in significant impacts to agricultural lands, wildlife and water quality.

**Edward J. Sylvester**  
**1245 Hillcrest Drive**  
**Morro Bay, CA 93442**

RECEIVED

MAY 14 2018

City of Morro Bay  
Public Works Department

May 12, 2018

Rob Livick, P.E.,  
Public Works Director  
City of Morro Bay  
955 Shasta Avenue  
Morro Bay, CA 93442

**RE: Comments and Questions on the Draft Water Reclamation Facility EIR**

Morro Bay is proposing to establish a recycle pipeline to the Morro Valley and use groundwater injection wells for groundwater replenishment. A decision by the Ninth Circuit Court of Appeals "Hawai'i Wildlife Fund v. County of Maui" (filed February 1, 2018) found that a NPDES permit would henceforth be required for such a discharge. As with Maui's discharge, there is an interconnection between the Morro Valley and the Ocean. Brown and Caldwell found that the Morro Creek Basin had a subsurface discharge of 3,400 acre-feet per year<sup>1</sup>. It would be impossible to separate any of Morro Bay's recharge from this existing outfall, thereby requiring the NPDES Permit.

**Question: With this new Court of Appeals decision, will Morro Bay be able to obtain a NPDES discharge for its groundwater injection, or will another reclamation scheme be required? And if so, what would the additional cost be?**

Although the groundwater replenishment may help Morro Bay's wells in the Morro Basin, the 2007 Morro Basin Nitrate Study would suggest that any water being pumped from that source would require the use of its Reverse Osmosis Facility to bring the water to drinking water standards.

**Question: Has this additional treatment cost been included in the City's new WRF operating cost structure?**

Sincerely,



Edward J. Sylvester

<sup>1</sup> City of Morro Bay, Coastal Land Use Plan, Chapter V, p. 72.

## Comment Letter – Edward Sylvester

### Response to Sylvester-1

The City thanks Mr. Sylvester for submitting comments. As stated on page 3.9-32 of the Draft EIR (Section 3.9 Hydrology and Water Quality), during operation of the proposed project, the discharge of brine and tertiary-treated recycled water through the existing ocean outfall would continue to be regulated under an NPDES permit, similar to discharges from the existing MBCSD WWTP.

Under the proposed project, the injection of the advanced treated recycled water into the Morro Valley groundwater basin would be regulated under the CCR Title 22, Division 4, Chapter 3 Water Recycling Criteria (Draft EIR page 3.9-15 and 3.9-22). As shown on Figures 3.9-5 and 3.9-6 in Section 3.9 Hydrology and Water Quality of the Draft EIR, groundwater modeling indicates, based on the groundwater flow paths, injected recycled water would not reach the ocean. The proposed project would extract volumes of water that would be equal to or more than the volume of injected water. Consequently, based on groundwater flow paths, retention time of injected groundwater, and operation of the existing extraction wells, the injected water would be extracted prior to reaching the ocean.

Since the discharges through the existing ocean outfall would be regulated under NPDES permits and the injected water would never reach the ocean, the court case would not apply here. In addition, the City would obtain the necessary permits to allow the injected water. No modifications to the Draft EIR were made in response to this comment.

### Response to Sylvester-2

As stated in the Draft EIR on page 2-22, once the proposed project is operational, “[a] blend of the injected water and groundwater would be extracted from the existing City wells to be treated at the City’s Brackish Water Reverse Osmosis (BWRO) treatment facility at the existing desalination plant adjacent to the existing WWTP (160 Atascadero Road) then distributed for potable use” through the City’s existing water system. The existing wells are shown in the Draft EIR in Figure 2-9. As stated in the Draft EIR on page 3.9-6, “[t]he City’s BWRO plant is designed to remove TDS and nitrate from groundwater pumped out of the Morro Valley groundwater basin. Permeate from the reverse osmosis process is remineralized through calcium carbonate contact to reduce corrosivity and is disinfected and sent to the distribution system. Concentrate is discharged to an ocean outfall separate from the existing WWTP outfall (MKN, 2017).” No improvements are currently required to the BWRO facility to operate the proposed project.

The question about inclusion of water treatment costs at the BWRO facility is unrelated to the CEQA analysis required of an EIR. Per CEQA Guidelines Section 15064(e), “economic and social changes resulting from a project shall not be treated as significant effects.”

MAY 15 2018  
Rec'd City Hall

Attention:

Mr. Rob Livick, PE/PLS  
Morro Bay Public Works Director

Subject: Comments and questions on the Morro Bay WRF Draft EIR

Below are my comments and questions. The questions were posed to the city's consultants and staff at the 5/01/18 WRFCAC meeting. Please include this document in the record for the Morro Bay Water Reclamation Facility Draft Environmental Impact Report, SCH # 2016081027, Dated March, 2018

**General Comments:**

Morro Bay is one of the first coastal cities in California that is actively considering a managed retreat of wastewater infrastructure to address climate change and SLR. That said, Morro Bay is in an optimum position to implement a pilot project that takes a more holistic approach to the issue of climate change and SLR adaptation.

The current Draft EIR fails to properly address the cumulative impacts and important issues such as GHG emissions from energy usage, sewer gas emissions from collection and treatment infrastructure, and sewer collection exfiltration rate effects on treatment capacity calculations just to name a few.

California has raised the bar for Climate Change and SLR adaptation strategies by recognizing the importance of integrating various elements in nature, those being air, water, and land use, along with the need to address the socio-economic implications when implementing those measures. This Draft EIR for the Morro Bay WRF project falls short of the stated goals.

**Subject: Greenhouse Gases****Comments:**

Reference pg. 3.3-8, 9 California Air Resources Board; Table 3.3-2, pg. 3.3-7

In 2004, Cayucos Sanitary District staff studied and tested the H<sub>2</sub>S (sewer gas) issue along north Main Street. The CSD staff determined that the sewer gases were generated by the anaerobic conditions that exist during pumping cycles from the CSD's Lift Station #5, where all of Cayucos's sewage is conveyed and pumped to a dedicated gravity sewer main along the North bound lane of North Main Street. With the CSD building their own sewer plant, the sewer gas issue that has plagued the city will be alleviated. (baseline environmental condition)

However, with the current SBB WRF proposal, a large Lift Station will have to be constructed and associated Force Main. Due to the larger volume of sewage being pumped by the proposed Lift Station, it is safe to assume that a significant increase of sewer gases will be generated by this project.

The passage of AB 32( California Global Warming Solutions Act) and more recently AB 398 which strengthens and extends the state's cap-and-trade , ensures California will meet its SB 32 target to reduce GHG emissions to 40 percent below 1990 levels by 2030. The WRF Draft EIR failed to mitigate the GHG generated by the energy needed to pump the sewage via the proposed Lift Station to the SBB



site as well as the energy needs to pump the treated effluent from the SBB site to the current ocean outfall.

**Questions:**

- 1) How is the H<sub>2</sub>S generated from the proposed Lift Station and associated Force Main environmental impact been mitigated?
- 2) How is this project in accordance with the state of California's GHG reduction goals?

**Subject: Alleged pollution of the Estuary by the existing plant**

**Comments:**

In an attempt to justify a large federal loan for the proposed project (ref. city's WIFIA letter of interest) the city staff stated that:

"Morro Bay water quality is impaired by pathogens, sediment and nutrients. Bacteria contamination in Morro Bay has increased to a point where many of the shellfish growing beds are no longer viable. Bacteria levels exceed standards for shellfish growing in half of the sampled locations in the shellfish beds, and have often exceeded county and state limits for body contact recreation"

The implication is that the current WWTP is at fault and a new sewer plant is needed to solve the problem. It isn't.

First, it must be noted that the WWTP outfall discharges into Estero Bay and not into the estuary.

Second, please consider the following information from the 2017 MB/CSD WWTP monitoring report:

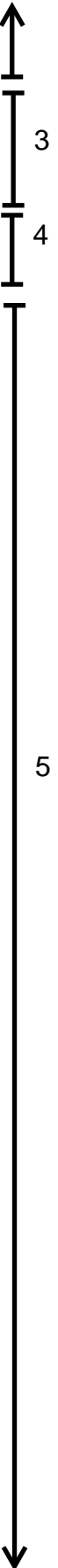
**Pathogens:**

Regarding coliforms, the report says, "WWTP personnel strive to maintain densities close to the detection limit of 2 MPN/100 ml, and during 2017, over half of the 284 measurements were at or below this detection level (see the inset in Figure 2.13b). Accordingly, the median coliform density for the year was also below the detection threshold and an order-of-magnitude below the 23-MPN/100 ml monthly permit limit (Table 2.2). However, due to the complexities of the disinfection process, elevated density is occasionally observed within individual samples. The greatest population density (500 MPN/100 ml) was measured on January 20th in conjunction with high plant flow following two intense rainstorms. Nevertheless, this isolated maximum measurement was still an order of magnitude lower than the permit limit on instantaneous coliform density (Figure 2.13b1)."

City of Morro Bay/Cayucos Sanitary District Treatment Plant Offshore Monitoring and Reporting Program 2017 Annual Report, page 2-29

**Sediments:**

"Finally, the absence of adverse discharge-related impacts to the physics, chemistry, and biology of benthic sediments verified the effectiveness of the treatment process, the high dilution of effluent within receiving waters, and the low toxicity of the discharged effluent. The additional data presented in this report are consistent with conclusions based on historical data insofar as the treatment plant's continued low emission of contaminants, low toxicity of the effluent stream, and absence of impacts to the marine environment."



"Three sediment-chemistry analyses document the absence of discharge-related benthic impacts. First, chemical concentrations measured within Estero Bay sediments during 2017, and in prior years of monitoring, were below thresholds identified as toxic to marine organisms."

"Throughout the monitoring program, there has never been an indication of discharge-related impacts to benthic biota. Instead, the data have revealed a consistently healthy indigenous infaunal community, with uniformly high diversity that does not decline with proximity to the diffuser."

City of Morro Bay/Cayucos Sanitary District Treatment Plant Offshore Monitoring and Reporting Program 2017 Annual Report, pages ES-1, 2-5; 2-6; 2-29; 2-30

#### Nutrients:

"In fulfillment of the current permit requirement, nutrient assays of MBCSD effluent were conducted on grab samples collected in January and July 2017. The results were consistent with those of prior years, and demonstrate that nutrient concentrations within the MBCSD effluent, and their mass loading to the marine environment from discharge, are small compared to: i) other central- and southern-California coastal dischargers, ii) the contribution from regional streams and rivers, and iii) the nitrogen flux from localized upwelling (Table 2.4). Although concentrations of urea within MBCSD effluent ( $\leq 0.091$  mg/L) were comparable to those of the three large central-coast WWTP's to the north ( $\leq 0.110$  mg/L), the concentrations of nitrate, phosphate, and silica within MBCSD effluent were substantially lower than those of the other dischargers. The MBCSD nitrate levels, in particular, were two orders of magnitude lower than those of the other WWTP's within the central-coast region. Nitrate and silica concentrations within MBCSD effluent were also less than the average concentrations found within central-coast rivers and streams; although, urea and phosphate concentrations were higher, as was the case for the other central-coast WWTP's."

City of Morro Bay/Cayucos Sanitary District Treatment Plant Offshore Monitoring and Reporting Program 2017 Annual Report, page 2-32

Of major interest is this quote from pages 2-4 and 2-5 of the report:

"Figure 2.2 is a photograph of a diffuser port taken during a previous outfall inspection. It shows a dense cover of marine epifaunal organisms thriving on the outer surface of a diffuser port. A large colony of club-tipped anemones (*Corynactis californica*), bright pinkish-red in color, covers the top surface of the port. The continued presence of these filter-feeding organisms attests to the benign nature of the effluent discharge, and to the outfall's value as an artificial reef. Quantitative biological surveys conducted within the region found that these anemones are only occasionally observed on high-relief rock surfaces within Estero Bay, and then only in deeper water ( $>85$  m) (Morro Group 1999). Ostensibly, their susceptibility to elevated suspended-sediment loads explains their rarity on nearshore, lower-relief rocky substrates."

The pathogens, sediments, and nutrients the City referred to obviously do not come from the WWTP (ref. photos of the outfall diffuser in the 2017 monitoring report). The city staff and consultants have taken a position that sewer collection line exfiltration rates have been ruled out. However, the WIFIA letter of interest indicates that sewage is polluting the shellfish beds in the estuary.

#### Question:

3) How are the current WWTP and associated ocean outfall responsible for the sewage pollution in the estuary?

**Subject: Lift station located at current WWTP site**

**Comments:**

From my experience as a sewer collection operator and previously a first responder to sewer collection emergencies, I strongly oppose the preferred SSB WRF project. In my professional opinion, the construction of a Lift Station and associated Force Main along with the outfall infrastructure to convey treated effluent back to the ocean outfall puts the public in greater health and safety risk than the current site of the wastewater treatment plant. The potential points of failure are significantly increased by this proposed project.

In terms of managed retreat of critical infrastructure in addressing climate change and SLR, the proposed project would make the situation worse, not better.

The city staff and consultants have stated that the proposed Lift Station poses a lower public health risk in the event of a failure, due to the fact that a Lift Station is quicker to rebuild than a WRF at the same location. Although this might be true, not all Lift Station failures would require a total rebuild. For example, a Lift Station failure could occur from auxiliary power failure or liquefaction damage from an earthquake. In the event of such a failure a Lift Station would spill raw sewage on land and create a greater public health risk to the public and first responders than the current WWTP. Also, with a properly designed power back up, the current WWTP, or one at an adjacent site, would reduce raw sewage exposure by discharging to the ocean via the outfall

The city's favored WRF location, SBB site, is located approximately 3 miles from the existing WWTP. In the event of a catastrophic failure the proposed WRF would eventually discharge effluent into the estuary, specifically the Morro Bay East Estuary State Marine Reserve (SMR).

**Questions:**

4) How is the proposed Lift Station and associated Force Main a lower public health risk than the existing WWTP?

5) Eliminating the variables of mechanical and electrical redundancies, which could be applied to any project and location, what mitigation measures are proposed with respect to protecting the Morro Bay East Estuary SMR?

**Subject: Sewer flows**

**Comments:**

According to the Environmental Impact Report for the Cayucos project, "By reducing the flows to the WWTF, the CSWP project would make the existing WWTF compliant with the Clean Water Act and the Regional Water Control Board settlement agreement, resulting in the possibility of the City staying at that location for the foreseeable future. Given these uncertainties and the preliminary nature of City plans at the time of the CSWP NOP, the CSD believes it was correct in not including the decommissioning as part of the Proposed Project."

It is estimated that the proposed WRF capacity will be reduced by approximately 25% after the CSD's new sewer plant becomes operational.

City staff have continually stated that Inflow and Infiltration (I&I) rates are much greater of a concern than exfiltration with respect to the sewer collection and conveyance system as they relate to WRF design capacity.

**Questions:**

- 5) How were I&I rates from the CSD factored in the design calculations for the WRF?
- 6) On what study or documentation is the city basing their assumption that sewer collection system exfiltration rates need not be considered in the WRF analysis?

**Subject: Brine discharges**

**Comments:**

The Draft EIR does not address the environmental impacts from the proposed brine discharge from the SSB WRF site.

It should be noted, that the city and the Cayucos Sanitary District (CSD) have a settlement agreement that prohibits the discharge of brine from the city's desalination facility into the outfall. However, this settlement agreement does not preclude consideration of proposals from other sources, and one such proposal by a local water softener company was considered several years ago, but abandoned after protests from the public.

**Questions:**

- 7) What environmental studies from the proposed SSB WRF facility outfall have been done on the near shore ocean environment with respect to the brine discharge components?
- 8) Does the city have a memorandum of understanding (MOU) or other documents between the city and the CSD that would allow the city to use the MB/CSD jointly owned outfall for brine discharge from the proposed SBB WRF facility ?

**Subject: Insurance and Risk Management**

**Comments:**

An Integrated Pollution and Prevention Control (IPCC) guide is required by insurance companies who cover wastewater treatment and collection infrastructure.

**Question:**

- 9) What risk management and actions are proposed in the event of a failure at:
  - a) the proposed Lift Station?
  - b) the SSB WRF site?

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cont.

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## Subject: Siting options

### Comments:

I recommend that the City respond appropriately to the widespread and very strong public opposition to the current project due to environmental concerns (the big lift station makes it just as vulnerable to natural hazards as the existing WWTP) and due to cost concerns. Public opposition to the current project because of its cost is very strong and is likely to delay the project for years unless a better siting option is chosen.

In 2013, when the CCC ordered the plant moved off the coast, most of us accepted the idea. A January 10, 2013 Tribune article said "Moving the treatment plant to a new location will add from \$12 million to \$20 million to its cost, which translates into an additional \$12 to \$20 a month on the average sewer bill." If the Commission had been looking at costs that would drive people out of their homes in huge numbers, would they have voted the same way or found a way to adapt? It must be noted that the Hanson's site has never been formally evaluated by the CCC.

I think the right thing to do is to bring back the project to the whole Commission, not just the staff, and ask them to consider the Hanson's site, which is appropriately 4 feet higher in elevation than the current WWTP and is owned by the city.

The city's consultants never properly evaluated this site which could be a great compromise between the unaffordable South Bay Boulevard option and remaining in the current plant – which is something a lot of people want to do.

Here are some of the benefits of the site:

#### a. Ability to use the existing headworks

The use of the Hanson's site would also makes the BMP (best management practices ) by using the existing head works of the WWTP , eliminating the need to redirect the existing sewer collection mains entering the WWTP.

(note: These large sewer mains are over 20 feet deep and in normal weather conditions below the water table.)

Since the city has spent a significant amount of taxpayers' dollars in rebuilding this headworks in the past several years, the option to demolish this piece of infrastructure is fiscally irresponsible.

#### b. Minimal impacts to cultural resources

A letter submitted by the Salinan representative to the city titled " City of Morro Bay New Water Reclamation Facility Project Update, Section 106 review ", dated March 30, 2018 , states the following,

" ...When it comes to the new proposed Collection System we would choose Option 1A, the City's existing Cooperation Yard on Atascadero Road. This area is already disturbed and would be less likely to disturb intact cultural resources."

With the Hanson's site adjacent to the Cooperation Yard and the city's Desalination Plant, this option leaves our Native Americans sacred sites less likely to be disturbed.

c. Mitigation of issues of concern to the Coastal Commission

The Draft EIR, ES.2 Project Background pg. ES-3 discusses the CCC's denial of a demolishing the existing WWTP and construction of a new treatment facility on the same site. The Draft EIR says:

" ... The basis for denial include the CCC's assessment that the new facilities would be inconsistent with the City's Local Coastal Plan (LCP) zoning provisions, failed to avoid coastal hazards, failed to include a sizable reclamation component, and that the project location was within an LCP-designated sensitive view area. "

Here are ways the concerns can be addressed:

1. Zoning and reclamation: Currently the city is in the process of updating the city's LCP, so the Hanson's site, formally a concrete plant, could be zoned appropriately for a Water Reclamation Facility (WRF) that has a significant reclamation component.
2. Coastal hazards and protection: Please consider applying the strategies developed in other communities. The city of Morro Bay could benefit greatly by considering what New York City ( NYC) learned and implemented after the October 2012 Hurricane Sandy incident. Although the New York City Department of Environmental Protection (DEP) was already in the process of studying the potential impacts of storm surge and Sea Level Rise (SLR) of low-lying wastewater treatment plants and pumping stations, the Hurricane Sandy event initiated the DEP to study and implement the NYC Wastewater Resiliency Plan. It must be noted that Hurricane Sandy provided an unprecedented example of flood risks at wastewater facilities.

By using the NYC Wastewater Resiliency Plan as a model and integrating California's SLR guidance document with California's Greenhouse Gas Reduction goals, Morro Bay could become an example for responsible Climate Change and SLR implementation and adaptation. A successful climate change and SLR program must not only address the obvious issues of protection to public health and safety and the environment, but should also consider the socio-economic impacts to a community in the name of environmental justice.

3. Sensitive view area: Regarding the Hanson's site being in the LCP - designated view area; footprint and height parameters could be stated in the request for proposal documents that would satisfy the CCC' s criteria. Also, since it has come to the attention of the local citizens via correspondence by an elected official that the city is considering to allow a hotel to be built at the existing WWTP, a WRF at the Hanson's site could be constructed that would not exceed the height of a hotel.

**Subject: Proposal**

Please consider the following proposal:

**WRAP**

**- Wastewater Resiliency Action Plan -**

As California policies move from mitigation to adaptation with respect to climate change and SLR, it has become clear that a comprehensive approach with interagency cooperation and collaboration is imperative for success. A project such as the Morro Bay WRF must consider not only water quality and quantity issues but must also integrate air quality with respect to GHG emissions from power generation and associated sewer gases. The current Morro Bay WRF project ignores California's GHG reduction goals and in fact exacerbates the problem by pumping sewage miles inland, just to pump effluent back to the ocean.

This is why i believe that a WRAP near our current WWTP site is the best option for our community. In other words, pick Alternative #1 No Project and WRAP it up instead. The issues and concerns of Alternative #1 in the Draft EIR could be mitigated with Best Management Practices (BMP) of a WRAP program.

The NYC Department of Environmental Protection (DEP) Commissioner explains the benefits of a wastewater resiliency plan this way:

"...In determining the benefits of resiliency measures and the level of acceptable cost, DEP considered not only the value of wastewater assets, but also the population and critical facilities in the service areas and potential impacts on beaches."

Furthermore, The Executive Summary states that;

"... Increased resiliency not only reduces damage to DEP's assets, but also enables rapid recovery of full service to the community following a flood event, reduces risk of sewer backup into homes, and reduces likelihood of the release of sewage into the environment. "

What a WRAP might look like for Morro Bay:

A WRAP would require the city to adopt new wastewater facility standards that incorporate more robust measures than were formally required. The NYC DEP portfolio of possible adaptation strategies included six primary options;

... Elevating equipment above the critical flood elevation

... Making pumps submersible and encasing electrical equipment in watertight casings.

... constructing a static barrier around a location

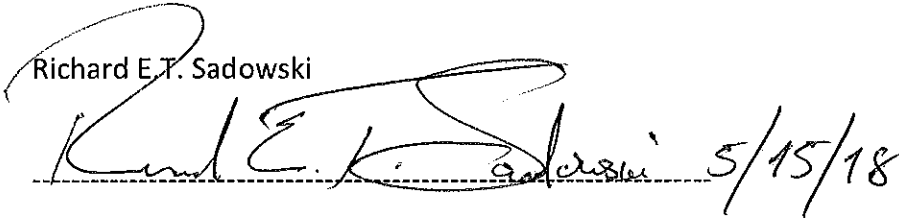
... Sealing structures with water tight windows and doors

... Sandbagging temporarily and providing back up power to pumping stations and to the treatment plants.

Morro Bay has some of these adaptation strategies already in place; for example, back up power at sewer Lift Stations and WWTP. These adaptation strategies could be incorporated into the design and building of a facility at the Hanson's site. Funding for these measures should be well under the already approved rate increases and SRF loan amount.

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cont.

Richard E.T. Sadowski

A handwritten signature in black ink, appearing to read 'Richard E.T. Sadowski', is written over a horizontal dashed line. To the right of the signature, the date '5/15/18' is handwritten.

Morro Bay Planning Commissioner

Mechanical Engineer

Wastewater Collection System Operator

## Comment Letter – Richard Sadowski

### Response to Sadowski-1

The City notes Mr. Sadowski's acknowledgment the proposed project is implementing managed retreat of the wastewater treatment facility from the coast and associated coastal hazards such as sea level rise. The City notes the comment suggests implementation of a holistic pilot project. Without further detail about the suggested pilot project, the City cannot further respond.

The Draft EIR evaluates the direct, indirect, and cumulative impacts of the proposed project to GHG emissions due to energy use in Chapter 3.7 Greenhouse Gases Emissions and Energy and Chapter 4 Cumulative Impacts.

The Draft EIR considers hydrogen sulfide gas (sewer gas) emissions from collection and treatment infrastructure in Chapter 3.3 Air Quality. The design and operations will incorporate odor control facilities to capture and treat odorous air produced during sewer collection and treatment. Please refer to the Draft EIR pages 3.3-24 to 3.3-25.

The City notes the comment regarding sewer collection exfiltration rate effects on treatment capacity calculations. The City considers sewer collection exfiltration rates to be less than significant

The Draft EIR evaluates the proposed project's effects to air quality (see Chapter 3.3), water quality (see Chapter 3.9) and land use (see Chapter 3.10). Socio-economic impacts are not required to be evaluated under CEQA. Per CEQA Guidelines Section 15064(e), "economic and social changes resulting from a project shall not be treated as significant effects."

### Response to Sadowski-2

The quantity of hydrogen sulfide gas (sewer gas) generated at the lift station is not expected to be significantly different than generated under existing conditions. Residence time in the upstream collection system is a determining factor in H<sub>2</sub>S generation and will not increase as a result of the proposed project. The new lift station, similar to the existing WWTP influent lift station, will be operated to minimize retention times in the wetwell and minimize additional odor production. In addition, the lift station will be enclosed and odor control will be installed.

The Draft EIR evaluates the direct, indirect, and cumulative impacts of the proposed project to GHG emissions due to energy use in Chapter 3.7 Greenhouse Gases Emissions and Energy and Chapter 4 Cumulative Impacts. The analysis takes into consideration all operational aspects of the project including the energy requirements to pump raw wastewater from the lift station to the proposed WRF and recycled water/brine from the proposed WRF to the injection wells and ocean outfall. The Draft EIR identifies the energy requirements of the proposed project on page 2-32 in the project description. Those energy requirements are accounted for in the analysis of GHG emissions and energy use.

### Response to Sadowski-3

Please refer to Response to Sadowski-1 and Response to Sadowski-2.

### Response to Sadowski-4

A discussion of all regulations pertaining to GHG emissions, including the state's GHG reduction goals, is included in Chapter 3.7 Greenhouse Gas Emissions and Energy, particularly page 3.7-13. An assessment of the proposed project's consistency with the state's GHG reduction goals is provided in the Draft EIR under Impact 3.7-2 starting on page 3.7-26. As part of this assessment, Table 3.7-7 provides a consistency analysis for all GHG reduction strategies.

### Response to Sadowski-5

The commenter is referred to Section 1.2 of the Draft EIR, which discusses background of the project, including the RWQCB's requirements to upgrade the treatment facility to full-secondary treatment, the California Coastal Commission's denial of the CDP for upgrading the WWTP at the existing location, and the need to move components of the treatment facility inland and away from coastal hazards. The Draft EIR does not suggest the proposed project is required to address water quality impacts in Morro Bay or Estero Bay. The Draft EIR does not state the existing WWTP and associated ocean outfall are responsible for sewage pollution in the Morro Bay estuary. The existing WWTP and ocean outfall are part of the existing baseline conditions against which potential impacts of the proposed project are evaluated (see Draft EIR page 1-9 regarding baseline).

### Response to Sadowski-6

The commenter's concern regarding potential spills into the estuary is addressed in **Master Response 3- Accidental Spills and Impacts to Morro Bay Estuary**. Master Response 3 details the measures in place to monitor, prevent, or contain any accidental spill that may occur as a result of the proposed project.

### Response to Sadowski-7

The Draft EIR evaluates the environmental impacts associated with constructing and operation the proposed project, including the lift station and raw wastewater pipeline (i.e., force main), relative to existing baseline conditions (see Draft EIR page 1-9) to determine if impacts are significant. The proposed project would move the open treatment facilities from the existing WWTP, which is within a 100-year flood hazard zone, to the preferred WRF site, which is not in a flood hazard zone. The proposed lift station would remain within the 100-year flood hazard zone near the existing WWTP; however, due to the proposed design to floodproof the lift station such that it would be watertight with impermeable walls, the potential impacts associated with operating wastewater treatment facilities within a flood hazard zone would be reduced. That beneficial (Class IV) impact is described in the Draft EIR under Impact 3.9-6 starting on page 3.9-41.

## Response to Sadowski-8

Please refer to Response to Sadowski-6.

## Response to Sadowski-9

The commenter is referred to Section 1.2 of the Draft EIR which discusses background of the project, including the RWQCB's requirements to upgrade the treatment facility to full-secondary treatment, the California Coastal Commission's denial of the CDP for upgrading the WWTP at the existing location, and the need to move components of the project inland and away from coastal hazards. Please also refer to **Master Response 1 – Alternatives** for additional information. The existing WWTP is jointly owned and operated by the CSD and City; as such, the CSD will participate in the decommissioning of the WWTP, which will occur once the new wastewater treatment facilities being proposed by the CSD and City are operational and online.

For a discussion of the design criteria for the proposed project, including flow rates, please see the draft Facility Master Plan. The City considers sewer collection exfiltration rates to be less than significant.

## Response to Sadowski-10

As stated in the Draft EIR on page 3.9-32, "relative to the existing ocean discharge from the existing WWTP, the proposed project would decrease the volume of effluent currently discharged to Estero Bay under expected normal operating conditions when recycled water is used for groundwater replenishment and brine is discharged through the outfall." The existing WWTP effluent TDS concentrations are approximately 900-1,000 mg/L based on historical analyses (MKN, 2018). With full reverse osmosis (RO), assuming an 80% recovery rate, the RO brine stream discharged to the outfall from the proposed WRF would be estimated at approximately 0.24 MGD and 3,700 – 4,100 mg/L TDS. While this is an increase in TDS from existing conditions, the TDS concentrations anticipated for the RO brine are much lower than seawater (typically around 35,000 mg/L) (MKN, 2018).<sup>5</sup> As a result, the discharge would remain a buoyant plume, and would not substantially change the plume dispersion dynamics from the existing outfall diffuser. There would be no risk of a negatively buoyant plume that could result in elevated salinity on the ocean floor.

In addition, the source sewage water that would flow into the proposed WRF is the same sewage currently being treated at the WWTP. The proposed WRF would provide a minimum of tertiary treatment to all influent to the WRF, which is greater than the secondary treatment currently provided to the majority of influent to the WWTP. As such the effluent discharged from the WRF would have improved water quality relative to the effluent currently discharged from the existing WWTP. As stated on page 3.9-32 of the Draft EIR, "under conditions when recycled water is discharged through the outfall, water quality would be improved due to the addition of advanced treatment at the proposed WRF. As currently required for any water that is discharged to Estero

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<sup>5</sup> MKN, April 2018, Draft Technical Memorandum, MBCSD Wastewater Treatment Plant Outfall Management Plan.

Bay, the effluent would be required to adhere to the requirements of the Ocean Plan which would be included in the WRF's NPDES permit."

As stated on page 7-4 of the Draft EIR, the water quality of proposed discharges due to the proposed project would be improved to tertiary-treated recycled water. The contribution of the RO brine stream would increase TDS, but not enough to exceed ambient ocean water salinity. As noted on page 3.9-14 of the Draft EIR, the California Ocean Plan establishes water quality objectives for ocean discharges to ensure the protection of the marine environment. The NPDES permit for the new WRF would require the City to comply with water quality objectives for receiving waters based on the California Ocean Plan; the water quality objectives would protect beneficial uses including marine habitat. Monitoring requirements in the Ocean Plan will require the City to perform monitoring to demonstrate compliance with the receiving water limitation, and to evaluate the potential effects of the discharge within the water column, bottom sediments, and the benthic communities. The NPDES permit will require data collection and monitoring to compare baseline biological conditions at the discharge location as well as at a reference location outside the influence of the discharge prior to commencement of discharge and after discharge commences. Monitoring would be required until the RWQCB determines a monitoring program is adequate to ensure compliance with the receiving water limitation. The Monitoring and Reporting Plan would require review and approval by the RWQCB as part of the NPDES permit process. The NPDES permit would impose conditions to ensure that there would be no adverse impacts to habitat in the vicinity of the ocean outfall diffuser port and the mixing zone as a result of the proposed project.

Currently, the existing ocean outfall that is used to discharge effluent from the existing MBCSD WWTP is not used for discharge of wastewater from the City's desalination plant. This existing condition will not be altered by the proposed project. Similar to the CSD's Sustainable Water Project, which proposes to use the existing MBCSD WWTP outfall to discharge brine and tertiary-treated effluent from its new plant, the City's proposed WRF will also discharge brine and tertiary-treated and advanced treated effluent through the existing WWTP ocean outfall.<sup>6</sup> The 1993 Settlement Agreement that pertains to the desalination plant outfall is not applicable to this project. The City owns 65% of the MBCSD WWTP outfall capacity, and the CSD owns 35% of the MBCSD WWTP outfall capacity. The City's continued use of the outfall to that capacity for brine and tertiary-treated effluent would continue to be allowed with no changes to that agreement. However, CSD and the City will need to agree to the process and funding for the decommissioning and demolition of the WWTP and reuse of that site and will memorialize or modify each entity's continued authority to use the outfall.

<sup>6</sup> Cayucos Sustainable Water Project, Draft Environmental Impact Report, prepared for Cayucos Sanitary District by Firma Consultants, Inc., January 2017.



## Response to Sadowski-11

Regarding risk management and actions proposed in the event of failure at the proposed lift station and WRF site, please refer to **Master Response 3- Accidental Spills and Impacts to Morro Bay Estuary**. Master Response 3 details the measures in place to monitor, prevent, or contain any accidental spill that may occur as a result of the proposed project.

## Response to Sadowski-12

The Hanson Concrete Plant site was evaluated in a 2017 study requested by the City Council and referenced on page 6-1 of the Draft EIR. The study concluded any site west of Highway 1 would be opposed by the CCC for the same reasons as the existing site. The City Council voted on September 27, 2017, to proceed with planning the proposed project at the preferred location based on the conclusions of that 2017 study. As noted in Chapter 6 of the Draft EIR and as summarized in **Master Response 1 – Alternatives**, the City has conducted years of siting analysis to find the best location for a new treatment plant.

The comment is correct. The LCP could be amended to accommodate the treatment plant site to address one of the CCC's concerns regarding coastal access and visual impacts. The commenter is also correct, the elevation afforded by the Hanson Site would assist in reducing the impacts to the facility from sea level rise compared to the existing site. However, the City Council voted on September 27, 2017, to pursue planning the proposed project at the preferred location based on the CCC's direction stating a move away from the coastal zone was preferred. The Draft EIR evaluates potential impacts of the proposed project and includes an alternatives analysis that identifies the use of the existing site as a foreseeable outcome of the No Project Alternative. The Draft EIR concludes on page 6-12 that this outcome would be infeasible due to institutional constraints (i.e., inability to obtain a CDP) and would not meet any of the proposed project objectives.

Regarding cultural resources at the Hanson site, the Option 1A quoted in the comment refers to the lift station location near the existing Corporation Yard included in the Draft EIR, rather than an optional site for the proposed WRF. There are no known Native American archaeological resources within the 12-acre area of focus on the Hanson RV/Storage site; however, there are resources nearby and the area was identified as having a higher sensitivity for buried archaeological resources by Far Western, the City's cultural resources consultant.

The suggestion the City prepare a wastewater resiliency plan is noted for the record. For the proposed project, the City already has a draft Facility Master Plan and a Master Water Reclamation Plan. The City has also prepared a Draft Sea Level Rise Adaptation Strategy Report (Moffatt & Nichol, 2017) and Draft Community Vulnerability and Resilience Assessment (Michael Baker, 2016), which notes wastewater infrastructure in Morro Bay is threatened by climate change, both drought and flooding/sea level rise.

The suggestion a treatment facility at the Hanson site could be designed to be consistent with CCC criteria for sensitive view areas is noted for the record.

## Response to Sadowski-13

The City thanks Mr. Sadowski for the thoughtful comment developing a Wastewater Resiliency Action Plan, which is noted for the record. The comment suggests the No Project Alternative should be selected. Please refer to **Master Response 1 – Alternatives**, which addresses the No Project Alternative, as well as the Hanson site as an alternative site.

The Draft EIR evaluates the proposed project's GHG emissions in Chapter 3.7. The Draft EIR concludes the project's estimated GHG emissions would be consistent with State objectives to reduce GHG emissions, and would not result in significant contributions to the State's cumulative GHG emissions. The assessment of the effectiveness of a Wastewater Resiliency Plan applied to the existing location is not relevant to the Draft EIR's evaluation of the proposed project. The application of a Wastewater Resiliency Plan could assist in reducing impacts from sea level rise if the proposed project was at or near the existing location. However, the preferred project location would be well protected from sea level rise.

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MAY 16 2018

City of Morro Bay  
Public Works DepartmentGib  
10:45 A

Rob Livick, Public Works Director  
City of Morro Bay  
955 Shasta Ave.  
Morro Bay, CA  
May 16, 2018

COMMENTS ON DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR)  
MORRO BAY WATER RECLAMATION FACILITY (WRF)  
SCH #2016081027

The proposed project design is composed of elaborately interconnected parts that are sited in widespread locations which create unnecessary cost, economic hardships on rate payers and businesses, difficult and costlier maintenance, greater safety and environmental risks, onerous years of construction inconveniences to residents, businesses and visitors to name a few of the adverse impacts.

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### AREAS OF CONTROVERSY

The DEIR fails to address the degree of prevailing outrage the project as proposed has met with in the community. The exorbitant cost of \$150,000,000 and up borne by just 5000 rate payers is a primary concern, however the design siting with it's many separated facilities is integral to the cost and construction chaos that the community opposes.

**Citizens for Affordable Living (CAL)** a State licensed, non-profit, resident all volunteer group was established to raise public awareness of the proposed project and to bring about an affordable Wastewater Reclamation Facility.

CAL has hundreds of supporters, a www. site, a Facebook page, volunteers in well received door-to-door contact throughout the community, information tables in public venues, mailers and a well attended public informational forum conducted by CAL.

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Residents are frustrated by a lack of transparency by the Council and administration including:

- \*Council's unilateral choice of "preferred site".
- \*Monies already spent lack accountability.
- \*Omission and/or vagueness of many costs.
- \*Council's lack of response to concerns of residents.
- \*Council limited WRF Citizens Advisory Committee members opposing viewpoints.
- \*Council actions to discredit opposing viewpoints including city funded flyers and forums.
- \*Irregularities in sequence of the CEQA, Request for Proposals and permitting processes has created an intimidating threat of penalties and loss of funding

if the proposed project is not approved as soon as possible.

## PROJECT DESCRIPTION

The proposed WRF project - that normally would be centralized in one area for efficiency and economy - is reliant on **6** essential and separated components requiring **redundancy of machinery and treatment processes**, located **as far apart as 3 miles**:

1. The Wastewater Treatment Plant (WWTP)
2. Lift Stations
3. Over 9 miles of pipeline
4. Injection / monitoring wells
5. City wells.
6. A Brackish Water Reverse Osmosis water treatment plant (WTP)

The project DEIR is highly complex, confusing and vague and **lacks many areas of specificity** including:

1. Alternative sites for Lift Station
2. Alternative pipeline routes for waste effluent to and return brine from WRF.
3. Alternative pipeline routes for return of advanced treatment water to injection fields.
4. Alternative injection fields.
5. A Membrane Bioreactor (MBR) treatment technology is indicated, however "It should be noted that a functional **process equivalent** could be provided later in the design-build stage".
6. The actual WRF site is indicated to cover 10 to 15 acres, a large disparity - how many acres will it be?
7. It is questionable (per DEIR "likely") whether the shallow aquifer will accept 600,000 gallons per day of advanced treated water for groundwater replenishment.
8. It is questionable (per DEIR "likely") if the mandated **minimum 2 months ground retention** of the injected water will be met before it is pumped from City wells.

These different possibilities each will have significant effects on the lives and/or economy of residents and businesses.

The EIR predicates how a contract bid cost is figured, however the Request for Proposals was issued previous to the DEIR and without a certified Final EIR.

How can a design/build bidder risk estimating an accurate cost **without identifying the specific project**?

Will a contract clause be necessary to allow unknown or unlimited additional charges for modification of the project during the construction process?

Without a specific design plan, how can a monetary **limit** be determined for contingencies? Is it simply their best guess?

## PROJECT LOCATION

Because the "preferred" site lies in the county outside MB city limits, the county requires the city to annex the land to the city which enables the City to issue the permit for the project (the county only needs to issue a land use permit).

City initiative law requires a vote of the people to annex land, how will the City process annexation of the land?

Despite the fact the preferred site lies **adjacent to 150 acres of vacant land within the city limits**, why was land lying in County jurisdiction chosen to add more unnecessary expense and transaction to the project?

Will the contract with the property seller contain any special conditions to benefit the seller such as agreement for the City to supply water and sewer utilities to the seller's adjacent 396 (most lies in the county) acres of undeveloped land? Or any other benefit (exclusive of price)?

The existing WWTP occupies 5.7 acres, why is it necessary to annex (buy) 27.6 acres for the new plant?

Could it be to provide a **buffer for the potential of housing development** on the adjoining undeveloped land?

Why will the extension of Southbay Blvd. to the facility be a 60 foot right of way when the roads within the facility will be 16 to 22 feet wide?

To allow for future access to the undeveloped property?

The senior retirement/assisted living/hospital facilities houses **190 elderly people** living within 360 to 500 feet of the proposed project.

Per design consultants, the Bayside/Casa De Flores management was supportive of the project, however were residents queried by the consultant?

What considerations have been given to these nearby residents to mitigate:

1. **2 1/2 years of construction** disruption five days a week 7am to 5pm?
2. **6,574** estimated heavy truck trips?
3. Inherent noise of trucks and heavy equipment?
4. Air pollution (many residents on oxygen) from internal combustion engines and asphalt?
5. Parking for **210 employees** on Teresa Drive (during pipeline installation)?
6. It is noted that a large outcropping of rock lies in the southern area of the proposed WRF site, will removal require blasting?

The DEIR acknowledges possible soil erosion and sedimentation of Morro Creek, Estero Bay and **Chorro Creek**. The drainage channel adjacent the proposed WRF site drains into Chorro Creek which immediately drains into the **Morro Bay Estuary**. Why was possible sedimentation of the Estuary not listed? Has there been discussion with the stewards of the National Estuary Program about this possibility?

If natural gas generators will be used, an additional pipe will be laid to the WRF, if so would it use the same trench as the force main and brine pipeline?

## LIFT STATION IMPACTS

Effluent from the Lift Station must be pumped 3 miles uphill to the WRF, then Brine and the advanced RO and UV treated water **must also be pumped back** to the outfall and injection well sites respectively.

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Placement of the Lift Station at either proposed site would be subject to the same conditions as the current WWTP of sea level rise, tsunamis and 100 year flood plain, but with the added condition of being **sunk into the ground 16 feet**.

The proposed West Lift Station site along the north side of Atascadero Road and across from the current WWTP is on land (contrary to the DEIR) that has no other structures and is open visually from the roadway to the ocean beach. It is historically a popular public access to the beach and parking for horse trailers.

Placement of the lift station there would be **nearer** to sea level rise, preclude parking, impede access to the beach and the 16X30X10 fenced structure would have an adverse visual impact.

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The same conditions of sea level rise, flooding and visual impact would apply to the East Lift Station. Contrary to the DEIR, after demolition of the WWTP, the lift station would occupy the "vacant" site.

Lift Station construction is estimated to take **10 months and 127 truck trips**, what consideration is given to that impact to nearby High School traffic? Why is it not considered an adverse impact?

14

Nearby Recreation Vehicle Campgrounds economic impact?

## GROWTH INDUCEMENT

**Is the proposed project being overbuilt?**

In the past 40 years, MB population has increased by about 1,000; the estimated growth is to around 2,300 more people by 2040.

The current WWTP treats approximately **0.8** million gallons per day, when Cayucos (about 2800 population) effluent goes off line, the average daily effluent treatment will drop to approximately **0.6** million gallons per day.

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Why is the proposed WRF able to treat a **maximum peak flow of 2.75 million gallons** per day?

Why is the proposed Lift Station capable of pumping **7.05 million gallons** per day?

Why is the proposed WRF buildings total of **65,260** square feet necessary?

If the proposed project goes forward, another rate increase will be necessary, creating the possibility of many vacant homes by an exodus of residents unable to afford living here. How would a possible large drop in effluent volume for an unknown period of time affect the WRF process?

### EXISTING DAMAGED PIPELINE NOT ADDRESSED

Video footage of the sewer collection system shows many areas of **damaged, broken or offset pipe** allowing **leakage out** (Exfiltration) of sewage and **leakage in** (Infiltration) from storm water.

Yet per the DEIR the collection system does not need to be modified and there is no acknowledgment of the need to replace leaking mains which **skew all the sewage flow capacity figures upon which the proposed design is based.**

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Why is it necessary to have a larger 18 inch pipe (the sewage force main is 16 inch) for the brine that must be **pumped back** to the ocean outfall if the collection system does not leak storm water in through damaged pipes?

Why must a **500,000 gallon tank** be built for storage of water in "rain events" and for advance treated water the injection wells "**will not accept**"?  
Treating effluent to "advanced treated water for ground injection" is very expensive, why would a system be designed to put such expensive water into the ocean, even for a (unspecified) short term?

### PIPELINE CONSTRUCTION IMPACTS

Proposed pipeline routing from the Lift Station to the 3 mile distant treatment plant will excavate city streets either through the **central commercial areas** of the **Embarcadero** or **Quintana Road**.

One proposed route on **Pacific Street** through residential area requires the purchase of a private residence property on Butte St. for right of way.

Force Main **Pipeline construction is estimated to last 1 year, involving 2,571 estimated truck trips**, what consideration is given to the **substantial economic impact** of severely limited access to businesses on Quintana, especially between Main Street and the Roundabout?

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The Force Main must be pumped at high pressure 3 miles uphill to the WRF.  
If the pipe should fail for any reason, it would severely compromise groundwater, what procedures will be in place to prevent such a catastrophe?  
Continuous monitoring of 3 miles of force main as stated in the DEIR adds cost that would be unnecessary if the WRF was located near the existing WWTP.

### INJECTION WELL IMPACTS

Piping from the WRF to the east Injection Well site will follow an excavation route parallel to Hwy 1 on undeveloped land, then on Bolton Drive, Radcliffe, Main Street and

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Errol Street to a City easement near the confluence of Morro and Little Morro Creeks adjacent and visible to the densely populated Silver City Mobile Home Park.

The area of the site is currently a verdant natural riverine landscape and a small private park/picnic area, how will the 3 to 5 injection wells and monitoring wells be screened from the Mobile Home Park's **165 residents** and their picnic/BBQ area?

The proposed Injection wells construction will require **24 hour drilling and lighting** for an estimated **1 month**, total construction time 2 months, what consideration is given to mitigate the noise and lighting impact on nearby residents?

Access to this injection site for construction and monitoring is assumed to be from Little Morro Creek Road, would access ever be necessary through the Mobile Home Park?

The west proposed Injection Well site piping would follow the same route as the Force Main and brine pipeline to a site near Lila Kaiser Park close to City wells, which would likely make **this site infeasible** because of the 2-4 month groundwater retention requirement.

**Long Term "pilot injection and monitoring wells are needed for baseline groundwater monitoring to substantiate the projects modeling estimates"** of how much advanced treated water from the WRF can be accepted into the ground before the full-scale project can be permitted.

**Does this process require a separate contract and consultant?**

Is it included in the Request for Proposal?

If long term pilot monitoring is needed, **how long before the full-scale expensive advanced treated water** can be injected into the ground for use by the community instead of uselessly emptied into the ocean?

## REVERSE OSMOSIS TREATMENT PLANT

The water that is pumped from City wells **must then be treated at the "Brackish Water Reverse Osmosis" (BWRO) plant**, adding yet another **cost intensive** process because the advanced treated water is being injected into an existing contaminated aquifer.

For years the De-sal plant has been operating sporadically on an emergency permit issued by the Water Quality Control Board.

The existing aging De-sal plant purportedly is **not capable of processing 0.8 million gallons daily**, will it be necessary to replace or rebuild the existing De-sal plant?

At what cost?

Is it included in the Request for Proposal?

Are there any reasons that would inhibit a permit to be issued for permanent operation of the BWRO by the board? Such as a requirement to relocate the plant as the Coastal Commission staff has indicated?

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cont.

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## ALTERNATIVE ANALYSIS

Of the 17 alternative sites listed, the vacant former cement plant **Hanson site adjacent to the existing WWTP** was never seriously considered and is not mentioned in the DEIR.

It meets the goals of a water reclamation system far better than the "preferred site" and is economically superior to all other alternatives except up-grading the existing WWTP. It would fulfill the City's **primary** objective of "**minimizing rate payer and City expense**".

Some of the advantages of this site include:

**Major cost reduction in millions.**

Location, Location, Location!

Next to the current WWTP.

Close to all sewer system infrastructure.

City owned land.

Already compromised land - "urban built-up land".

Minimal cultural resources likely.

**Elimination** of costly high pressure pump Lift station.

**Elimination** of over 9 miles of expensive pipe and casing.

**Elimination** of 5 years of **major** community disruption."

Uninterrupted commerce in commercial areas.

**Higher ground** than proposed Lift Stations.

An off-the-shelf time-tested and proven design could be used avoiding overpaid consultants.

Such a design could provide potable water that would eliminate costly treatment by the separate Reverse Osmosis (BWRO) plant.

If a sunken Lift Station closer to the beach than the Hanson site can safely be built to be water-proof, a WRF also could be safely built to withstand hypothetical flooding.

It is an arguable risk that sea level rise, a tsunami or 100 year flood would outweigh the **massive financial and physical benefits** of the WRF during it's 50-60 year life at this site.

It is doubtful the **Coastal Commissioners** would ignore the onerous financial, social and psychological plight of the people of Morro Bay forced to pay for a \$150 (and up) million dollar sewer plant when an affordable and better alternative exists.

## WATER RESOURCE USE

Water for dust control at **four** separate construction sites will require an estimated:

1. The WRF = 15 acre feet
2. The Lift Station = 4.2 acre feet
3. Pipeline construction = 4.2 acre feet
4. Injection well site = 2.6 acre feet

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### Where will 26 acre feet of water come from?

Average annual Morro Bay water consumption is less than 13 acre feet.

### LONG TERM IMPACTS

Over the 3 - 4 year construction period, it is estimated that there will be in excess of **10,500 truck trips** laden with building materials, cement, asphalt, concrete blocks, heavy grading equipment, demolition material, soil removal etc. traveling city streets.

What provision has been made to repair or pave the **inevitable deterioration** to the city's streets once the construction phase is complete?

Because of the many separated construction sites, many more streets (in addition to those excavated for pipeline installation) will be subject to use and deterioration than if the WRF was to be built at a single site.

The prospect of those streets being repaired seems unlikely given the annual street maintenance budget is notoriously inadequate.

The project goal as proposed is a **complex system of many separated sites** that are each essential to the function of the system as designed in order to provide the community with potable water through groundwater replenishment reuse - **creating a costly maintenance and monitoring nightmare that will worsen as the infrastructure ages.**

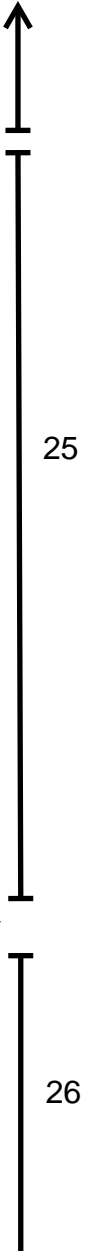
### CONCLUSION:

The **HANSON SITE ALTERNATIVE** is environmentally superior and the only realistic option for this city of approximately 10,000 population!

The annual City budget is purported to fall in the red with revenue of \$1.00 for every expenditure of \$1.10.

**The City cannot afford the proposed WRF any more than residents can.**

Nancy Bast  
450 Fairview Ave.  
Morro Bay, CA



## Comment Letter – Nancy Bast

### Response to Bast-1

The City thanks Ms. Bast for submitting comments. The commenter expresses opinion about the proposed project analyzed in the Draft EIR. Several of the comments are expanded on and responded to below. The commenter's dissent is noted for the record.

### Response to Bast-2

The commenter expresses concern about the cost of implementing the proposed project and also presents information about the Citizens for Affordable Living (CAL) volunteer group to raise public awareness about the project. The comment is noted for the record.

### Response to Bast-3

The commenter notes the various components of the proposed project are separated from each other. The commenter also states the “project DEIR is complex, confusing and vague and lacks specificity” about certain components. The Project Description included in Chapter 2 of the Draft EIR provides project details that are available in order to conduct meaningful environmental review. CEQA Guidelines Section 15124 includes the requirements for an EIR project description, which should “not supply extensive detail beyond that needed for evaluation and review of the environmental impacts.” In particular, the project description should include the proposed location and boundaries of the project being analyzed, shown on a map; a statement of the project objectives; a general description of the project's technical, economic, and environmental characteristics, considering any principal engineering proposals, and a statement briefly describing the intended use of the EIR. The project description does not need to include alternatives for all project components. Regarding the specific items in the comment:

1. A discussion of the alternative sites considered for the proposed lift station can be found in the Draft EIR in Chapter 6 Alternatives Analysis.
2. Alternative pipeline alignments for the raw wastewater/brine pipelines were considered in development of the Facility Master Plan and an alternative pipeline alignment is considered in the Draft EIR in Chapter 6 Alternatives Analysis. Please also refer to **Master Response 1 – Alternatives**.
3. The project description in Chapter 2 of the Draft EIR includes two alternative pipeline routes for the recycled water pipelines.
4. The project description in Chapter 2 of the Draft EIR includes two alternative wellfield areas for the proposed injection wells.
5. The quoted text is found on page 2-9 of the Draft EIR, and the comment is noted for the record.
6. The final footprint of the proposed WRF will be determined during the design/build process but is estimated to be up to 15 acres for purposes of assessing environmental impacts in the Draft EIR.

7. As stated in the Draft EIR on page 3.9-24, groundwater modeling was conducted to evaluate the response of the aquifer to the injection and extraction of treated recycled water (GSI, 2017). The modeling report is included as Appendix G to the Draft EIR. Prior to the modeling, aquifer testing was conducted on the existing city wells to better quantify the parameters of the aquifer to be used for injection, including the horizontal and vertical hydraulic conductivity. That information was reported in the groundwater modeling report and used to design the model. The groundwater modeling was used to evaluate the feasibility of injecting 825 AFY of treated recycled water to the aquifer (Draft EIR, page 3.9-24). With respect to the comment, 825 AFY is equivalent to approximately 736,000 gallons per day.
8. As stated in the Draft EIR on page 3.9-24, a screening level groundwater model was developed for the proposed project to determine the feasibility of the proposed injection and extraction of advanced treated recycled water (GSI, 2017) (see Appendix G to the Draft EIR). The modeling effort evaluated the feasibility of injecting 825 acre-feet per year (AFY), determined the maximum annual production (extraction) capacity of the existing wells without causing seawater intrusion, and the ability to satisfy the CCR Title 22 minimum response retention time requirements for the injected recycled water. The modeling results suggest that it may be possible to meet the minimum required retention time (Draft EIR page 3.9-26). In conjunction with the State's Division of Drinking Water, the City will conduct a pilot injection program to confirm the modeling results (Draft EIR page 3.9-27).

## Response to Bast-4

The comments raised related to the project cost and design/build process are unrelated to the CEQA analysis required of an EIR. CEQA Guidelines Section 15088 requires the City, as the Lead Agency, to evaluate comments on environmental issues received from parties that have reviewed the Draft EIR and to prepare a written response. The comment is noted for the record.

## Response to Bast-5

Regarding permits for the proposed WRF, which is located in San Luis Obispo County, a coastal development permit would either be issued by the County, or by the California Coastal Commission if the City chooses to consolidate the permits for the entire project.

Regarding annexation, the annexation of the proposed WRF site would follow the procedures set forth by the San Luis Obispo Local Area Formation Commission (LAFCO). Annexation does not require a vote of the Morro Bay electors because it is to serve a public project. That annexation does require LAFCO's determination the City can provide public services to the preferred site, and LAFCO policies are followed with respect to environmental compliance. In response to comments by LAFCO, additional information about the annexation process has been added to the Draft EIR. Please refer to **Master Response 2 – WRF Site and Annexation** and Response to LAFCO-3.

## Response to Bast-6

The boundaries of land for the preferred WRF site were based on a negotiated Memorandum of Understanding (MOU) with the property owner. The MOU is available for public review. The preferred site is intended to provide logical boundaries for annexation to the City, and allow some

flexibility within its boundaries to accommodate proposed WRF designs that could minimize impacts to various issues such as visual resources, biological resources, and geologic resources, among others. It also allows for a potential conservation easement to address agricultural and open space issues.

Although the comments did not pertain to environmental impacts, the MOU does not provide special benefits to the current owner of the preferred site. It does provide the City would assist with having the entire property added to the City's Sphere of Influence, but the current land uses permitted on that property would not change and are consistent with the City's General Plan and zoning.

### **Response to Bast-7**

As stated on page 2-1 of the Draft EIR, the proposed WRF would be constructed on a 10- to 15-acre plot. All facilities are shown on Figure 2-2. The proposed WRF would be developed within the 27.6-acre area, with the undeveloped acreage to be available for an agricultural or open space easement, as stated on page 3.2-7 of the Draft EIR. Please refer to **Master Response 2 – WRF Site and Annexation**. There is no basis for the speculative question raised in the comment. Also, see **Response to Bast-6**, above.

### **Response to Bast-8**

The Draft EIR on page 2-12 indicates the right-of-way access easement along South Bay Boulevard to the preferred WRF site is still being developed by the City. As explained on page 3.14-18, proposed WRF does not include the construction of a new public roadway; however, the WRF's driveway would be designed and constructed in compliance with all applicable City and County codes to ensure traffic operations at that entry point are consistent with City and County standards to ensure it does not create a safety hazard. Once the proposed WRF is built, the remainder of the 27.6 acres would be available for an agricultural or open space easement. Any other use of the undeveloped property within the greater 396-acre parcel is outside of the purview of the Draft EIR.

### **Response to Bast-9**

The commenter questions whether the residents of the Bayside/Casa De Flores community were queried regarding the project. Several efforts to consult with representatives from Casa De Flores occurred throughout May 2016 to inform them of the proposed project including telephone and in-person consultations. Based on outreach to that community at that time, there was no opposition expressed by residents that the City is aware of.

Regarding transportation impacts, construction and operational impacts associated with access to the preferred WRF project site are addressed in the Draft EIR starting on page 3.14-10. As explained therein, construction of the proposed WRF would not create a significant impact to the local or regional circulation systems. Additionally, the proposed project's contribution to traffic volumes during operation of the WRF would not result in a significant impact to the local or

regional circulation systems (Draft EIR page 3.14-13). As a result, impacts would be less than significant with no mitigation measures required.

The commenter presents a list of project construction details. The number of truck trips represents the total number of truck trips over the entire construction period, as explained on page 2-25. That overall number was amortized over the construction period in the traffic impact analysis. Please see Section 3.3 of the Draft EIR for air quality analysis and Section 3.11 of the Draft EIR for noise analysis. Blasting will not be used as a construction activity associated with the proposed project (see 3.11-26).

### **Response to Bast-10**

As explained in the Draft EIR starting on page 3.9-32, the City would be required to implement a stormwater pollution prevention plan (SWPPP) that would include best management practices (BMPs) to meet waste discharge requirements and prevent soil erosion and sedimentation of surface waters around the various project components, including Chorro Creek. Additionally, construction of the proposed project is also subject to the BMPs included in the City's SWMP to control runoff and protect water quality during the construction period. As a result, sedimentation is not expected to occur in Chorro Creek, or farther downstream in the estuary. Please also see Responses to MBNEP-2, MBNEP-7, and MBNEP-8

### **Response to Bast-11**

A natural gas pipeline to provide service to the WRF would be extended from the existing natural gas pipelines within the City and is not anticipated to be as long as the force main and brine pipeline. Near the WRF site, the natural gas pipeline may follow a portion of the same alignment as the other pipelines and depending on the timing of implementation, the same trench or a different trench might be used.

### **Response to Bast-12**

As described on pages 6-8 and 6-9 of the Draft EIR, eight lift station locations were analyzed as potential project components. These were narrowed down to the two proposed sites evaluated in the proposed Draft EIR due to various criteria including costs, location, planning, and public support. As noted in the comment, the proposed lift station would remain within the 100-year flood hazard zone near the existing WWTP; however due to the proposed design to floodproof the lift station such that it would be watertight with impermeable walls, the potential impacts associated with operating wastewater treatment facilities within a flood hazard zone would be reduced. That beneficial (Class IV) impact is described in the Draft EIR under Impact 3.9-6 starting on page 3.9-41.

### **Response to Bast-13**

The comment pertains to lift station location Option 5A, on the north side of Atascadero Road, shown in the Draft EIR in Figure 2-3. The proposed lift station would not be located in the vacant

site after demolition of the WWTP as stated in the comment. The location for Option 5A is described in the Draft EIR as follows on page 2-15:

- Option 5A: The site is located directly adjacent to Atascadero Road, on the north side, partially within public right of way. It is located across from the City's existing water treatment plant.

Regarding sea level rise and flooding, please refer to Response to Bast-12 above. Regarding visual impacts due to the lift station, please refer to Chapter 3.2 Aesthetics in the Draft EIR, which determines there would be no significant impacts to scenic vistas, scenic resources, or visual character due to the proposed lift station.

### **Response to Bast-14**

The 127 truck trips required to construct the lift station would be amortized over 10 months and, therefore, would blend in with existing traffic. As explained in the Draft EIR on page 3.14-16, the City would be required to prepare and implement a Traffic Control Plan for construction of the lift station in accordance with Mitigation Measure TRAF-1. The Traffic Control Plan would include, but not be limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City Traffic Engineer. Specifically, Mitigation Measure TRAF-1 includes the following:

The Traffic Control Plan shall include provisions to ensure that the construction of the lift station, conveyance pipelines, and the IPR injection and monitoring wells do not interfere unnecessarily with the work of other agencies such as mail delivery, school buses, and municipal waste services.

Those measures would reduce traffic impacts near the lift station and around the high school to a less than significant level. Regarding the comment regarding economic impact to the "Nearby Recreation Vehicle Campgrounds," per CEQA Guidelines Section 15064(e), "economic and social changes resulting from a project shall not be treated as significant effects." As such, economic impacts associated with the proposed project are not included in the Draft EIR.

### **Response to Bast-15**

As explained on page 5-5, the existing WWTP has a daily wastewater collection flow of 1.089 MGD, although during recent times of drought and water conservation, wastewater flows have averaged between 0.8 and 0.9 MGD. In support of the City's decision to construct a new wastewater facility, a draft Facilities Master Plan (FMP) and the MWRP were prepared to evaluate the design and operations of the proposed WRF to determine the necessary capacity of the facility. The draft FMP and MWRP for the proposed project took into consideration the planned population projections in the City's General Plan and UWMP and sized the plant to accommodate wastewater flows associated with the City's expected population of 12,000 in 2040.

Based on a future population of 12,000 in 2040, the proposed WRF was designed to treat an average annual daily flow rate of 0.97 MGD, which assumes an approximate 10 percent increase for future growth.

The 2.75 million gallons per day represents the estimated peak daily flow required to be treated during high flow conditions due to wet weather or tourist events. The lift station will be designed to handle both low and high sewage flows that may occur over shorter periods of time. The 7.05 MGD represents the peak hour flow, or the highest flow anticipated over an hour. The lift station pumps will need to transport all the wastewater generated in the City. Without significant tanks for storage, it must be capable of pumping high flows that may only occur for a short period.

## **Response to Bast-16**

The proposed project does not require modification to the sewer collection system and would not put additional demands on the sewer system. The City has a capital improvement program that includes maintenance and replacement of the sewer collection system.

Regarding the commenter's questions about the need for certain facilities and size of pipelines, the City has determined the project as proposed and analyzed in the Draft EIR includes necessary components for treating wastewater and producing potable water under all operating scenarios.

Regarding the discharged of recycled water to the ocean, the Draft EIR states on page 2-32, "[i]f the full level of treatment required for GRRP is not achieved for any reason, then treated effluent would be directed to the ocean outfall through the brine discharge line, which will be sized to handle the full WRF flow rate." In addition, the Draft EIR states on page 3.9-32:

The new WRF facilities would allow the City to discharge the advanced treatment recycled water for groundwater injection and indirect potable reuse, as well as direct discharge to Estero Bay through the existing ocean outfall if necessary, such as during periods of high groundwater levels. In addition, brine and wet weather flows would be discharged through the existing ocean outfall.

## **Response to Bast-17**

The commenter presents an opinion regarding construction-related traffic impacts to commercial areas within the City. Environmental impacts of installing pipeline within roadways constitutes a temporary impact and would not permanently impact the business community. As required by Mitigation Measure TRAF-1, a Traffic Control Plan would be implemented that requires access to be maintained to individual properties during construction. In addition, the proposed pipeline would be installed at approximately 150 feet per day, as described on page 2-28 of the Draft EIR. As such, the disruption to any one business location would be limited to approximately one week or less.

Regarding the pipeline route, the final pipeline route will be determined during the design/build process along with necessary property acquisitions or easements. In the event that property



acquisition is required, all necessary procedures and payment of fair market value would be provided, and relocation benefits if applicable.

Any contingencies needed to address the “failing” of project components will be determined during project design, as is typical for design of any large infrastructure projects. The proposed project includes a leak detection system that would monitor the pressure in the raw wastewater pipeline. Please refer to **Master Response 3 – Accidental Spills and Impacts to Morro Bay Estuary** for additional information.

### **Response to Bast-18**

The commenter is referred to Section 3.1 of the Draft EIR, which address the aesthetic impacts associated with constructing and operating the injection wells. Specifically, see page 3.1-15 for operational impacts and 3.1-20 for lighting-related impacts. Mitigation Measure AES-1: Nighttime Construction Lighting requires lighting used during nighttime construction, including any associated 24-hour well drilling, shall be shielded and pointed away from surrounding light-sensitive land uses.

The commenter is also referred to Section 3.11 of the Draft EIR which addresses noise impacts associated with constructing and operating the wells and requires implementation of Mitigation Measure NOISE-1: Construction Noise Reduction Measures (page 3-11.22) and Mitigation Measures NOISE-2: Operational Noise Reduction Measures (page 3.11-26).

### **Response to Bast-19**

Based on the facilities proposed, it is assumed access to the eastern injection area would occur near Little Morro Creek Road and an access point through the Silver City Mobile Home Park would not be needed. Access routes and staging areas will be finalized by the construction contractor and the City prior to the start of construction.

### **Response to Bast-20**

The Draft EIR includes the results of the groundwater modeling conducted for the proposed project, which demonstrates the feasibility of injecting recycled water and required retention times prior to extraction at City wells. Please refer to Draft EIR page 3.9-26 and the modeling report included in Appendix G to the Draft EIR (GSI, 2017). See also Response to Bast-3 above.

### **Response to Bast-21**

The pilot study would be conducted as part of the CCR Title 22 permitting process for the proposed project.

## Response to Bast-22

The proposed project does not add another cost intensive process because the BWRO is already built. The BWRO is separate from the City's desalination facility and is not operating under an emergency permit as stated in the comment. As stated in the Draft EIR on page 3.16-7:

The recycled water proposed to be used for groundwater replenishment would be extracted via existing production wells and would be treated at the City's existing Brackish Water Reverse Osmosis (BWRO) treatment plant. The City may evaluate whether improvements to the BWRO treatment plant are necessary once the proposed project is operational. No improvements are currently planned or required to operate the proposed project.

## Response to Bast-23

Please refer to **Master Response 1 – Alternatives** regarding the analysis of alternatives in the Draft EIR including the Hanson site.

## Response to Bast-24

As explained on page 3.16-8 of the Draft EIR, water supply is expected to be adequate to meet demand during normal and dry years through 2035 within both the Morro Bay WPA and the City. Per the City's 2015 Urban Water Management Plan, in 2015, water demand for the City of Morro Bay was 1,074 AFY (UWMP Table 4-1), not 13 AFY as stated in the comment. In 2020, water demand in the City of Morro Bay would be approximately 1,300 AFY (Draft EIR page 3.16-2). Construction of all of the proposed facilities would require approximately 22 AF of water for dust control over the period of construction (4.2 AF for the lift station and associated pipelines, 2.6 AF for wells and the recycled water pipelines, and 15 AF for the WRF) (Draft EIR, page 3.16-8). As a result, the 22 AFY of water (not 26 AFY as indicated by the commenter) required to construct the project would be met by existing capacity. Water use required to operate the project would be minimal.

## Response to Bast-25

Regarding the commenter's concern that construction of the project will deteriorate roads such that replacement or repair is necessary, the 10,500 trips amortized over 3-4 years would constitute a minimal daily traffic load compared with current conditions. The City includes road repair and maintenance as part of normal operations and will replace and repair roads as necessary consistent with current situations.

## Response to Bast-26

The commenter expresses an opinion regarding the proposed Hanson site alternative. Please refer to **Master Response 1 – Alternatives** regarding the analysis of alternatives in the Draft EIR including the Hanson site.

Eric Foor

537 Zanzibar Street  
Morro Bay, Ca, 93442  
805-772-7435  
toeric4@gmail.com

May 16, 2018

Rob Livick, P.E.  
Public Works Director  
Morro Bay, Ca. 93442  
City of Morro Bay DEIR-WRF Project Comment

Dear Mr. Livick,

I wish to express my opinion on the environmental impact of your proposed South Bay Boulevard Project (SBBP). There is not one aspect of this proposal that will have a positive impact the City of Morro Bay and the natural environment of our town. Besides the enormous disruption to our community during the construction phase I wish to remind you of two of the long term negative impacts of your proposal.

First, There is the operating costs of pumping the liquid mass over a hill (TWICE...unless you can maintain a syphon effect). That will be an additional ongoing expense...**forever**. What will that cost be in todays dollars and as a per cent of our operating budget? Or, do you plan to cover those lovely hills with a solar farm? If that is the case how many acres do you plan to cover with solar cells?

Second, The increased capacity of the new sewer system will invite growth to a community that has already reached it's natural limit...and that limit is water supply.

Your office, under the guidance of the Mayor and the City Council has essentially conspired with the California Coastal Commission and Regional Water Quality Control Board to expand the human use of our local environment which can only degrade it. While this may be seen as a benefit to Tourism, the City Staff, Developers and other Commercial Interests the effects on the Residents of Morro Bay will be quite the opposite.

As a resident I will experience more traffic on our crowded streets. More parking headaches. There will be more irritated drivers and a need for more traffic control. Increased accidents at the intersections of our cross streets and Hi-way One **will**

**cause more injuries and more deaths.** As the population density increases there will be more hostile interactions between neighbors. **There will be increased crime** and a need for more police and firemen.

The SSB project will lay the foundation for untold growth as it can always be oversized. This surge of expansion will require that our city collect ever increasing amounts of revenue to pay for more street and sewer repair, a greater water supply, more firemen, more police, more garbage collection....and a larger government. Residents will be compelled to pay more and more taxes...which many of us cannot afford at the present level. **This will force some residents to leave this environment.** I would consider that an "environmental impact"...wouldn't you?

I have lived in this community for thirty years and have enjoyed the natural beauty and harmonic pace of a quaint coastal environment. Morro Bay and Cayucos have a small town charm that areas such as the Five Cities and much of Southern California have lost. This is principally due to our limited population and slow growth. Our water treatment problems can be solved in a simpler fashion if you as the Professional Engineer in charge were to recommend a new course to our City Council. **Why are you presenting any proposal at all, before you have the actual treatment figures that can only be measured after the Cayucos population has left our system? I know you have made estimates...but what if they are wrong? You are quite possibly making an imprudent and costly mistake.**

Here is an outline for a simpler and less costly solution to our problem. I think of it as **"A planned staged retreat"** I hope you will consider it.

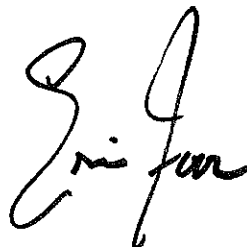
- A. If he will agree, employ Barry Branin as an Independent Technical Advisor. The following plan was inspired by his ideas.
- B. Institute a systematic program of repairing our underground sewer pipe delivery network. This will improve our current plant's treatment capabilities and provide evidence to the RWQCB that we are working on a solution.
- C. **Reexamine the problem** after the broken pipes are fixed and the Cayucos load has left our system. Take new measurements. Determine how much more improvement is required. **If more treatment is necessary** proceed as follows.
- D. Keep the existing sewer plant (**plant A**) in place and upgrade it to the full extent that we are allowed by the Coastal Commission. Increase it's cleaning schedule. Maximize it's treatment capabilities and improve odor abatement.

Install steel "compartments" and watertight hatches/covers to make it "Tsunami" resistant.

- E. Redirect the plant's discharge from the ocean to a new underground pipe to deliver the "semi-treated" discharge **from Plant A** as far up the Morro Creek Valley as is necessary...**to Sewer Plant B**
- F. Terminate the new discharge pipe at **a smaller secondary sewer plant (Plant B)** to "finish" the treatment process...far from the domain of the Coastal Commission and the complaints from citizens.
- G. Inject the "finished" treated discharge from Plant B into the Morro Creek Aquifer per the SBBP proposal.
- H. Sewer Plant B should be designed to allow for future expansion...but only in the event that rising sea water may decommission our existing Plant A.
- I. Install a sump pump in the Morro Creek flood plane to pump away excessive high water under rare flood conditions. Direct the discharge of this pump out through our existing ocean outfall. This concept will protect every structure in the flood plane that is threatened by flood conditions from Morro Creek **including the existing sewer plant**, the Morro Bay High School, Hi-way One **and the Embarcadero business community.**

I don't know you personally but I suspect you are influenced by economic pressures. Historically, economic problems have been solved by expanding "growth". This is the fundamental predicament that Morro Bay now finds itself in. Our robust city government is grasping for more tax dollars...(75 million is not enough?) Their appetite demands more development...to pay more government fees...etc...etc. If our planet were infinite then "growth" would always be an acceptable option. But sooner or later we must face the fact that we cannot continue to solve our problems with that pattern. As an engineer you know there parameters to any problem. Please use your skills to present our Council with a solution that fits within our economic and population limits...such as the outlined plan above.

Sincerely yours,



Eric Foor

5 cont.

## Comment Letter – Eric Foor

### Response to Foor-1

The City thanks Mr. Foor for submitting comments. The comments raised related to the costs of implementing certain components of the proposed project, such as operating costs associated with pumping, are unrelated to the CEQA analysis required of an EIR. Per CEQA Guidelines Section 15064(e), “economic and social changes resulting from a project shall not be treated as significant effects.” An economic/social effect of a physical change can be used to determine whether the physical change is a significant impact of the environment (i.e. if construction of a road increases noise impacts that then negatively disturbed nearby religious practices) per CEQA Guidelines Section 15131(b). The commenter has made no claim that the cost of pumping would impact another physical change in the environment. As a result, no further response is warranted.

### Response to Foor-2

As explained in the Draft EIR on page 5-5, the CSD is also building a separate treatment plant. That would reduce the overall influent to the existing WWTP, which currently serves Cayucos and Morro Bay. As a result, the proposed WRF has a slightly reduced capacity to reflect the reduction in influent from the City’s service area that would require treatment. The capacity of the proposed WRF is designed to meet planned future demand associated with the City’s projected population of 12,000 by 2040. The City reiterates the fact the proposed project would not increase wastewater treatment capacity beyond that required for planned population growth to approximately 12,000 people. No additional capacity would benefit increased tourism or commercial development, as the commenter suggests.

### Response to Foor-3

The commenter is referred to pages 2-25 through 2-29 which present detailed information about the number of temporary construction trips required during construction of the proposed project. Operation of the project would require far fewer trips, as detailed on page 2-31. As explained in Section 3.14, Transportation and Traffic, implementation of Mitigation Measure TRAF-1, which would require implementation of a Traffic Control Plan during construction, would reduce all traffic-related impacts to a less than significant level. Contrary to the commenter’s unsubstantiated opinion, death and injuries on Highway 1 would not increase as a result of implementation of the project.

Regarding the assertion the proposed project would require increased fire and police services to combat crime, the commenter is referred to Section 3.13 Public Services, which states that the project would not induce population growth and would therefore result in a less than significant impact to these services.

### Response to Foor-4

The commenter is referred to Response to Foor-2.

## Response to Foor-5

The commenter provides multiple suggestions for a “planned staged retreat” that would replace the project identified and analyzed in the Draft EIR. The City took into consideration multiple regulatory constraints from the Regional Water Quality Control Board and California Coastal Commission when considering where to locate the treatment plant. As such, the project as proposed by the City represents its best effort at accommodating the future treatment needs of Morro Bay while taking into consideration regulatory constraints.

The commenter’s proposed alternative includes repairing the existing sewer collection system. Those activities are not part of the proposed project; the City has a capital improvement program that includes maintenance and replace of the sewer collection system. The commenter’s proposed alternative includes keeping the existing MBCSD WWTP. The CCC previously denied a Coastal Development Permit (CDP) to upgrade the WWTP, which is required. Please refer to the CCC’s comment letter in this Final EIR, which expresses support for moving the existing WWTP out of the coastal flood hazard zone. The commenter’s proposed alternative includes constructing a pipeline “up the Morro Creek Valley” to a secondary sewer plant and discharging the “‘finished’ treated discharge...into the Morro Creek Aquifer per the SBBP proposal.” Those proposed facilities are similar to those included in the proposed project and as such would have similar environmental impacts as the proposed project. Please also refer to **Master Response 1 – Alternatives** for additional information.

**From:** "Mark Low" <[mark@modernhunter.com](mailto:mark@modernhunter.com)>  
**To:** "Jennifer Jacobus" <[JJacobus@ESASSOC.COM](mailto:JJacobus@ESASSOC.COM)>  
**Cc:** "Rob Livick" <[rlivick@morrobayca.gov](mailto:rlivick@morrobayca.gov)>, "Joseph W. Pannone" <[jpannone@awattorneys.com](mailto:jpannone@awattorneys.com)>  
**Subject:** Moral Bay: USBF®, "Building a World of Difference®" & economical water reclamation facilities design and operation.

G'day Dr. Jacobus,

I really have but a single comment:

**Why wasn't USBF® Bioreactor technology compared with MBR & SBR?**

Please see "Morro Bay+ESA" pdf attached. Also attached is the usual...

Looking forward to an "unusual" result.

Yours truly

Mark Low  
Concerned Citizen

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1



**From:** "JJacobus" <[JJacobus@ESASSOC.COM](mailto:JJacobus@ESASSOC.COM)>  
**To:** "Mark Low" <[mark@modernhunter.com](mailto:mark@modernhunter.com)>  
**Cc:** "Rob Livick" <[rlivick@morrobayca.gov](mailto:rlivick@morrobayca.gov)>, "Joseph W. Pannone" <[jpannone@awattorneys.com](mailto:jpannone@awattorneys.com)>  
**Sent:** Friday, April 20, 2018 12:17:06 PM  
**Subject:** RE: USBF®, "Building a World of Difference®" & economical water reclamation facilities design and operation.

Mark,

Thank you for your recent emails regarding the Morro Bay WRF. Note that the attached Notice of Availability (NOA) of the Draft Environmental Impact Report (EIR) for the WRF is requesting that comments directly addressing the content of the Draft EIR be submitted to Rob Livick by 5:00 PM on May 18, 2018. Any comments that are received as requested by the NOA will be responded to in writing in the Final EIR.

Best Regards,

Jennifer

Jennifer Jacobus, Ph.D.

ESA | Environmental Science Associates

213.599-4300

[jjacobus@esassoc.com](mailto:jjacobus@esassoc.com)

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**From:** Mark Low [<mailto:mark@modernhunter.com>]  
**Sent:** Monday, April 9, 2018 2:43 PM  
**To:** Jennifer Jacobus <[JJacobus@ESASSOC.COM](mailto:JJacobus@ESASSOC.COM)>  
**Subject:** USBF®, "Building a World of Difference®" & economical water reclamation facilities design and operation.

I wanted to be certain that you had this correspondence and this:

<https://www.prageru.com/videos/what-creates-wealth>

---

**From:** "Mark Low" <[mark@modernhunter.com](mailto:mark@modernhunter.com)>  
**To:** [SathyamoorthyS@bv.com](mailto:SathyamoorthyS@bv.com)  
**Cc:** "Rob Livick" <[rlivick@morrobayca.gov](mailto:rlivick@morrobayca.gov)>, "Mike Nunley" <[mnunley@morrobayca.gov](mailto:mnunley@morrobayca.gov)>, "Robert S. Kaessner" <[kaessnerrs@bv.com](mailto:kaessnerrs@bv.com)>, "KuhlmannKL" <[kuhlmannkl@bv.com](mailto:kuhlmannkl@bv.com)>  
**Sent:** Friday, December 8, 2017 2:01:43 PM  
**Subject:** USBF®, "Building a World of Difference®" & economical water reclamation facilities design and operation.

## EDUCATED CITIZENS CONSERVE

Black & Veatch Corporation  
2999 Oak Road, Suite 490 Walnut Creek, CA 94597

Sandeep Sathyamoorthy, Ph.D, P.E.  
Principal Process and Innovation Leader

Greetings Dr. Sathyamoorthy,

Kind sir, it is with a moral imperative and in the interests of the "Welfare" of all Citizens & their environment that is the premise of this correspondence. Specifically, anytime that USBF® is not evaluated, same as B&V evaluated MBR & SBR in 4.0 Liquid Treatment Technologies Evaluation of your Morro Bay Draft WRF Master Plan/B&V Project No.189276 here: <http://morrobaywrf.com/site/wp-content/uploads/Morro-Bay-Draft-WRF-Master-Plan-Full-Document.pdf> the Welfare of the Citizen/Ratepayer is severely compromised. The \$38 million SBR WRF or more cost 'estimate' of the treatment portion in your report is unclear. Would you please help me to understand the actual estimated TOTAL cost of the 'stand-alone' SBR WRF sans conveyance system? (12.1 beginning on page 247)

USBF®, a very cost effective, odorless and robust biological treatment process design technology, was not evaluated for the Morro Bay/Cayucos facility's exceeding their NEPDES Limits, so it wasn't considered for the Reclamation portion of the project. Both parts can be resolved for a total cost of less than \$20 Million USD (see 1MGD Generic Plant description attached) on the existing site.

If you have never heard of USBF®, then I can understand why this biological treatment process was not 'evaluated' with SBR as it should have been, in an effort to protect the Welfare of the Public. If this is your first exposure to USBF®, then progress is being made.

As the 3rd party comparisons (attached) show, SBR is not the most economical biological activated sludge treatment process known to man. For the benefit of every Citizen who will pay for the choice of biological treatment process made by Black & Veatch, and or any Consulting Engineer working for the Public, USBF® should not be excluded from the "contest/evaluation" of biological treatment technology designs and should be evaluated as was MBR & SBR in your report to Morro Bay. This is especially relevant for systems serving 1-2MGD and below, and Morro Bay fits this criteria. Actually, there is no known size limitation for USBF® because the design is modular. Communities in the 2MGD and down range cannot afford an all-electric SBR as well as new force mains to out of town treatment sites, without severe negative financial impact which lowers the standard of living, in that community when USBF® is not allowed to compete.

When considering the tools needed for "Building a World of Difference®", USBF®, should always have a place in the choice of a biological treatment process.

<http://ecofluid.com/treatment-processes/upflow-sludge-blanket-filtration-usbf/>

"Using the USBF® process with simultaneous chemical precipitation within the bioreactor followed by post-filtration and UV disinfection, plants producing reclaimed water quality (Class A or Title 22) effluent having BOD and TSS of less than 5 mg/l, Total Nitrogen of less than 10 mg/l, Total Phosphorus of less than 0.5 mg/l, Turbidity of less than 2 NTU and Fecal Coliform of less than 2.2 MPN/100 ml, are designed and built at very economical capital and operating costs."

A 1MGD USBF® Bioreactor measures 83' by 123' by 14' tall (see 1MGD layout attached) and the accompanying 'Reclamation Technology' components require an additional 6,000 sq. ft., thereby providing the common sense opportunity to utilize the current site's "drying beds footprint", (see page 225 of 384 B&V Project No.189276) in which to utilize the existing site's infrastructure, including but not limited to the very recently improved headworks, tankage and every other longstanding, in place and "paid for" improvements, thereby conserving time, energy and precious financial resources. Building better design technology for less money, using less land and from 30% to 50% less horsepower by use of a single tank "gravity flow" design, instead of the multi-tank, all electric operation of an SBR design that your study chose as best, is in the best interest of the Public.

Because there is so very much growing need juxtaposed with taxpayer supported "Government Loan/Grant" resources, the Citizens must get more for less money and USBF® makes that possible. Only by reductions in spending, for design and construction as well as the ongoing electric energy usage, will 'best value' be achieved. Using EVERGREEN TECHNOLOGY which harnesses gravity, in a single tank design is least cost, especially when compared to the need for 3 miles of brand new force main to a facility requiring odor control and a large footprint that cannot be accommodated at the current site.

Factoring in the never ending need for electric energy to drive a proposed new force main and the all-electric SBR design does not match the intent, letter or spirit of California Bill 32 <https://www.arb.ca.gov/cc/ab32/ab32.htm> While USBF® does comport with the intent, letter and spirit of California Bill 32, the design makes EPA's ENERGY STAR status possible as evidenced at this USBF® 1MGD <http://ecofluid.com/case-studies/lake-alfred-wwtp/> facility. *The City of Lake Alfred has taken the U.S. Environmental Protection Agency's (EPA's) ENERGY STAR Challenge. In a positive step toward improving energy efficiency and fighting global warming, the City has been honored as one the first wastewater plant ENERGY STAR award recipients within the United States and the first ever recorded wastewater plant recipient in the State of Florida.*

<http://mylakealfred.com/departments/public-works-department/wastewater-treatment-and-collection/>

I totally agree with the sentiment within B&V's statement "For water, Information is Power"\* and so I pray that you will be able to accept for review, the 3rd party comparisons of SBR, MBR & USBF® (attached) and offer your esteemed opinion as to the validity of the comparisons.

Would you please confirm that the installed horse power requirements, land use needed and ease as well as reduced costs of operation, cost of construction, etc. as represented in the 3rd party comparisons of USBF® with SBR & MBR, are accurate and true, to the best of your knowledge?

Common sense suggests that your report's comparison of MBR to SBR would have distilled a much different winner had those technology designs been compared with USBF® which is odorless, as well costs less to build and operate.

The October 5, 2017 "Open Letter" (attached) was written before I had knowledge and confirmation of your status and contractual limitations with Morro Bay, California. However, the content of the letter is always relevant from a current and or future consumer's point of view, for whom your company and you have been engaged or will be engaged to offer 'treatment process designs' comparison results such as contained in the B&V Project No.189276 and beyond.

As your, and WRF Design Lead Brad Hemken's, "STAMP(S)" are unavailable on the WRF Master Plan B&V PROJECT NO. 189276 and because B&V does operate nationally, I have cited Codes\* for both California and the Nation below.

Un-educated Citizens accept what educated Citizens will not. My target is to raise awareness of the advantages in addition to the benefits of this energy and money saving technology to every Citizen, ratepayer and responsible party, from seekers of funds, to those who decide which project gets funded by state & especially federal government sources, as these funds belong to the Citizens. Taxation alone cannot balance a budget. The status quo is not an option and does not protect the Public.

**The impact of USBF® cannot be gainsaid.** "After all, Gravity is the *Ultimate Green Energy*."

Respectfully submitted with kind regards,

Mark Low  
Concerned Citizen

\*Title 16, California Code of Regulations 475. Code of Professional Conduct – Professional Engineering To protect and safeguard the health, safety, welfare, and property of the public, every person who is licensed by the Board as a professional engineer, including licensees employed in any manner by a governmental entity or in private practice, shall comply with this Code of Professional

Conduct. <http://www.bpelsq.ca.gov/laws/475.pdf> <http://www.bpelsq.ca.gov/laws/conduct.shtml>

**Preamble**

Engineering is an important and learned profession. As members of this profession, engineers are expected to exhibit the highest standards of honesty and integrity. Engineering has a direct and vital impact on the quality of life for all people. Accordingly, the services provided by engineers require honesty, impartiality, fairness, and equity, and must be dedicated to the protection of the public health, safety, and welfare. Engineers must perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct.

<https://www.nspe.org/resources/ethics/code-ethics>

[https://en.m.wikipedia.org/wiki/Moral\\_imperative](https://en.m.wikipedia.org/wiki/Moral_imperative)

<https://www.bv.com/insights/strategic-directions-water-information-power#>

We are all now connected by the Internet, like neurons in a giant brain. Stephen Hawking

Read more at: <https://www.brainyquote.com/quotes/quotes/s/stephenhaw696272.html>

# EDUCATED CITIZENS CONSERVE

"gravity instead of electric pumps"

The price of gravity has never gone up.

After all, gravity "is" the ultimate green energy...

## **Why wasn't USBF® Bioreactor technology compared with MBR & SBR?**

Ten years ago I joined the battle over water, wastewater specifically, because I learned about a better "pre-engineered" mousetrap and "thought" that San Luis Obispo County (SLOCO) could have (should have) used that technology in Los Osos instead of the Oxidation-Ditch which somehow got over-built by twice.

Here are my 2009 DEIR Comments to SLOCO as evidenced here;  
<http://nowastewater.blogspot.com/2009/> these comments are relevant to your Morro Bay DEIR, Dr. Jacobus and I trust that your crack team can make the journey to review my very brief comments on cost and energy and use those comments to pack my concerns neatly into a chicken and egg "checked box."

An activated sludge design technology that uses "gravity instead of electric pumps" is a nuclear explosion event, and great news, for all folks concerned with protecting their environment while simultaneously protecting their pocketbook.

Educated Citizens are rightfully more concerned with their own future financial well-being, instead of the future financial welfare of an industry's business model.

I am fighting to save my country from the tyranny of debt. The needless increased costs for SBR & MBR and especially of the ultimate legacy cost, electricity, designs are an affront to the ratepayer and the environment, especially for "a project" that **will automatically come into compliance without spending another penny.** <http://yourbaynews.com/wp-content/uploads/2018/04/Bay-News-04-26-18.pdf>

See Page 26 <http://yourbaynews.com/wp-content/uploads/2018/05/Bay-News-05-10-18.pdf>

It is impossible to ignore the past willful ignorance that is currently in use by engineers, public and private for hire and by SLOCO in 2008/9 and currently in use by the same engineering company who is working in Morro Bay today, as well as Morro Bay's government professional engineer, to date. Amazing.

Included with this submission are several letters which are relevant to engineers who choose to seek to avoid the Environmental Impact(s) associated with every wastewater project, but especially Morro Bay, where NO PROJECT IS BEST, at this time given that:

**Morro Bay has a Fix-It Ticket. FULL STOP**

The Fix: Do absolutely nothing and wait for the flows and loads to drop, thereby allowing the current facility to meet current and 2022 CCRWQCB 30-30-30 NPDES permit discharge limits, after Cayucos' departure.

**Why wasn't USBF® Bioreactor technology compared with MBR & SBR?**

An argument can be made that today's consulting engineer's financial interests together government apathy form entropy upon the governed and their financial interests. Citizens must work; now fight, to restore orderliness.

I look forward to your treatment of my concerns regarding 'the MBR/SBR results' that the business model which avoids the use of gravity, in lieu of designs requiring perpetual electricity and miles of new conveyance requiring perpetual pumping and the forever commitment to energy costs in lieu of gravity.

So much study should lead to wisdom.

Kind regards,

Mark Low

May 17, 2018

The current [MB WWTP](#) can be upgraded to provide treatment standards of [10-10-10](#) which paves the way to economical water reclamation facilities and operation like this [1 MGD in Florida](#).

Single tank integrated bioreactor w/anoxic compartment, provides for these benefits:

Low cost of installation, operation

Minimal amount of moving parts, gravity flow

No odor, no noise

Modular, expandable, compact

High treatment efficiency, including Biological Nutrient Removal (BNR)

Upflow filter is an all natural "fluidized bed filtration", having "self-regulating hydraulic flexibility" and handles highly fluctuating flows. The operation of this plant is simple and self-regulating.

While the operation of the all electric [Sequencing Batch Reactor, built in Los Osos](#), is neither simple or self-regulating. [I'm glad this effort survived](#) as it shows cost of installation and energy in 2009.

# USBF PROCESS DESCRIPTION

## INTRODUCTION

The USBF process is a modification of conventional activated sludge process that incorporates an anoxic selector zone and an upflow sludge blanket clarifier. The USBF process may be designed for

- carbonaceous (BOD) removal
- BOD removal and nitrification
- BOD removal, nitrification, and denitrification
- BOD removal, nitrification/denitrification and phosphorus removal

For carbonaceous removal, the anoxic zone serves as a “selector zone” that conditions the mixed liquor to improve settleability and to control filamentous organism growth.

For nitrification, denitrification and phosphorus removal designs, the anoxic zone provides the necessary conditions for dissimilarity nitrate reduction and phosphorus removal by “luxury uptake”. In this process, ammonia nitrogen is oxidized to nitrite and then to nitrate by Nitrosomonas and Nitrobacter bacteria, respectively in the aeration zone. The nitrate is then recycled to the anoxic zone where the nitrate is reduced by dissimilarity nitrate reduction. In this reaction, the incoming BOD serves as the carbon source or electron donor for the reduction of nitrate to elemental nitrogen. The phosphorus removal mechanism in this process is the same as that employed in the Phostrip and modified Bardenpho processes. In the USBF process, fermentation of soluble BOD occurs in the anaerobic or anoxic zone. The fermentation products are selectively used or assimilated by a special group of microorganisms that are capable of storing phosphorus. During the aerobic stage of treatment, soluble phosphorus is taken up by the population of the phosphorus storing bacteria (Acinetabacter) that was developed in the anoxic zone. The assimilated phosphorus is then removed from the system as excess biomass or waste sludge. The amount and rate of phosphorus removal depends primarily on the BOD/P ratio of the influent wastewater.

## PROCESS DESIGN

The Ecofluid Design Program for the USBF process is based on the Lawrence and McCarty kinetic models for BOD removal, nitrification and denitrification. The process model equations along with the kinetic coefficients and related critical design parameters are presented in the attached VBR guide (the nomenclature as shown in the VBR guide is somewhat different than the standard U.S. texts). The USBF process is capable of removal of BOD<sub>5</sub> to less than 5 mg/l, TSS removal to less than 10 mg/l without filtration, total nitrogen removal to less than 10.0 mg/l and total phosphorus removal to a range of 1.5 to 2.5 mg/l.

Higher levels of phosphorus removal down to 0.1 to 0.5 mg/l can be achieved by metal salt addition to the aeration zone immediately prior to the mixed liquor entering the clarifier. A number of metal salts may be used including Alum ( $\text{Al}_2(\text{SO}_4)_3 \cdot 14\text{H}_2\text{O}$ ), Sodium Aluminate

( $\text{Na}_2\text{O} \cdot \text{Al}_2\text{O}_3$ ), Ferric Chloride ( $\text{FeCl}_3$ ), Ferrous Chloride ( $\text{FeCl}_2$ ), Ferrous Sulfate ( $\text{FeSO}_4 \cdot \text{H}_2\text{O}$ ) or Ferric Sulfate ( $\text{Fe}_2(\text{SO}_4)_3$ ).

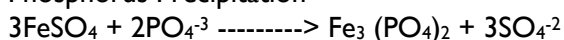


## USBF PROCESS DESCRIPTION

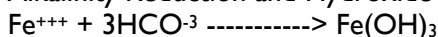
Since the bulk of phosphorus (over 80%) in the USBF process is accomplished by biological uptake, the small polish dosages of a metal salt coagulant do not significantly increase sludge production.

For example, removal of phosphorus by  $\text{FeSO}_4$  is given as by the two following reactions:

Phosphorus Precipitation



Alkalinity Reduction and Hydroxide Precipitation



According to the above two reactions, removal of 2 mg/l of  $\text{PO}_4^{3-}$ , would theoretically produce 6 mg/l of additional sludge. In actual practice, a value of 5 mg/l of sludge per mg/l of  $\text{PO}_4^{3-}$  removed provides a conservative design value. For an influent wastewater having 240 mg/l of incoming BOD and a sludge yield of 0.6 lbs TSS/lb BOD removal, and the use of  $\text{FeSO}_4$  to remove 2 mg/l of  $\text{PO}_4^{3-}$ , the total increase in sludge production would be about 7%.

The USBF process utilizes a unique patented upflow sludge blanket clarifier. The upflow blanket clarifier utilizes a trapezoidal shape where the mixed liquor enters the bottom of the clarifier through a specially designed baffle where hydraulically induced flocculation occurs. The trapezoidal clarifier shape provides for a steadily increasing surface area from the bottom to the top of the clarifier. This permits a gradually decreasing vertical velocity gradient within the clarifier. The “top surface area” clarifier overflow rate is 150 to 250 gpd/ft<sup>2</sup> (6 to 10 m<sup>3</sup>/d/m<sup>2</sup>) at average daily design flow. The clarifier is typically designed for a daily peak flow rate of 3 times the average flow ratio which translates to a peak “top surface” clarifier overflow rate of 450 to 750 gpd/ft<sup>2</sup> (18 to 31 m<sup>3</sup>/d/m<sup>2</sup>) which is very conservative. The clarifier also includes a unique baffle arrangement to allow sludge withdrawal at the bottom of the clarifier. The sludge withdrawal design also incorporates the internal recycle between the aerobic and anoxic zone. The normal design recycle/sludge withdrawal rate is 4 times the average daily flow. This high sludge withdrawal rate from the clarifier bottom creates a downward velocity gradient within the clarifier that significantly improves the hydraulic efficiency of the clarifier compared to conventional clarifier.

The internal recycle between the aeration zone and the anoxic zone provides BOD recycle that is required for endogenously supported nitrate reduction. This internal recycle of mixed liquor also provides for recycle of phosphorus removal organisms developed in the anoxic zone that are then carried into the aeration zone for phosphorus uptake. The recycle ratio is established based on the influent BOD/total phosphorus/ammonia nitrogen ratio. The recycle ratio of 4 provides for a 25% - 35% safety factor for domestic wastewater.

The major process design parameters for this process depend on (1) wastewater strength and biodegradability (2) wastewater temperature, influent and effluent BOD, N, and P concentrations. Typical HRT's for the aeration zone range from 6 to 30 hrs. The HRT's for the anoxic zone typically range from 1 to 2 hrs for a selector zone used for carbonaceous removal and 2-8 hrs for biological phosphorus removal and denitrification. The design SRT is controlled by the temperature dependent nitrification and BOD removal kinetics and the design effluent N-NH<sub>4</sub> requirements. The operating SRT is normally maintained at 50% to 100% greater than the design SRT at an operating temperature to provide a safety factor and to accommodate changes in influent wastewater characteristics. (Please note that SRT is both a design parameter and a process control parameter).

## USBF PROCESS DESCRIPTION

### OPERATING PARAMETERS

The dissolved oxygen (DO) concentration should be maintained at 2.0 to 4.0 mg/l in the aeration zone, and less than 0.5 mg/l in the anoxic zone. Under influent loading conditions less than the design values, the HRT in both the aeration zone and in the anoxic zone will be greater than the design value. Under these conditions, the mixed liquor volatile solids concentration in the system will normally be reduced to meet the process requirements. The DO may be maintained at optimum levels by reducing air supply. The increased HRT in the anoxic zone permits more time for exertion of DO demand and production of anoxic conditions needed for fermentation.

The operating SRT is controlled by controlling the sludge wasting rate. SRT is normally calculated based on aeration zone volume and MLVSS concentration, since BOD removal and nitrification kinetics control the aeration zone volume. Provision is made in the Ecofluid design for measurement of both the internal recycle and sludge wasting. The operating SRT of the USBF process may be increased significantly above the design requirements without sacrificing effluent quality since the “anoxic selector” zone conditions the mixed liquor solids and the upflow sludge blanket clarifier provides a “filtration/flocculation” mechanism to prevent the discharge of pin-point floc normally associated with high SRT systems.

### ALKALINITY AND PH

If the influent wastewater is not properly buffered it is necessary to add alkalinity to the influent wastewater for the USBF process designed for nitrification and denitrification. The nitrification reaction consumes 7.1 mg/l of alkalinity as  $\text{CaCO}_3$  for each mg/l of ammonia nitrogen oxidized. The denitrification reaction produces 3.57 mg/l of hydroxide alkalinity as  $\text{CaCO}_3$  for each mg/l of nitrate-nitrogen reduced. For an influent wastewater having 40 mg/l of  $\text{NH}_4\text{-N}$ , the total alkalinity should be 150-200 mg/l to insure adequate buffering. The pH of the system should always be maintained between 7.5 to 8.5 S.U. by the addition of alkalinity when required.

The original text of the Description was prepared by Mr. John M. Smith of J.M. Smith & Associates of Cincinnati, Ohio. Mr. Smith has 17 years experience in wastewater treatment research and process design for USEPA's office of Research and Development plus 18 years as an independent consultant

# USBF COMPARISON TO SBR

## GENERAL CONSIDERATIONS

Both the Sequencing Batch Reactor (SBR) and the Upflow Sludge Blanket Filter (USBF) are modifications of the Activated Sludge Process. The SBR was developed in the U.S. in the late 1960's and became widely used during the 1980's and 1990's. The process concepts incorporated into the patented USBF process were developed both in Europe and the U.S. in the 1970's. Various forms of the USBF process concepts including "anoxic selector zones", and "upflow blanket clarifiers" have been used world wide for the last 25 years.

Both the SBR and USBF processes are fully capable of treating municipal wastewater to meet the U.S. and International Standards of secondary wastewater treatment, (30 mg/l BOD, 30 mg/l TSS); advanced secondary treatment, (10 mg/l BOD, 10 mg/l TSS and 1 mg/l  $\text{NH}_4\text{-N}$ ) and tertiary treatment (10 mg/l BOD, 10 mg/l TSS and 10 mg/l total nitrogen) standards.

Both processes are designed using the same basic biological treatment kinetics for carbonaceous removal, nitrification and denitrification. JMS has developed and refined kinetic design models for both processes based on the approach of Lawrence and McCarty which is incorporated into U.S. Textbooks in Sanitary Engineering and in the USEPA Design Manuals for Wastewater Treatment and Nutrient Control. A complete description of the kinetic process design models and a detailed description of each process can be found elsewhere. This evaluation will present a comparison of the two processes including:

- Design loading considerations
- Performance and operating parameters
- Power requirements
- Modular design considerations and mechanical component design
- Cost factors

Each of these is discussed in the following sections.

## DESIGN LOADING

The table below presents a comparison of the major loading parameters for both processes.

Parameters	USBF	SBR
F/M	0.01 to >1.0	0.01 to >1.0
MLVSS (mg/l)	4,000 - 6,000	2,000 - 4,000
Hydraulic loading (average to peak ratio)	1 to 6	1 to 4
SVI	80 - 120	250 - 350
SRT days	5 - 70	5 - 50

The USBF process has been used in Europe under low F/M ratios (0.01 to 0.05) or in the "superaeration mode" to achieve very low removal of BOD and refractory COD when necessary. In the US, the F/M

## USBF COMPARISON TO SBR

loadings are increased for municipal waste to the 0.1 to 0.3 range for BOD removal for municipal sewage and to over 1.0 for high rate treatment of high strength industrial waste.

Design loadings (F/M's) for the SBR system, are generally less due to the larger aeration requirements since air is only supplied during a portion of the total SBR cycle time thus increasing installed aeration HP. Because of the patented and unique Sludge Blanket Clarification Concept of the USBF and the incorporation of an "Anoxic Selector Zone", the operating Sludge Volume

Index (SVI ml/g) for this process is much lower than for the SBR. This is a critical factor in the overall performance of this process.

Both processes respond well to peak to average hydraulic loading. The USBF process addresses increased hydraulic loading by first, producing a faster settling mixed liquor due to the lower SVI, and secondly, by the unique sloping sidewall clarifier that allows the sludge blanket to rise which automatically increases the surface settling area, and by inter partical flocculation in the upflow clarifier. The SBR addresses increased hydraulic loading by adjustment of the settling cycle time.

### PERFORMANCE AND OPERATING PARAMETERS

The table below presents the typical removal efficiency of the USBF and SBR system.

Parameters	USBF	SBR
BOD removal (mg/l)	<5	<5
Nitrification (mg/l)	<0.5	<1.0
Denitrification (mg/l)	<1.5	<1.5
TSS (mg/l)	<5.0	<10.0

Data available to support removal efficiencies, based on the state-of-the-art kinetic design concepts.

A major feature of the USBF process is the combined advantage of an anoxic zone prior to the aeration zone for "conditioning" the mixed liquor prior to the upflow solids contact flocculating clarifier. The anoxic zone reduces or eliminates filamentous sludge and provides a very low (80-120 ml/g) SVI. The anoxic zone operates in this fashion for BOD removal and BOD removal plus nitrification. For denitrification, the anoxic zone is increased in HRT, and utilizes the endogenous carbon in the wastewater as the electron donor for denitrification. In the SBR process, a separate carbon source is normally added for denitrification. The most common carbon source is methanol. Unless the methanol addition is closely controlled, over dosing can lead to the discharge of excessive BOD. The USBF process can reliably remove TSS to a slightly lower level (5 mg/l) than the SBR (10 mg/l), due to the better conditioned mixed liquor suspended solids.

# USBF COMPARISON TO SBR

## POWER REQUIREMENTS

From a process standpoint, both the USBF and SBR require the same amount of oxygen for BOD removal and nitrification in accordance with accepted kinetic theory. Both processes take advantage of the Nitrate Oxygen returned (2/3 of oxygen required for nitrification) during denitrification.

The installed HP for the USBF process is less than for the SBR process since the SBR process must provide the same amount of oxygen in a shorter period of time i.e. during the aerated fill cycle and the aerated react cycle. The installed HP for SBR's is typically 30 to 50% higher than for the USBF process, for the same influent and effluent design conditions. The aeration efficiency of fine or course bubble aeration is also greater for USBF than for the SBR since the average aeration depth is lower for the SBR due to decanting up to 30% of the aeration tank volume thereby lowering the depth of aeration by 30%. At 30% decant, the average aeration efficiency of an SBR system would be 85% of that achieved by a USBF system.

## MODULAR DESIGN CONSIDERATIONS AND MECHANICAL COMPONENT DESIGN

The USBF design is a continuous flow system that incorporates the aeration zone, the clarifier and the anoxic zone in a single tank. The only mechanical equipment required is the blower for aeration and air lifting return sludge (in larger plants low HP axial pump is used for sludge return). Waste sludge can be taken off the air lifted sludge return line unless prohibited by head considerations.

The SBR system is normally a two-tank design and in addition to the aeration requirements requires decanting by pumping from each tank. SBR's are also normally equipped with separate sludge wasting pumps. In order to meet mechanical reliability requirements, duplicate decant and waste sludge pumps are required for each separate SBR tank. From a mechanical standpoint, the USBF system is much simpler and requires much less rotating equipment. This provides a significant advantage to the USBF in:

- original equipment cost
- maintenance cost
- operational simplicity

For example, air lift pumps rarely fail compared to mechanical pumping systems.

Although there are no size limitations on either the USBF or SBR systems, the USBF single tank design lends itself to higher capacity system design better than the SBR. Dual tank SBR systems have generally been limited to 0.5 to 1.0 mgpd (1,900 to 3,800 m<sup>3</sup>/d) volume per tank due to the requirements for decant pumping. In standard SBR systems, the decant rate is 7 to 15 times the average design flow. Over 98% of SBR systems installed in the U.S. are under 1.0 mgpd (3,800 m<sup>3</sup>/d). The USBF single tank systems have been installed with up to 4.0 mgpd (15,000 m<sup>3</sup>/d) capacity.

# USBF COMPARISON TO SBR

## COST FACTORS

The capital cost of biological treatment processes are summarized below:

- The cost of constructed tankage to provide the required Hydraulic Residence Time (HRT) to meet the process kinetic requirements. (These requirements are the same for both processes).
- Cost of clarification tankage.
- The cost of the mechanical support equipment, including pumps, blowers, internal piping and decanting devices.
- Site, civil works and land area requirements.
- System control equipment.
- Electrical supply and equipment.

The USBF and the SBR processes require the same basic tankage for the biological processes since they are based on the same biological kinetics. The USBF is a single tank system and the SBR is a dual tank system. The mechanical requirements for the SBR system designs are much greater than for the USBF system because of the requirements for decant pumping and waste sludge pumping with duplicate units for each. Clarification tankage is incorporated into the single tank design for USBF and into the dual tank design for SBR's. The installed HP requirements for the SBR form of treatment is much greater (30 - 50%) than for the USBF as previously discussed.

The electrical requirements including total power and power distribution is a first power function of installed HP and is greater for the SBR form of treatment than for the USBF due to the greater number and spatial distribution of electrical motors in the SBR system.

Both the USBF and the SBR are compact treatment systems as compared to conventional activated sludge or the oxidation ditch form of treatment. The site and civil works for these forms of treatment are much less than for conventional secondary or advanced secondary treatment. In terms of land area required, the USBF system requires approximately 60-80% of the land area of the SBR system depending on system layout.

## SUMMARY

The following describes our summary analysis of the SBR and USBF processes.

1. Both the USBF and SBR processes have been proven in the U. S. and throughout Europe to reliably meet all current standards for BOD removal, nitrification and denitrification standards down to an effluent BOD level of <5.0 mg/l, TSS of 5-10 mg/l, NH<sub>4</sub>-N of 1.0 mg/l and a total nitrogen of less than 1.5 mg/l. (Extensive operating data are available to document the above).
2. The USBF process requires less installed HP than the SBR process.

## USBF COMPARISON TO SBR

3. The USBF process has less mechanical components than the SBR and is therefore a much simpler process.
4. The USBF process with anoxic zone treatment of mixed liquor produces an inherently more stable mixed liquor, lower operating SVI's and a slightly higher removal efficiency for TSS.
5. The USBF system is more flexible in retrofitting existing plants than the SBR because of the unique single tank upflow clarifier concept and design of the USBF.
6. The USBF has a smaller land area requirement ("footprint") than the SBR. Both systems are much more compact than conventional activated sludge.
7. The total electrical and mechanical requirements are much less (20-40%) for the USBF than for the SBR form of treatment.
8. Based on total process requirements including tankage (equal), mechanical support equipment, power requirements, electrical, controls, site work and land area required, it would appear that the USBF system would have a significant cost advantage over conventional activated sludge, the oxidation ditch form of activated sludge and SBR's for treatment system sizes ranging from 1.0 to 50 mgpd (3,800 to 190,000 m<sup>3</sup>/d).

The original texts of the Comparison was prepared by Mr. John M. Smith of J.M. Smith & Associates of Cincinnati, Ohio. Mr. Smith has 17 years experience in wastewater treatment research and process design for USEPA's office of Research and Development and 18 years as an independent consultant.

## **USBF – SBR – MBR COMPARISON**

### **THIRD PARTY EVALUATION**

The following is an abbreviated version of the wastewater treatment processes evaluation by CPH Engineers Inc., Environmental Division, of Orlando, Florida.

#### **USBF vs. SBR**

- The Sequencing Batch Reactor (SBR) system has a larger aeration requirement than the Upflow Sludge Blanket Filtration (USBF) system. This is due to the fact that air is only supplied during a portion of the total SBR cycle time. The installed blower horsepower for the USBF process is therefore less than for the SBR process. (This can be as much as 50% less).
- The USBF process manages increased hydraulic loading better than the SBR process. This is due to a lower Sludge Volume Index (SVI) of the USBF, which results in a faster settling rate of the mixed liquor. Additionally, the USBF clarifier design has sloped sidewalls that automatically increase the surface settling area with the rising sludge blanket due to the flow increase. By comparison, in the SBR process the settling time cycle must be increased.
- The USBF process has an anoxic zone prior to the aeration zone. This serves two purposes. The first purpose is to "condition" the mixed liquor prior to the upflow solids contact flocculating clarifier, which helps to reduce or eliminate filamentous sludge and provide a low (80-120 ml/g) SVI. The second purpose is that it is used for biological reduction of nitrogen and phosphorous by respectively nitrification/denitrification and "luxury uptake" processes. This is accomplished by increasing the Hydraulic Residence Time (HRT) in the anoxic zone. By comparison, in the SBR process a separate carbon source is required for denitrification to reduce nitrogen and an anaerobic stir process is required to reduce phosphorous, which can be accomplished by an additional cycle or through the addition of another tank.
- The USBF design is a continuous flow system that incorporates the aeration zone, the clarifier and the anoxic zone in a single tank and the only mechanical equipment required is the blower, which is used for both aeration and air lifting the return activated sludge. The SBR process on the other hand, is normally a two-tank design and in addition to the aeration blowers, needs multiple pumps and motors to carry the different stages of the process to its completion.
- The USBF system has a smaller foot print and less overall height to the system. Typically, the USBF system can require up to 80% less land area compared to the SBR system.
- Overall, the USBF is a plug flow, self regulating process, easier to operate and maintain, due to the fact that there are no moving parts, other than the blowers, one on duty the other standby. Electrical consumption is about 60 % less than that of an SBR.
- The SBR must use chemicals and additional mechanical filtration in order to treat BOD, TSS, TN and P to the required effluent levels.
- The USBF process does not require the use of chemicals or for that matter any additional filtration. Filtration is accomplished by the "filtration blanket" within the clarifier.

#### **USBF vs. MBR (Zenon)**

- The USBF system has a smaller foot print than the Zenon MBR process and the capital investment is about 70% less than that of a Zenon MBR system.



## USBF – SBR – MBR COMPARISON

### THIRD PARTY EVALUATION

- The Zenon process requires a biological treatment system and chemicals in order to remove carbonaceous and nitrogenous oxygen demands in addition to the membranes used for TSS removal.
- MBR system requires a computerized control system that is essential for the operation of the system. Class “A” experienced operators must operate and “fine tune” the MBR system twenty four hours per day seven days per week.
- The USBF process is a self regulated system and very little, if any operator attention is required.
- The membranes in an MBR process must be cleaned on a daily basis by the use of “back-pulsing”. This is done to reduce the possibility of fouling and debris collection on the membranes. The USBF process does not require the additional controls or daily cleaning of the internal components.
- MBR system has a potential for fouling of the membranes by biological, chemical (sulfates, carbonates, etc.) or physical contamination (hair, plastics, paper, etc.) associated with the waste stream.
- MBR system requires a fine mechanical bar screen (~1 mm) upstream of the unit to minimize the potential for physical fouling of the membranes. The USBF uses a standard mechanical bar screen.
- The membranes in the MBR must be cleaned by the use of a chemical cleaning process on a monthly or quarterly basis. The cleaning is done with NaOCl and acidic solutions, both of which must be handled and used properly to prevent injury to the operators.
- The USBF process is simpler and requires less equipment, and electricity to operate. The USBF flows via hydraulic gradeline (gravity) and the aeration is provided by fewer blowers. The MBR system on the other hand requires permeate suction pumps and internal recycle pumps in addition to the blower requirements in order to operate.
- MBR system typically requires the addition of chlorine in order to control filamentous growth within the system, as opposed to control of the filamentous sludge by the process itself as is with the USBF process.
- The USBF process has an extended sludge age of 25 to 30 days with low microbial loading which produces less excess, aerobically stabilized sludge and improves sludge structure and mechanical dewatering characteristics.

In summary, we believe that the USBF is a superior process for this application due to the following:

- Overall simpler process to operate
- Requires less electrical power
- Does not require computerized controls for operation
- No chemicals required for operation
- Less mechanical equipment to maintain
- Produces less sludge
- Requires less land area

The evaluation was prepared by Mr. David E. Mahler, PE, VP, and Mr. Scott Breitenstein, P.E. of the CPH Engineers Inc. Orlando, Florida office. Tel: 407 425-0452

# EDUCATED CITIZENS CONSERVE

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## AN OPEN LETTER TO:

City of Morro Bay, California  
Black & Veatch Project No.189276 & Beyond

Re: USBF®, SBR & economical water reclamation facilities design and operation.

Carollo Engineers Associate Vice President Eric Casares, P.E.  
Mr. Jaime Irons Morro Bay Mayor/City Council  
Mr. Rob Livick PWD Morro Bay  
Mr. Joe Pannone Morro Bay City Attorney

Greetings,

Evergreen Technology that exploits nature is "**a sovereign remedy**" for the currently high costs of the consulting engineering, designing, building and operating any Public Works "BIOLOGICAL" portion of those Wastewater Treatment and Reclamation Facilities designs that Carollo Engineers and or Black & Veatch offers, and especially, as in the case of the Morro Bay, California "Fix-it Ticket", B&V Project No.189276 which calls for a permitted 30/30/30 effluent result.

The Activated Sludge Evergreen Technology "Upflow Sludge Blanket Filtration" (USBF®) is an important Environmental Process Revolution that "by design" delivers **10/10/10**, without breaking a sweat, using as much as 50% less Horsepower and requires approximately 60% to 80% of the land area of the SBR system depending upon lay out. The high treatment efficiencies delivered when using USBF® pave the way to economical water reclamation facilities design and operation. Please see 'processes tab' located on ECOfluid System Inc.'s website for information about 'Features, Benefits & How it works' provided within the system design.

Evergreen Technology utilizing the "naturally occurring and free of charge" Filtration Blanket and Gravity was not evaluated in your B&V Project No.189276 "Facility Master Plan" dated 9, November 2016. <http://morrobaywrf.com/site/wp-content/uploads/Morro-Bay-Draft-WRF-Master-Plan-Full-Document.pdf>

I am particularly interested in the opinion of Carollo Engineers Associate Vice President Eric Casares, P.E. for the ecologic and economic benefit of the Citizens who will purchase and use Evergreen Technology USBF® instead of SBR, MBR & Ox-Ditch.

Acknowledgement, then acceptance of a longstanding and proven the Evergreen Technology Design USBF® will change the course of history. A change that will conserve ever more precious resources and provide for improved prosperity and energy conservation, for our posterity

Operation of a USBF® plant is simple and self-regulating.

Benefits:

high treatment efficiency, including Biological Nutrient Removal (BNR)  
modular, expandable, compact  
no odor, no noise  
minimal amount of moving parts, gravity flow  
low cost of installation, operation

fluidized bed filtration  
self-regulating hydraulic flexibility  
handles highly fluctuating flows

<http://ecofluid.com/treatment-processes/upflow-sludge-blanket-filtration-usbf/>

The point of my interest here is predicated upon what posterity will receive from my generation which includes the manner in which government works in the Public Works Arena. The cost of doing business is significantly reduced when USBF® is made a part of the Process Design Engineer Consultant's tool box.

*After all, gravity "is" the ultimate green energy...*

Respectfully submitted,

MPL  
Concerned Citizen  
November 22, 2017

# EDUCATED CITIZENS CONSERVE

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## AN OPEN LETTER TO:

City of Morro Bay, California  
Black & Veatch Project No.189276 & Beyond

Re: USBF®, SBR & economical water reclamation facilities design and operation.

Mr. Sandeep Sathyamoorthy, P.E Process Design Lead  
Mr. Brad Hemken, P.E. WRF Lead  
Ms. Kristi Kuhlmann P.E. Engineering Manager  
Mr. Matt Thomas P.E. Project Manager  
Mr. Robert S. Kaessner P.E.(?)  
Mr. Jaime Irons Morro Bay Mayor/City Council  
Mr. Rob Livick PWD Morro Bay  
Mr. Joe Pannone Morro Bay City Attorney

Greetings Gentlelady, Gentlemen,

Evergreen Technology that exploits nature is **"a sovereign remedy"** for the currently high costs of the consulting engineering, designing, building and operating any Public Works "BIOLOGICAL" portion of those Wastewater Treatment and Reclamation Facilities designs that Black & Veatch offers, and especially, as in the case of the Morro Bay, California "Fix-it Ticket", B&V Project No.189276 which calls for a permitted 30/30/30 effluent result.

The Activated Sludge Evergreen Technology "Upflow Sludge Blanket Filtration" (USBF®) is an important Environmental Process Revolution that "by design" delivers [10/10/10](#), without breaking a sweat, using as much as 50% less Horsepower and requires approximately 60% to 80% of the land area of the SBR system depending upon lay out. The high treatment efficiencies delivered when using USBF® pave the way to economical water reclamation facilities design and operation. Please see 'processes tab' located on ECOfluid System Inc.'s website for information about 'Features, Benefits & How it works' provided within the system design.

Evergreen Technology utilizing the "naturally occurring and free of charge" Filtration Blanket and Gravity was not evaluated in your B&V Project No.189276 "Facility Master Plan" dated 9, November 2016 and so I hereby, officially request that the attached 3rd party comparisons be formally acknowledged and accepted or rejected by Black & Veatch's fine team of Engineers, at the earliest possible moment.

I am particularly interested in the opinion of Mr. Sandeep Sathyamoorthy, P.E Process Design Lead, as it appears that his study/work is paramount to what processes will be evaluated, by Black & Veatch. It is brilliant that, one man and his team have the power to be able to harness nature, for the ecologic and economic benefit of the Citizens who will purchase and use Evergreen Technology USBF® instead of SBR, MBR & Ox-Ditch. Acknowledgement, then acceptance of a longstanding and proven the Evergreen Technology Design USBF® will change the course of history. A change that will conserve ever more precious resources and provide for improved prosperity and energy conservation, for our posterity. Mr. Sandeep Sathyamoorthy, P.E Process Design Lead, is a *very important person*.

Operation of a USBF® plant is simple and self-regulating.

Benefits:

high treatment efficiency, including Biological Nutrient Removal (BNR)  
modular, expandable, compact  
no odor, no noise  
minimal amount of moving parts, gravity flow  
low cost of installation, operation

fluidized bed filtration  
self-regulating hydraulic flexibility  
handles highly fluctuating flows

The point of my interest here is predicated upon what posterity will receive from my generation which includes the manner in which government works in the Public Works Arena. The cost of doing business is significantly reduced when USBF® is made a part of the Process Design Engineer Consultant's tool box.

*After all, gravity "is" the ultimate green energy...*

Respectfully submitted,

MPL  
Concerned Citizen  
October 5, 2017

## Comment Letter – Mark Low

### Response to Low-1

The City thanks Mr. Low for submitting comments. Several treatment technologies were reviewed for the City's proposed WRF project in the draft Water Reclamation Facility Master Plan. For biological treatment technologies, the draft Facility Master Plan compared suspended growth systems, including various activated sludge processes, sequencing batch reactor, and oxidation ditch; hybrid systems, including membrane bioreactor and integrated fixed-film activated sludge; and fixed film systems, moving bed bioreactors and biological aerated filters. The technologies reviewed in the draft Facility Master Plan consist of commonly available systems, with a history of successful operations, and which can be provided by several manufacturers.

ECOfluid's proprietary Upflow Sludge Blanket Filtration (USBF®) technology combines a bioreactor, with aerobic and anoxic compartments, with an upflow filter. The USBF® can be considered an activated sludge process with an integrated clarification/filtration process. The use of that technology would not result in additional impacts beyond those identified for the treatment alternative evaluated in the Draft EIR.

City of Morro Bay

May 17, 2018

MAY 17 2018

Rec'd City Hall

Dear Mr. Livick,

Please explain what the City proposes to do if the pipes spring a leak and raw sewage spills into the estuary. With the current location of South Bay, the estuary is at an extreme risk of being seriously impacted if there was a leaking catastrophe. This is a major concern and needs to be addressed.

Secondly, how has the City determined to handle the physical mess of things respectful of tearing up the streets and the City through the construction of this behemoth sewer plant?

How are the businesses going to be impacted from all of this?

Thank you,



Kerrigan Mahan

PO Box 753

MORRO BAY, CA  
93443

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## Comment Letter – Kerrigan Mahan

### Response to Mahan-1

The City thanks Kerrigan Mahan for submitting comments. Regarding the potential for sewage spills into the estuary, please refer to **Master Response 3 – Accidental Spills and Impacts to Morro Bay Estuary**.

### Response to Mahan-2

The construction activities involved with the proposed project are detailed in Section 2.5.3 of the Draft EIR. Construction-related environmental impacts are discussed throughout the Draft EIR. Refer to Section 3.1.3 for the visual impacts that would occur during construction and operation of the proposed pipelines and WRF. For all proposed pipelines, the area of disturbed during construction would be returned to pre-project conditions once construction is complete; so construction-related impacts would be temporary. As indicated on page 3.16-10, all construction debris would be properly disposed onsite or hauled offsite to an acceptable disposal location.

In order to ensure businesses and residents located near the proposed project are minimally impacted, including those along the proposed pipeline alignments, a traffic control plan (Mitigation Measure TRAF-1) would be implemented. Pages 3.14-17 and 18 details the traffic control plan which would ensure that access to individual property near the proposed project is maintained. Similarly, Mitigation Measure NOI-1 would implement construction noise-reduction measures to minimize impacts to surrounding businesses and residents. Refer to pages 3.11-22 and 23.



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**From:** Jeff Odell <[jandjodell@gmail.com](mailto:jandjodell@gmail.com)>  
**Sent:** Thursday, May 17, 2018 10:12 AM  
**To:** Rob Livick <[rlivick@morrobayca.gov](mailto:rlivick@morrobayca.gov)>  
**Cc:** CAL <[Citizensforaffordableliving@gmail.com](mailto:Citizensforaffordableliving@gmail.com)>  
**Subject:** Written comments on Draft EIR, MBWRF, 5/17/2018

Sent from my iPhone

A. The WWTP Draft EIR fails to address alternative sites that would have less environmental and social impact than the proposed site. The discussion in WWTP Draft EIR Chapter 6 simply states, “*In April 2016, after direction to investigate other potential sites, the list of potential sites was revised to include Rancho Colina, Righetti, Tri-W, Chevron/Toro Creek, and Madonna (another site in Morro Valley). After the 2016 comparative study was completed, the Tri-W site, which became known as the South Bay Boulevard site, was found to be the final site preference, and preliminary planning efforts began at that location based on City Council direction at that time.*”

The Draft EIR does not include a complete independent evaluation comparing relative environmental impacts that can be expected from the list of 2016 potential sites, depriving the public of critical information regarding potential impacts on long term economic and social impacts to the City. The omission of a full and complete alternative sites analysis prevents the citizens of Morro Bay from understanding the full environmental and social impact from the selection of the most expensive potential site (both to build and to operate) on the 2016 list of potential sites. The choice of the preferred site at South Bay Boulevard cannot be simply a choice of political expediency. It must be independently evaluated against the other sites with clear objectivity.

CEQA Article 5 provides that economic and social changes may be used to determine that there is a significant effect on the environment. The proposed site on South Bay Boulevard is the most expensive site, both to build and to operate, creating environmental and social impacts through increased use of nonrenewable resources where other sites are available that will not create the same level of environmental impact.

“§15064

(e) Economic and social changes resulting from a project shall not be treated as significant effects on the environment. Economic or social changes may be used, however, to determine that a physical change shall be regarded as a significant effect on the environment. Where a physical change is caused by economic or social effects of a project, the physical change may be regarded as a significant effect in the same manner as any other physical change resulting from the project. Alternatively, economic and social effects of a physical change may be used to determine that the physical change is a significant effect on the environment. If the physical change causes adverse economic or social effects on people, those adverse effects may be used as a factor in determining whether the physical change is significant (*emphasis added*). For example, if a project would cause overcrowding of a public facility and the overcrowding causes an adverse effect on people, the overcrowding would be regarded as a significant effect.

(f) The decision as to whether a project may have one or more significant effects shall be based on substantial evidence in the record of the lead agency.”

- The proposed site will require the pumping of effluent over the hill to the WWTP, and then pumping treated effluent back over the hill. Pumping costs and related consumption of nonrenewable resources can be expected to be much higher than would be the case with alternative sites. CEQA §15064.e. requires evaluation of adverse effects as a factor in determining whether the physical change is significant.
- The City, through the efforts of the Water Reclamation Facility Citizen Advisory Committee (WRFCAC), considered a number of alternative sites, and the relative impacts generated by each site. Each of the sites considered by the committee would result in less environmental impact through lower demand on non-renewable resources and lower operating costs. Recommendations were made to the City Council by WRFCAC. The Draft EIR fails to consider environmental impacts between the alternative sites and the WWTP project. The Draft EIR needs to consider the relative level of all environmental impacts between the alternative sites and the WWTP so an educated decision can be made regarding a site that will generate the lowest level of environmental and social impacts. There is substantial evidence in the City (lead agency) records to require a comparative environmental analysis of alternative sites in the Draft EIR as required by CEQA §15064.f.

B. The City of Morro Bay adopted the Climate Action Plan on January 21, 2014

The City of Morro Bay Climate Action Plan (CAP) is a long-range plan to reduce greenhouse gas (GHG) emissions from City government operations and community activities within Morro Bay and prepare for the anticipated effects of climate change. The CAP will also help achieve multiple community goals such as lowering energy costs, reducing air pollution, supporting local economic development, and improving public health and quality of life.

The City is committed to reducing its GHG emissions by 15 percent below 2005 levels by 2020, consistent with AB 32. As shown in Table ES-3, based on the 15 percent reduction target Morro Bay would need to reduce its community-wide GHG emissions to 47,325 MT CO<sub>2</sub>e by 2020. To meet this target, Morro Bay will need to reduce its GHG emissions eight percent below the adjusted forecast level (equivalent to 3,933 MT CO<sub>2</sub>e) by 2020 through implementation of local measures and actions.

- The Draft EIR fails to consider the environmental and social impacts resulting from lack of compliance with the adopted CAP.
- The CAP was adopted with the express purpose of lowering the use of non-renewable resources. The City of Morro Bay, through the commitment to lowering energy costs, reducing air pollution, and improving public health and quality of life, cannot ignore the import of compliance with the CAP. The Draft EIR fails to consider environmental and social impacts resulting from WWTP increased energy costs, increased air pollution, and related impacts on health and quality of life where alternative sites would have less environmental and social impacts.
- Alternative sites, carefully considered and evaluated, were recommended to the City Council as preferable to the South Bay Boulevard site, will result in closer compliance to the City Council adopted CAP. The Draft EIR fails to consider the level of environmental and social impacts when compared against alternative sites.
- Lack of compliance with the adopted City CAP will result in potential environmental and social impacts that have not been considered in the Draft EIR.
- The Draft EIR fails to consider the long term environmental impacts resulting from the consumption of higher levels of non-renewable resources where alternative sites have been considered that will not have as significant an impact on the environment. Evaluation of long term environmental impacts resulting from the consumption of higher levels of non-renewable resources is required to be considered for compliance with the CAP and CEQA §15064.e.

The Draft EIR fails to consider the potential environmental and social impacts resulting from lack of compliance with the CAP, a City Council adopted plan that was the subject of extensive review and consideration, and adopted for the benefit of the entire City, nor does the Draft EIR consider the import of the CAP in relation to CEQA §15064.e .

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## Comment Letter – Jeff O'Dell

### Response to O'Dell-1

The City thanks Mr. O'Dell for submitting comments. The commenter's request for an independent evaluation comparing impacts from the list of potential WRF sites is addressed in **Master Response 1 – Alternatives**.

### Response to O'Dell-2

An economic/social effect of a physical change can be used to determine whether the physical change is a significant impact of the environment (*i.e.*, if construction of a road increases noise impacts that then negatively disturbed nearby religious practices) per CEQA Guidelines Section 15131(b). The commenter asserts the South Bay Boulevard Site's expense creates environmental and social impacts through increased use of renewable resources, where other sites would not create that same level of impact. As discussed on page ES-13, the proposed project's energy requirements are within PG&E's existing and planned electricity capacity and supplies would be sufficient to support the project's demand. As a result, the project would not constitute an irreversible and irretrievable commitment of nonrenewable resources per CEQA Guidelines Section 15126(c) to energy or transportation fuels during construction or operation.

### Response to O'Dell-3

The environmental impacts related to the use of energy to pump raw/treated wastewater both to/from the WRF are discussed starting on page 3.7-33. All construction-related and operation-related energy impacts were found to be less than significant with no mitigation measures required. The analysis accounts for the incremental increase in energy use associated with the proposed WRF relative to the existing baseline energy use associated with operation of the existing WWTP. Energy use would be within existing energy providers' capacity and would be consistent with the City's Climate Action Plan and the County's Energy Wise Plan. As a result, neither construction nor operation of the proposed project would lead to wasteful, inefficient, or unnecessary consumption of energy, or the wasteful use of energy resources. The commenter has presented no information indicating that an alternative would have fewer impacts than the less than significant determination reached in the Draft EIR.

### Response to O'Dell-4

Please see Response to O'Dell-2 and Response to O'Dell-3 for discussion of social/economic impacts and nonrenewable impacts. Please also see the **Master Response 1 – Alternatives**. As lead agency under CEQA, the City has ultimate discretion over the number of alternatives included in an EIR, known as the "rule of reason" (CEQA Guidelines 15126.6(f)). As no significant environmental effects associated with nonrenewable resources would result from implementation of the project, the City does not have to include alternatives to reduce those impacts, since they are not determined to be significant.

## Response to O'Dell-5

The commenter's summary of the Climate Action Plan (CAP) and the City's commitment for reducing its community-wide GHG emissions by 15 percent below 2005 levels by 2020 is noted for the record.

## Response to O'Dell-6

The Draft EIR identifies the project's consistency with the CAP on page 3.7-33 to 3.7-36. Although the proposed project would triple the energy demand when compared to current energy use at the existing WWTP, this long-term demand would not be considered wasteful as the proposed project would help the City meet a requirement to produce tertiary disinfected wastewater in accordance with the 22 CCR requirements. In addition, as stated on page 3.7-55 of the Draft EIR, consistent with the policies and measures in the City's Climate Action Plan and the County's EWP, an 800 kW solar farm would be installed at the WRF which would offset some of the proposed project's energy usage. Assuming 5 hours of full sunlight per day for electricity generation, the solar farm would generate approximately 1.2 to 1.3 MWh annually, which would meet approximately 35 to 40 percent of the proposed project's energy needs from the grid. The Draft EIR concludes that impacts would be less than significant.

The commenter has presented no information indicating an alternative site would have fewer impacts than the less than significant determination reached in the draft EIR. Assuming an alternative site would include the same tertiary and advanced treatment processes and some pumping of effluent, impacts would likely be similar to the proposed project. CEQA requires an assessment of alternatives for significant impacts. The Draft EIR concludes impacts to energy, GHG emissions, air emissions, and non-renewable resources are less than significant and as such alternatives are not required based on impacts to those resources. Please refer to **Master Response 1 – Alternatives** for additional information.

## Response to O'Dell-7

Please see Response to O'Dell-2 and Response to O'Dell-3 for discussion of social/economic impacts and nonrenewable impacts. Please also see the **Master Response 1 – Alternatives**. As lead agency under CEQA, the City has ultimate discretion over the number of alternatives included in an EIR, known as the "rule of reason" (CEQA Guidelines 15126.6(f)). As no significant environmental effects associated with nonrenewable resources would result from implementation of the project, the City does not have to include alternatives to reduce those impacts, since they are not determined to be significant.

## Response to O'Dell-8

Please see Response to O'Dell-6.

## Response to O'Dell-9

Please see Response to O'Dell-2 and Response to O'Dell-3.

## **Response to O'Dell-10**

Please see Response to O'Dell-2, Response to O'Dell-3, and Response to O'Dell-6.

Rob Livick  
P.E., Public Works Director

City of Morro Bay  
955 Shasta Avenue  
Morro Bay, Ca 93442

Re: Draft EIR

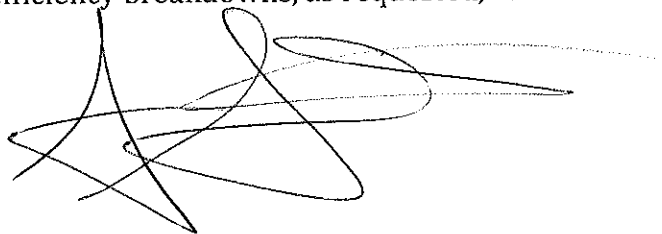
Dear Mr. Livick

With all due respect, in regards to the D.E.I.R., please document what is the specific foundational study, specific to that site, that the City of Morro Bay relies on to ensure that the injection wells site area can sufficiently handle the dump and what is the impact with the high nitrates in the area, and how does that impact the successive monthly and subsequent overall, both, cost and efficiency?

Please document the specific study and document specific test results to that site, and also please document additionally relative to high nitrates as noted, including both cost and efficiency breakdowns, as requested, relative to both cost and efficiency.

Respectfully

Steve Stevens  
P. O. Box 411  
Morro Bay, Ca 93443



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City of Morro Bay

**MAY 17 2018**

City Hall

## Comment Letter – Steve Stevens

### Response to Stevens-1

The City thanks Mr. Stevens for submitting comments. As stated in the Draft EIR on page 3.9-24, groundwater modeling was conducted to evaluate the response of the aquifer to the injection and extraction of treated recycled water (GSI, 2017). The modeling report is included as Appendix G to the Draft EIR. Prior to the modeling, aquifer testing was conducted on the existing city wells to better quantify the parameters of the aquifer to be used for injection, including the horizontal and vertical hydraulic conductivity. That information was reported in the groundwater modeling report and used to design the model. The groundwater modeling was used to evaluate the feasibility of injecting 825 AFY of treated recycled water to the aquifer (Draft EIR, page 3.9-24).

Regarding nitrates, the Draft EIR acknowledges that nitrates are a predominant concern for water quality in the City's Morro Valley wells (page 3.9-6). The Draft EIR notes on page 3.9-17 that during project operation, the California Code of Regulations Title 22 would require the City to monitor groundwater quality on a quarterly basis, sampling for constituents including total nitrogen, nitrate and nitrite among others. The City's BWRO plant is designed to remove nitrate, as well as TDS, from groundwater pumped out of the Morro Valley groundwater basin (Draft EIR, page 3.9-6).

Additionally, Title 22 requires that recycled water for groundwater replenishment using injection wells contain total nitrogen concentrations of less than 10 mg/L. Total nitrogen consists of ammonia, nitrite, nitrate, and organic nitrogen. Therefore, nitrate concentration in the recycled water will also be less than 10 mg/L, generally much lower than the nitrate concentrations in the Morro Valley groundwater basin which will help to reduce nitrate concentrations in the groundwater over time.



May 18, 2018

**Comments for the Draft Environmental Impact Report for the  
Morro Bay Water Treatment and Water Reclamation Project.**

Submitted by Bart Beckman, resident of Morro Bay

BBB

1. ALTERNATIVES

The "Alternative" discussion is unbelievably weak: The Proposed Project, the "Do Nothing" option, and the Alternative – route the pipeline down the Embarcadero.

- a. The "Do Nothing" Option is heavily skewed toward accepting of questionable "facts".

Did Morro Bay question the Cayucos EIR which stated that with Cayucos NOT part of the existing (Do Nothing option), the Plant would be in compliance? Clearly Cayucos has put a stake in the ground to not pay for any demolition and argued in an Accepted EIR that the Plant will be in compliance after Cayucos is no longer a party.

If Morro Bay did nothing, I would opine that they are in agreement that the plant WILL be in compliance contrary to the language in the DEIR.

And given this, there should be a cost to reimburse Cayucos for the use of the property from the time of Cayucos departure until the operation of the new facility.

Also, given that the plant need not be moved, Morro Bay needs to pay for the entire demolition and to buy out Cayucos for their share of the property.

b. Water Reclamation Alternatives

- i. Staff indicated at the Community Forum that a NEW Desal Plant could be built for approximately \$25 million. This would provide an endless supply of water using known technology.
- ii. The newly released data on the Pismo option would also be in the order of \$25 million.
- iii. Siting at the Chevron site would allow possible use of Whalerock Reservoir – Cayucos has obtained R/W with the potential of using Whalerock with the necessary permits. – This site is OUT OF THE COASTAL ZONE.

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- iv. The responses as to whether or not the quantity of tertiary water can be injected seem VERY guarded – implying staff is NOT fully convinced this will work.
- v. For all of these options, Morro Bay could reduce purchased water – even with the selected option, it was stated that we could replace 80% of our current water – if this is true, why is there not a cost SAVINGS value which could offset the required funding?

2 cont.

- c. Embarcadero pipeline alternative. This is a laughable alternative that to my knowledge was NEVER publicly discussed. You might just as well offer an alternative that routes around the Rock, but I digress. This being the ONLY Alternative discussed makes a mockery out of the concept and yes, I understand there are about 8 studies referenced which discussed the 17 Alternatives.

Arguments were made at WRFCAC that the Quintana option is unworkable – this was NOT disputed. So why isn't there an option to go across Hwy 1 and then behind the residential areas as suggested by a WRFCAC member – this would keep the site location at South Bay.

3

A Council member publicly stated that he/she would NOT allow for a major business disruption on Quintana, so how can this be the preferred routing?

The other option which keeps in tact the Council logic for siting is the Chevron site which clearly has the least Central Coast environmental impact as it would be on a site outside of the Coastal Zone area and would be on property already being used for a Water Treatment Facility, to say nothing of the option of working with Cayucos for a joint Water Reclamation option using Whalerock.

A significant reason this Toro Creek site was dropped was because our consultants advised us it was not for sale. Apparently, things changed.

- d. Alternative to fix the most significant sewer leaks to reduce the plant sizing requirement. As the Carollo PM stated we have increases in flow requirements during the 3 major holiday weekends AND in heavy rainfall. We should ALL understand that the only reason the rainfall impacts the CLOSED sewer line system is that there are leaks – and what leaks in, must also leak out sewage.

4

Are we to believe that the RWQCB is concerned about our outfall (which IS in compliance), but doesn't care about sewage leaking into our groundwater and possibly the estuary and/or ocean? Please have the RWQCB comment on this issue in their review of the DEIR.

The perturbation of the holiday flow pales by comparison to the rainfall issue. So an

Alternative would be to fix the major leaks now. I agree that we probably cannot in a reasonable timeframe totally fix this issue but fixing the most significant leaks could reduce the sizing requirement. This could be done in parallel. And the savings in sizing might pay for the sewage leak fixes or certainly offset part of the cost.

2. Administration Building

Given that the DEIR states the plant will be demolished AND the new project will NOT include a new Maintenance Facility Building, where will this facility be and why is that cost not included? The implication is that the old Maintenance Building will be demolished. A cost needs to be included for the planned alternative.

3. Use of old site

While there are several alternatives to this use, all but one would cost money. Those options would include, but not be limited to commercial use such as a hotel, park, ball fields, or marsh.

Since there are no costs included, one must conclude that the hotel option is the selected "alternative". This should be openly stated and vetted with the Coastal Commission. The City Manager in supporting the need to move the Facility inland clearly implied the CCC would not be very accepting of a hotel on that property.

Thus, I would suggest that the "alternative" should be one of the non-commercial options and an estimated cost should be included. Also, since Cayucos would receive no benefit from these non-Commercial options, a cost to buy out Cayucos needs to be included.

In either case, the EIR should state that either the site is intended to be used for "recreational/environmental" purposes or for commercial purposes. And then let the chips fall where they may, but an understanding of the cost would be included.

4. Manpower savings

The new technology plants are substantially more automated meaning that labor costs should be reduced. I understand this will be in the analysis to select the preferred Design/Build contract, but it should be in the DEIR. Knowing if a Project will increase or decrease employment is key to all DEIRs that I am aware of. This has an impact on Community services.



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## Comment Letter – Bart Beckman

### Response to Beckman-1

The City thanks Mr. Beckman for submitting comments. The analysis of a No Project Alternative is required by CEQA as described on page 6-11 of the Draft EIR. The commenter is referred to **Master Response 1 – Alternatives**. The Draft EIR identifies seven distinct alternatives siting studies conducted by the City including the final study completed in 2017. The alternative development process including the alternative of remaining at the existing location is discussed in **Master Response 1 – Alternatives**. The comments regarding cost sharing with CSD do not relate to the environmental impacts of the proposed project. The Draft EIR evaluated the impacts of constructing the new facility as well as demolishing the old facility.

### Response to Beckman-2

The commenter brings up several water reclamation alternatives, such as a desalination plant, a Pismo option, and use of the Whalerock Reservoir at the Chevron site. A desalination plant that supplies only potable water would not be an appropriate alternative for a wastewater treatment plant project, such as the proposed project, which provides wastewater treatment that allows for the production of recycled water to augment potable water supply. The Chevron site was considered during the City's site screening and selection process described in the Draft EIR starting on page 6-4. The comment does not provide information about the "Pismo option" so this is noted for the record. The commenter is referred to the **Master Response 1 – Alternatives** for more information.

The commenter also mentions a potential to reduce purchased water, and questions the amount of tertiary water proposed for injection. Under the proposed project, the injection of the advanced treated recycled water into the Morro Valley groundwater basin would be regulated under the CCR Title 22, Division 4, Chapter 3 Water Recycling Criteria (Draft EIR page 3.9-15 and 3.9-22). The City estimates the proposed project could produce as much as 825 AFY of recycled water from the proposed WRF for indirect potable reuse in the future (Draft EIR, page 5-6). The proposed project would extract volumes of water that would be equal to or more than the volume of injected water. As stated in the Draft EIR on page 5-6, by utilizing indirect potable reuse to increase existing groundwater supplies, the City would be able to produce more potable water from its own controlled water source to be used within the City and decrease its dependency on the water supplied by the SWP. That may result in cost savings in the future.

### Response to Beckman-3

The commenter expresses opinion about alternatives analyzed. The Draft EIR evaluates a pipeline alternative; however, it would not avoid the significant impacts of the proposed project pipeline alignment. The alternative development process is discussed in **Master Response 1 – Alternatives**, which also includes an overview of alternatives considered, including the Chevron site and Toro Creek site.

The comment asks why an alternative pipeline alignment that travels across Highway 1 and then behind residential areas was not analyzed in the Draft EIR. The comment questions whether pipeline construction would result in major business disruption on Quintana Road. Environmental impacts of installing pipeline within roadways constitutes a temporary impact and would not permanently impact the business community. As required by Mitigation Measure TRAF-1, a Traffic Control Plan would be implemented that requires access to be maintained to individual properties during construction. In addition, the proposed pipeline would be installed at approximately 150 feet per day, as described on page 2-28 of the Draft EIR. As such, the disruption to any one business location would be limited to approximately one week or less. The alignment proposed in the comment is similar to those included in the proposed project and as such would have similar environmental impacts as the proposed project.

#### **Response to Beckman-4**

The commenter's proposed alternative includes repairing the existing sewer system to reduce leaks and account for increased flow during holiday weekends and rain events. Those activities are not part of the proposed project; as a result, the Draft EIR does not evaluate the effectiveness of the collection system. All collection systems have some level of infiltration during storms that increases the flows to the treatment plants. The proposed project has been designed to accommodate projected flows including peak flows resulting during rain events. The City has a capital improvement program that includes maintenance and replacement of the sewer collection system. The RWQCB did not submit a comment on the Draft EIR; however, the State Water Resources Control Board did submit a letter. Please also refer to **Master Response 1 – Alternatives** for additional information.

#### **Response to Beckman-5**

As explained on page 2-13, the proposed project includes construction of operations and maintenance facilities. As shown on Figure 2-4, the preferred WRF site would include separate buildings for operation (Building 1) and maintenance (Building 9).

#### **Response to Beckman-6**

The end use of the site where the existing WWTP will be demolished has not yet been determined, and is not part of the project analyzed in this Draft EIR. Once demolition, which is analyzed in the Draft EIR, occurs, options for the site will be evaluated and separate environmental review conducted as required by CEQA. The City is currently preparing the General Plan/LCP Update, which will include the future land use designation for the existing WWTP site. The City will also coordinate with the California Coastal Commission during the process of completing a Coastal Development Permit application to ensure the site is used appropriately. Once the General Plan/LCP Update is complete, the City will prepare an associated CEQA document to evaluate the environmental impacts.

## **Response to Beckman-7**

Regarding employment, the City anticipates four employees would be onsite to operate the proposed WRF (Draft EIR page 2-31). In addition, the Draft EIR includes a discussion of employment as it relates to public services, which is an area required to be analyzed in the CEQA Guidelines Appendix G. Specifically on page 3.13-5, the Draft EIR finds “employment opportunities associated with the construction and operation are assumed to be filled by the local workforce, and would not result in increased housing demand.” Additionally, on page 3.13-6, the Draft EIR finds “the proposed project is a wastewater treatment project and does not propose any new housing units or a substantial increase in new employment opportunities within the City; nor does the potential water that might be supplied by the WRF increase opportunities for additional residents or businesses in the City or County.”



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MAY 18 2018

City of Morro Bay  
Public Works Department

Donnelly

May 18, 2018

To Rob Livick, PE, PLS, Director of Public Works for the City of Morro Bay, California

From Paul Donnelly, PE, PLS, member of the Water Reclamation Facility Citizens Advisory Committee

To preface my comments and questions below regarding the March 2018 Draft Environmental Impact Report (DEIR) for the Water Reclamation Facility (WRF), these comments are mine and mine alone and do not represent the committee as a whole or any subcommittee.

The Notice of Preparation (NOP) of August 2016 implied that there would be 2 phases for the facility, phase one for wastewater treatment and later phase two for water reclamation (pages 5 & 6). Now according to the DEIR, the entire facility will all be constructed in a single phase. For the record, please explain why this is and if reclamation and water reuse is feasible and now indeed, certain. Which state agencies need to give their blessing on actually making this a reality for the city? Could there be protests? The NOP stated that phase two of the proposed project would be implemented once the City has determined the ultimate beneficial end uses for recycled water. Has the City made this determination? If so, when did this occur? If eligibility for a loan to assist in financing the project is the primary reason for a complete single phase project then another analysis should be provided comparing the costs if the project was done in phases as the NOP implied. It might be less burdensome to the ratepayers over time if phase two was deferred.

On page 6 of the NOP it states that the proposed project will require some minor modifications to the existing sewer collection system however, the DEIR says otherwise (page ES-5). A large portion of the Morro Heights neighborhood in the southeast part of the city could easily drain by gravity directly to the lift station on Quintana Road at South Bay Boulevard with a minor reconfiguration of the existing collection system. This innovated concept could lessen the quantity of flow to pump from the proposed lift station back at the existing wastewater treatment plant (WWTP) on Atascadero Road. Raw wastewater conveyance pipe(s) could possibly be reduced in size as well. Over time, this could save significant energy consumption.

On page 7 of the NOP it states that return flow from the WRF will be "gravity driven" when in fact it will be pumped back over. This is a significant impact and cannot be ignored! An analysis should be provided for using a siphon instead to minimize pumping and energy usage for the return lines. Please give it some consideration and don't just dismiss this concept. It might be possible with welded steel pipe. It could be considered innovated and as a beneficial mitigation measure. Why does the DEIR say that the project facilities may include, but not limited to, recycled water conveyance pipeline, a pump station, injection wells and monitoring wells (page ES-5)? Could the project fully reclaim the water without these? Are they not necessary to fulfill the objective?

The Conceptual Layout shown in Figure 2-4 on page 2-7 is significantly different than what is shown in Figure 7-5 on page 7-14 of the Facility Master Plan (FMP) that was prepared for this project. The new version shown in the DEIR does not show the extent of rough grading as is shown in the FMP. The area appears to be less than originally anticipated so will the area the city needs to purchase also be less? The boundary for the facility need not be anything more than what is required for this project and on behalf of the public, the city needs to stand firm on this. Place a fence about 20 feet beyond the area of disturbance and make that the boundary line. That 20 feet could be used for drainage purposes along with landscaping for screening purposes. If the city purchases more than required, I fear that the excess area will just become a junk yard for the city's unused stuff.

5

At the new plant, consider consolidating things such as building right over the equalization basin deck or put some of the parking on top of the decks? Saving space translates to saving costs and could be considered as a mitigation.

6

Contrary to the what is being suggested in the notes on the Conceptual Layout shown in Figure 2-4 on page 2-7 of the DEIR, the drainage should be intercepted and directed (or pumped, as the case may be) into the waste stream above the headworks of the plant, if possible, rather than to be passed on to existing swales. This could also be essential in containing a spill anywhere on the site if that were to ever occur.

7

An ideal location for the lift station would be just next to the existing headworks at the WWTP. Page Under Section 10.3.1 WWTP Structure and Site Inventory and Disposition on page 10-3 of the FMP stated that *"All existing structures within the fence line of the WWTP are identified on Figure 10-2 and will be demolished and removed as a part of this work except the following:*

- *Air Release Structure - This is the outfall structure which will be left in place for future use with the new WRF. It will also be available for use by CSD.*
- *Headworks/Influent Lift Station - It is possible that part of this building will be retained and reused with the new Morro Bay WRF."*

8

Rather than pump the slurry of all that arrives at this location from the entire collection system of the city's sewer up and over to the new WRF at South Bay Boulevard, it would be beneficial to have screened some material out of the waste stream, such as the existing headworks is doing, and then pump only a liquid with some suspended solids over to the new WRF. It would reduce the energy usage at the proposed lift station and save the expense of constructing new headworks at the South Bay Boulevard plant site. Can the existing headworks and the proposed lift station be made to operate in a submerged environment if that were ever to occur?

On page 2-30, 6<sup>th</sup> bullet, it says the entire site will be surfaced with a thin layer of gravel upon completion of the demolition work at the existing wastewater treatment plant site on Atascadero Road. Talking with Kevin Kahn at the Coastal staff in Santa Cruz, this would not be acceptable.

9



There needs to be a restoration plan and do something like was done along Coleman Drive in the dune restoration area. Plant dune grass and maybe provide some pathways for the public. Perhaps it could be graded such that it acts as a drainage basin and possibly alleviate minor flooding in the area. Mitigations like these are helpful for project approval according to Kevin.

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cont.

Referring to Figure 2-8 on page 2-19, consider an alignment for the raw water pipeline by going south down to the trailer park storage area instead of out into Atascadero Road. The traffic impacts would be reduced and the pavement would not have to be replaced. From the trailer park storage area, head east to the bank of Morro Creek at the bike path bridge to intersect with the proposed route shown in Figure 2-8. It is a shorter distance as well.

10

For the westerly pipeline route following within the bike path right of way south of the Morro Creek bridge, it measures less than 20 feet between fences in places. The fence on the west side of the bike path borders the power plant property and the fences on the east side of the bike path borders, for the most part, the State Highway Right of Way for State Route 1.

An existing waterline occupies the westerly pipeline route following within the bike path right of way south of the Morro Creek bridge and favors the power plant side of the path. The proposed raw water force main needs to be 10 feet away from the existing waterline which means the alignment for just a single 16 inch pipe might have to wander out of the existing bike path right of way along the way to maintain this clearance. Any additional parallel pipe will encroach further. Will any of the fences need to be removed and replaced as a result? Does the city need to acquire easements temporarily for construction purposes and will it be necessary to obtain permanent easements? Does the city need permission from Caltrans to remove any of the state's fence? Did the DEIR look at areas outside of the fences just in case they may be disturbed by the pipeline installation?

11

How will the pipe get delivered to the westerly pipeline route south of the Morro Creek bridge? Where will the excavated trenched material be placed as it is being excavated and where will the displaced excess excavated material be taken? It isn't just up to the contractor as there is federal involvement throughout the project. How deep and how wide will the trench be and is shoring necessary? It would most helpful to see a typical cross section of the construction zone showing the trench width and depth, pipe placement before installation and afterwards, clearance to other underground utilities, bedding, temporary stockpiling, fence line(s) and whatever else is helpful.

12

Much of the bike path surface is asphalt concrete averaging 10 feet in width from the bridge over Morro Creek heading south. The southerly portion of the bike path surface is concrete as much as 12 feet wide in places. Will these surfaces be replaced in kind if portions are removed to install the pipe(s) or if damaged by the equipment?

13

How long would the bike path be closed to the public and will there be a detour provided?

There are also power poles favoring the state highway side of the bike path. Is there a potential impact by trenching for the pipes next to power poles carrying high voltage?

There is a large gas line that crosses the bike path which goes to the power plant. Is this considered a potential hazard even if it might be abandoned?

Utility relocation needs a to be part of the project description. Relocating the city's water treatment plant (WTP) which houses the brackish water reverse osmosis units and the old desal plant, is also a component of the project is it not? It will be necessary to utilize the city's WTP for making any extracted reclaimed water from the Morro Valley wells usable for domestic purposes. Like the existing WWTP it will have to relocate upland and retreat from the same hazards (flooding, tsunamis, sea level rise, etc.).

Has there been any potholing of existing underground utilities to see if there are any major conflicts? Removal or abandonment of any underground utility including any of the city's water or sewer lines are to be part of the project description and evaluated for potential impacts.

Will concrete trucks need to pour concrete for potential trust blocks at critical places along the pipeline alignments. Can they get to the route on the easterly side of the state highway?

How much open trench will be allowed at any given time? How can the plates span such a wide opening? Will passing traffic cause trench cave ins when allowed to pass by?

Quintana Road is old State Route 56 from Morro Bay Boulevard down to South Bay Boulevard. The old concrete highway is still there. It is a historic cultural resource since it dates back more than 50 years and there needs to be some discussion regarding any impacts this project may have to its importance.

Chapter 7 of the DEIR, CEQA Plus Considerations; National Environmental Policy Act (NEPA): Since the DEIR has identified Class 1 environmental impacts, what might the city expect coming from the Environmental Protection Agency (EPA) as they prepare the NEPA document. Is it possible that the EPA will require an Environmental Impact Statement (EIS)? Will the EPA be lead on consultation with other agencies such as with the US Fish & Wildlife Service, National Marine Fisheries, the Advisory Council on Historic Preservation to name a few?

Please, summarize all that is needed to be done before the city can comfortably issue its notice to proceed to any of the contractors anywhere on the project.

Please list all mitigations measures and required regulatory permits that need to taken care of ahead of construction..

At one point during the last 5 years of planning for this project, there was some hopefulness that it could be a regional facility taking not just Morro Bay's sewage, but taking the sewage from the community of Cayucos and also taking sewage from the Rancho Colina park. Because of the discretionary decisions made by the Morro Bay officials, Cayucos has been forced into constructing A WWTP of their own and the deal at Rancho Colina went sour. This impact is a result of the city's project which has no inclusion for Cayucos or Rancho Colina in the proposed design. This is significant!

Is this DEIR satisfactory enough to obtain a land use permit from the county or will they require something more?

Now that the design-build proposals are available, are the preliminary design plans in sync with what the DEIR had envisioned? Are those plans adding features that are not being addressed in the DEIR?



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## Comment Letter – Paul Donnelly

### Response to Donnelly-1

The City thanks Mr. Donnelly for his comments regarding the revision in the project description since issuance of the NOP. The commenter correctly has identified the proposed project is no longer expected to be implemented in two phases and the product recycled water would be used for indirect potable reuse through groundwater recharge, as described in Chapter 2 of the Draft EIR. After evaluation of costs for implementing in multiple phases, the City determined implementation of the proposed project in one phase would be an option that more quickly and effectively achieves City goals to produce recycled water, maximizes opportunities to secure financing, and likely reduces costs overall. In response to Mr. Donnelly's concern about the state agencies, the State Water Resources Control Board and Regional Water Control Board approve groundwater recharge reuse projects (GRRPs), such as the proposed project (see Draft EIR, Table 2-10). Please refer to the Draft EIR, pages 2-32 and 3.9-15 to 3.9-18, for more information about GRRPs and their regulation and permitting.

### Response to Donnelly-2

As indicated on page 2-1 of the Draft EIR, the potential beneficial end use for the advanced treated recycled water from the proposed WRF would be indirect potable reuse. In the Draft EIR, Section 6.2.4 Recycled Water Reuse explains the other beneficial uses considered and how the determination was made.

Regarding the question about loan eligibility influencing the decision to modify the proposed project to one phase and the request for a cost analysis comparing a project implemented in one phase versus multiple phases, such a cost analysis is unrelated to the CEQA analysis required of an EIR. Per CEQA Guidelines Section 15064(e), "economic and social changes resulting from a project shall not be treated as significant effects." An economic/social effect of a physical change can be used to determine whether the physical change is a significant impact of the environment (i.e. if construction of a road increases noise impacts that then negatively disturbed nearby religious practices) per CEQA Guidelines Section 15131(b). Mr. Donnelly's request for a cost analysis between a project implemented in one phase versus two phases has been noted, and no further response is warranted.

### Response to Donnelly-3

The City notes Mr. Donnelly's suggestion to reconfigure the existing collection system to reduce energy consumption at the proposed lift station. By placing the lift station at or near the existing WWTP, there would be no need to modify the existing sewer collection system to drain to the lift station on Quintana Road. The City has assessed multiple flow diversion strategies to reduce the size of the proposed lift station, and the proposed project is designed to leverage gravity flow to the extent feasible, in the interest of an energy saving design.

Based on site topology and the existing gravity sewer system, a small portion of neighborhoods adjoining Quintana Road could theoretically be diverted by gravity to lift station 3 (LS3). A preliminary analysis of this option showed that a deep gravity main flowing east and down to Quintana Road to LS3 would be required for such a diversion. The extensive cost of this new gravity main, along with any other impacts such as potential upgrades at LS3 to handle additional flows would greatly exceed energy consumption savings at the proposed lift station. The amount of flow diverted is small enough that it would also not merit decreasing the size of the raw wastewater force main(s).

Refer to Section 3.7 Greenhouse Gas Emissions and Energy for the energy analysis of the proposed project.

### **Response to Donnelly-4**

The City notes Mr. Donnelly's suggestion to use a siphon to minimize pumping and energy use. Energy use was taken into account for the analysis of the proposed project; as described in the Draft EIR, Chapter 3.7, the proposed project would not result in a significant impact due to energy consumption.

The description of the proposed project uses the word "may" as stated in the comment because the proposed project has not yet been approved by the City Council, and cannot be, if at all, until the Final EIR is certified.

### **Response to Donnelly-5**

As noted in the comment, the proposed site layout included in the Draft EIR is different from the draft FMP because the City Council removed the Corporation Yard from the proposed project. (see Draft EIR, page 6-8 for more information.) As indicated on page 2-12, a fence would be constructed around the preferred WRF site. In addition, as shown in Figure 2-4, a buffer would be placed to separate the operational portion of the proposed WRF from neighboring land uses by more than 50 feet. The following text has been added to page 2-12 of the Draft EIR in response to the comment:

#### **Security**

The 10- to 15-acre WRF site would be secured by a fence. An electrical gate would be located near the front of the property and be controlled by a key from the O&M buildings and would be monitored by a video surveillance camera. Furthermore, a buffer area of more than 50 feet would be located between the operational portion of the WRF and its neighboring land uses.

Refer to the response for County-8 and County-29 for further details about the significance of the fencing and buffer areas. It should be noted the City is purchasing 27.6 acres of the 396-acre parcel. The proposed WRF would be developed within the 27.6-acre area, with the undeveloped acreage to be available for an agricultural or open space easement, as stated on page 3.2-7 of the

Draft EIR. The remainder of 396-acre parcel would be subject to the provisions of the County or City General Plan. Please refer to **Master Response 2 – WRF Site and Annexation**.

### **Response to Donnelly-6**

The City notes the comment from Mr. Donnelly regarding adding parking above the equalization decks to consolidate space. The current project design is preliminary and will be refined during the design/build process. Adding features above the current project components would result in taller structures that would increase visibility of the proposed WRF facilities and may not be compatible with the proposed architectural treatments described in the Draft EIR on page 2-14. In addition, such proposed designs would have effects on energy, time, and costs that would need to be considered. As the proposed project goes through the design-build process, the City intends to minimize the footprint to the extent feasible to minimize environmental impacts.

### **Response to Donnelly-7**

The City notes Mr. Donnelly's concern regarding the drainage to existing swales in the proposed WRF to avoid spills. Onsite drainage will be captured and detained onsite. Should an accidental sewage spill occur onsite, it will drain to the stormwater detention basin and can be pumped to the headworks for treatment. Drainage from the surrounding area will be directed around the site to continue towards existing swales. Collection and treatment of stormwater drainage from the surrounding area was not considered for this project as it would substantially increase the required size of equalization and treatment facilities. The comment is further addressed in **Master Response 3 – Accidental Spills and Impacts to Morro Bay Estuary**.

### **Response to Donnelly-8**

The City notes Mr. Donnelly's suggestion to use the existing headworks and move the proposed lift station next to the existing WWTP. As described on pages 6-8 and 6-9 of the Draft EIR, eight lift station locations were analyzed as potential project components. Those were narrowed down to the two proposed sites evaluated in the Draft EIR due to various criteria including costs, location, planning, and public support. As stated in the Draft EIR on page 3.9-41, the proposed lift station would be floodproofed, watertight, and the wet well lid, control panels, and critical components will be two feet above base flood elevation. While it would be possible to design the improvements such to maintain the existing WWTP headworks screens and install the pump station downstream to pump the screened influent to the WRF, this concept was not pursued for operational challenges and cost considerations. and two feet above base flood elevation.

### **Response to Donnelly-9**

The future use and development of the WWTP site is not part of the proposed project, but something that is more appropriately considered in the context of the City's General Plan/LCP Update, which is currently being prepared, and will include the future land use designation for the existing WWTP site. The City will also coordinate with the California Coastal Commission during the process of completing the Coastal Development Permit application to ensure the site is used appropriately. The comment has been noted.

## **Response to Donnelly-10**

The City notes Mr. Donnelly's suggestion for a different raw water pipeline alignment route through the trailer park storage area adjacent to the existing WWTP. The City has investigated multiple pipeline routes, including an option that is like the one described by Mr. Donnelly. That alternative is currently being assessed based on criteria that include but are not limited to utility impacts/conflicts, right of way procurement, and environmental/cultural constraints.

## **Response to Donnelly-11**

The City notes Mr. Donnelly's concerns regarding the construction methods and details for building the raw water pipeline along the bike path south of Morro Creek bridge. Final construction details will be determined as part of the design/build process prior to the initiation of construction. The pipeline design will comply with all state regulations regarding separation between sewer or recycled water pipelines and other utilities such as potable water pipeline. Regarding easements, once the preferred pipeline alignment is defined, the City will determine required temporary and permanent construction easements.

## **Response to Donnelly-12**

The trenching activities and measurements for the proposed conveyance pipelines are described on page 2-28 of the Draft EIR. All excavated materials and solid waste would be disposed onsite or hauled offsite to a local landfill as detailed on page 3.6-10 to 3.6-11. However, it should be noted all construction details will be finalized during the design/build process.

## **Response to Donnelly-13**

The City notes Mr. Donnelly's concern about the impacts to bicyclists and post-construction appearance of the proposed pipelines along the bike path. An approximate schedule for the construction of the proposed pipelines is 12 months, but the details of this schedule will be finalized during the design/build phase of the project. Mitigation Measure TRAF-1 would require the preparation and implementation of a traffic control plan which includes a detour plan for bicyclists during project construction. Refer to page 3.14-17 to 18 for more details. Lastly, as indicated on page 3.1-19, the proposed conveyance pipeline project area would be restored to pre-construction conditions.

## **Response to Donnelly-14**

Impacts to, and avoidance of, buried and nearby utilities would be considered during the final design/build process. In addition, the proposed project does not require relocation of the existing WWTP. As described on page 2-29 and 2-32 of the Draft EIR, existing City wells would be used to extract all recycled water injected into the groundwater basin. Water would be conveyed to the existing Brackish Water Reverse Osmosis (BWRO) treatment facility and treated for potable use.

## **Response to Donnelly-15**

Multiple techniques are available for thrust restraint. As discussed above, final construction details will be determined as part of the design/build process prior to the initiation of construction. Access along the alignment for large construction equipment and machinery such as concrete trucks will be provided.

## **Response to Donnelly-16**

Details about the trenching technique, width, and steel plates coverings during the construction of the proposed conveyance pipelines are described on page 2-28 of the Draft EIR. On average, 150 linear feet of pipeline would be installed per day, dictating the amount of trench open at any given time. In addition, Mitigation Measure TRAF-1 would implement a traffic control plan that includes signage to inform the motorists, cyclists, pedestrians of any construction that may disrupt travel. Refer to pages 3.14-17 and 3.14-18 of the Draft EIR for more details.

## **Response to Donnelly-17**

The list of identified cultural resources are listed on pages 3.5-8 to 10. According to the cultural surveys and record searches conducted around the project area, the Old State Route 56 is not a listed historical resource. Refer to Section 3.5.3 to review the analysis of the project impacts on the known cultural resources in the project area.

## **Response to Donnelly-18**

The City has been consulting with the U.S. Environmental Protection Agency (USEPA) regarding federal funding opportunities and associated requirements for environmental documentation to satisfy NEPA. The USEPA will evaluate the Final EIR, which is intended to be a CEQA-Plus document that streamlines potential NEPA review by federal agencies such as USEPA, in order to determine if additional environmental analysis is required once the Final EIR is completed. Refer to Section 1.4 and Chapter 7 of the Draft EIR for information about CEQA Plus. As appropriate, the USEPA would consult with other federal agencies such as USFWS to satisfy NEPA compliance requirements.

## **Response to Donnelly-19**

Please refer to Table 2-10 on page 2-33 of the Draft EIR for a list of the preliminary discretionary permits that will be required for the construction and operation of the proposed project. Proposed mitigation measures are summarized in the Executive Summary of the Draft EIR starting on page ES-16.

## **Response to Donnelly-20**

Section 1.2 of the Draft EIR details the City's past relationship with Cayucos Sanitary District (CSD) and CSD's decision to pursue its own wastewater facility.



## **Response to Donnelly-21**

The list of potential approvals required for implementation of the proposed project includes a Coastal Development Permit (CDP) from the County and City (see Table 2-10 in the Draft EIR), or potentially from the CCC, if it determines a consolidated permitting approach is appropriate. The County will review the Final EIR for the proposed project and determine whether additional environmental analysis is required once the CDP permit application is submitted.

## **Response to Donnelly-22**

The design/build proposals mentioned in the comment do not include a final design to be selected by the City. Once a consultant is selected, the design/build process will proceed, allowing for development of final design details including layout and facility features. The City and design team will, to some degree, refer to the general information provided in the draft Facility Master Plan.

-----Original Message-----

From: Cynthia Hawley <cynthiahawley@att.net>

Sent: Friday, May 18, 2018 3:41 PM

To: Rob Livick <rlivick@morrobayca.gov>

Subject: Comments on Draft EIR

Mr. Livick,

Attached are my comments on the Draft WRF EIR.

Thank you,

Cynthia Hawley

Comments on the Draft Environmental Impact Report for the Proposed Wastewater  
Treatment Water Reclamation Facility  
Cynthia Hawley, Attorney

**The EIR fails to analyze and determine possible growth-inducing impacts.**

There are three obvious growth-inducing impacts that the project may have on the environment.

First, on pages ES-1 and 2-1 the EIR states that “The proposed project would provide wastewater treatment services for the City and potentially additional surrounding communities or customers.” This clearly indicates the potential for inducing growth within “surrounding communities or customers” but there is no analysis of the impacts of this growth inducing potential.

Second, the project will include a roadway for vehicle access into what is now open space agricultural land. There is no analysis of whether this access would have the potential to encourage additional development in the area and if so, what that potential might be.

Third, the Report to City Council on Potential WRF sites mentions the possibility of annexation and the City’s Letter of Interest to the EPA regarding a WIFIA loan also states that the City is considering annexation of the site. The 2013 Morro Bay City Council Study Session on Morro Bay’s New Water Reclamation Facility lists annexation as an element of environmental review. The 2015 Request for Proposals for WRF program manager includes annexation as one of the major phases of the project. Unless annexation has been ruled out by a decision of the City Council, it is an obvious cause of possible growth-inducing impacts that must be analyzed in this EIR.

Twice in the Draft EIR the unsupported claim is made that the WRF “would not be oversized to accommodate additional unplanned growth.” (p. 3.3-15, p. 5-2)

Please cite where information on the diameter of the intake and effluent pipelines can be found. Also, please indicate whether the infrastructure is planned to accommodate additional reverse osmosis units.

**The EIR fails to analyze the impacts open ocean discharge of reverse osmosis wastewater may have on marine habitats and species.**

As you know, waste discharged from a reverse osmosis plant does not contain just brine as indicated in the EIR. The EIR should list and analyze the chemicals, heavy metals and other elements that may be part of the effluent discharged into the ocean. There is no analysis or even mention of possible impacts to marine species and habitats from discharges of RO waste discharges. This oversight needs to be corrected.

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**The EIR process is to run “concurrently rather than consecutively” with the permitting process and this EIR is premature and disconnected from the public permit review process.**

California’s laws are found in the state Constitution, statutes, regulations, and case rulings. Section 21003 of the California Environmental Quality Act (CEQA statute) states as follows regarding the timing for preparation of an Environmental Impact Report:

“The Legislature further finds and declares that it is the policy of the state that:

(a) Local agencies integrate the requirements of this division with planning and environmental review procedures otherwise required by law or by local practice so that all those procedures, to the maximum feasible extent, run concurrently, rather than consecutively.”

This policy of the California Legislature is also included in the California Code of Regulations (CCR), CEQA Guidelines, which state, starting at section 15080, that “To the extent possible, the EIR process should be combined with the existing planning, review, and project approval process used by each public agency.”

In the California Resource Agency’s discussion of section 15080, the Agency provides the reason for this law – that “...completion of the EIR process before starting review of the permit application ... doubles the time necessary to obtain a permit” and that this section is necessary to discourage that practice.

<http://resources.ca.gov/ceqa/guidelines/art7.html>

In a descent in the California Supreme Court case of *Bozung v. Local Agency Formation Commission*, Justice Clark stated that “The majority invoke the policy, enunciated in the guidelines, of encouraging preparation of an EIR ‘as early in the planning process as possible.’ (Cal.Admin.Code, tit. 14, s 15013.) But early preparation is not an end in itself, particularly when the insufficiency of data or plans precludes drawing any meaningful conclusions in the report. The ‘planning process’ should be viewed as the process of land use determination, when the reporting serves a mature and useful purpose.” *Bozung v. Local Agency Formation Commission* (1975) 13 Cal.3d 263, 295-296.

In this case the City has actually planned to increase and possibly double the time and cost of obtaining coastal development permits by producing the EIR in isolation of, and prior to the public permitting processes.

What is the City’s rationale in completing the DRAFT EIR before applying for development permits from the City’s planning department, the County, and the Coastal Commission?

**The alternative analysis does not provide analyses of other sites.**

In the Report on Public Works Cost Review Workshop, respected public works and wastewater professionals stated that:

“Reliance on State Water is a paramount problem facing the City. If the City wants to achieve water independence cost effectively, and in a timely manner, the most effective approach is to build a new compact plant at or near the current WWTP location. Developing a recycled water project will be cheaper and potentially more achievable than at the South Bay Boulevard site or any other relatively distant site. To do this, the City will need to work closely with the Coastal Commission and RWQCB, and gain buy-in from key community groups.”

This group of professionals pointed out that achieving this goal would require working closely with these two state agencies, thus indicating that this would be possible.

This group also states that:

“The biggest contributor to cost at the South Bay Boulevard (SBB) site is the site itself. Pipeline and earthwork costs there are very high. The most effective way to reduce construction cost is to go back to near or on the existing WWTP site.”

With these findings in mind, alternative sites should be analyzed in the “Alternative” section. If you determine not to examine alternative sites, please explain the rationale.

## Comment Letter – Cynthia Hawley

### Response to Hawley-1

The City thanks Ms. Hawley for submitting comments. The commenter states the Draft EIR fails to analyzed growth-inducing impacts. The Draft EIR includes a chapter on growth-inducing impacts; the commenter is referred to Chapter 5 “Growth Inducement.”

The commenter further refers to statements in the introductions of the executive summary and project description of the Draft EIR that say the proposed project would provide wastewater treatment to “potentially additional surrounding communities or customers.” Although not referenced by the commenter, that same statement is included in the purpose of the Draft EIR (page 1-1). The commenter is concerned that potential use of wastewater would induce growth and that potential was not analyzed. In fact, the introduction of the Growth Inducement sections of the Draft EIR (page 5-2) also includes a similar statement and further clarifies, while that is a potential use of the proposed WRF, it is not “anticipated.” So the Draft EIR did consider that issue and did so to ensure the Draft EIR did not leave out review and analysis of all reasonably possible, although not necessarily certain, impacts from the proposed project. In addition, if the City did ever decide to have potential become a reality, then that would and could only be done within the limitations of growth management restrictions, both within the City and other jurisdictions as appropriate.

### Response to Hawley-2

This Draft EIR only analyzes impacts associated with construction and operation of the proposed project, which includes an access road to the proposed WRF. The City would purchase up to 27.6 acres for development of the proposed 10- to 15-acre WRF, with remaining acres available to be placed into an agricultural or open space easement. No additional development is anticipated as part of the proposed project on this 27.6-acre site. Please refer to **Master Response 2 – WRF Site and Annexation** for additional information.

### Response to Hawley-3

The annexation of the proposed WRF site is mentioned in the list of potential approvals required for implementation of the proposed project, in Table 2-10 of the Draft EIR. The commenter is referred to the Local Agency Formation Commission San Luis Obispo (LAFCO) comment letter and responses provided above (see Responses to LAFCO-1 through LAFCO-9). Therein, clarification is made to better characterize the annexation that will occur as a result of the project. Regarding the associated growth inducement potential, the proposed annexation would include only the 27.6-acre parcel, which would include the 10 to 15-acre WRF site, with remaining acres available to be placed into an agricultural or open space easement. As such, the annexation itself would not result in population growth or affect the City’s provision of public services. The annexed property would include public use facilities that directly provide a public service. See also **Master Response 2 – WRF Site and Annexation**.

## Response to Hawley-4

The Draft EIR states on page 2-15 the force main and waste discharge pipelines would be 16-inch diameter pipeline. The Draft EIR states on page 2-22 the recycled water pipelines would be 12 inches in diameter. The Draft EIR states on page 2-6 that the proposed WRF treatment process would include reverse osmosis (RO). All proposed project components will be sized per the stated design criteria. The capacity of the proposed WRF is designed to meet planned future demand associated with the City's projected population of 12,000 by 2040.

## Response to Hawley-5

As stated on page 7-4 of the Draft EIR, the water quality of proposed discharges due to the proposed project would be improved to tertiary-treated recycled water. The contribution of the RO brine stream would increase TDS, but not enough to exceed ambient ocean water salinity. As noted on page 3.9-14 of the Draft EIR, the California Ocean Plan establishes water quality objectives for ocean discharges to ensure the protection of the marine environment. The NPDES permit for the new WRF would require the City to comply with water quality objectives for receiving waters based on the California Ocean Plan; the water quality objectives would protect beneficial uses including marine habitat. Monitoring requirements in the Ocean Plan will require the City to perform monitoring to demonstrate compliance with the receiving water limitation, and to evaluate the potential effects of the discharge within the water column, bottom sediments, and the benthic communities. The NPDES permit will require data collection and monitoring to compare baseline biological conditions at the discharge location as well as at a reference location outside the influence of the discharge prior to commencement of discharge and after discharge commences. Monitoring would be required until the RWQCB determines a monitoring program is adequate to ensure compliance with the receiving water limitation. The Monitoring and Reporting Plan would require review and approval by the RWQCB as part of the NPDES permit process. The NPDES permit would impose conditions to ensure that there would be no adverse impacts to habitat in the vicinity of the ocean outfall diffuser port and the mixing zone as a result of the proposed project.

## Response to Hawley-6

CEQA environmental review by the lead agency is the first step in the CEQA process. Typically, permitting agencies will use the CEQA document, once certified by the lead agency, for any permits needed by those permitting agencies. As stated on page 2-32, the Draft EIR "is intended to provide those agencies with information to support their decision-making process." A list of agencies and approvals is included in Table 2-10 in the Draft EIR.

## Response to Hawley-7

Please see **Master Response 1 – Alternatives** for a discussion of the requirements of alternatives analysis, and a discussion of the project's analysis of alternative sites.



5/18/18

Mr. Rob Livick, P.E.

Public Works Director

City of Morro Bay

955 Shasta Ave, Morro Bay, Ca 93442

rlivick@morrobayca.gov

Re: WRF DEIR-3/30/18- review comments for the record.

**How many cities (in California or elsewhere) move their existing sewer plants three miles inland to a higher elevation, tearing up the environment and wasting nonrenewable energy sources along the way?**

**ALTERNATIVES NOT PURSUED:**

The DEIR notes that the most logical alternatives are in the Morro Valley, and as close to the existing plant as possible. Nevertheless---the City has selected a location outside the City limits in the Chorro Valley that will require nearly 6 miles of underground piping, enormous amounts electrical power (for 24/7 operations) from nonrenewable sources, and numerous other Class I and II impacts. One of the Class I impacts not discussed in the DEIR—is the potential of sewer spills from the plant if built in the proposed location. A significant spill could end up flowing to the estuary—with enormous short and long term environmental consequences. The DEIR needs to include this potentially catastrophic environmental event.

Additionally, and In spite of what the DEIR describes in terms of mitigating measures across the various environmental topics, it is hard to imagine a location that would have more negative impacts on the environment. There are three other alternatives that the City has not fully pursued.

**Citizen's Alternative #1:**

The City has elected to reject the most obvious alternative, which is to sit down and work with the CCC to develop a CDP application that addresses and mitigates their concerns re: SLR, tsunamis, land use, views, etc. Even though the CCC has publicly stated they will not allow a new or upgraded plant at the existing location, the City has failed to formally submit a new CDP application proposing this alternative.

The former application for upgrading the plant in place which was denied by the CCC in 2013 (at the request of the City) should not be considered an equivalent, as current sewer

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treatment technologies allow for a much smaller footprint (10,000 sq. ft.) with probably no Class I impacts. If the City can mitigate CCC's concerns (which the majority of other coastal cities have done), why must the plant be moved? After all—the proposed new lift station locations will need to address CCC's concerns and will be at or near the existing plant, and other critical public infrastructure facilities (water treatment plant, desalination plant, etc.) will remain there as well.

Until the City genuinely pursues Citizen's Alternative #1", which would eliminate 95% of all Class I and II project impacts, **the project described in this DEIR should be denied.**

### **Citizens Alternative #2:**

If the CCC and the City are unsuccessful in developing a CDP to upgrade or replace the plant in place, this second alternative should be considered.

Maintain the existing facility in its current location, and purchase 5 acres of grazing land (eminent domain if necessary) east of highway 1 and south of highway 41, outside of the CCC's jurisdiction and as close to the existing plant as possible. Install supplementary sewer treatment and recycled water equipment at this location as needed to realize all project goals. Install piping which will be connected from the supplementary equipment to the existing plant, which will be maintained in place.

**The proposed project location should be denied** and the City of MB needs to find and select a location at or near the existing plant which will eliminate 95% of environmental impacts associated with the project as defined in the this DEIR.

### **Citizen's Alternative #3:**

If the City is unable to execute Alternatives 1 and 2 noted above, then the existing plant should be "maintained in place", and a new settlement agreement should be negotiated with the CCRWQCB. Why must the plant be moved? Because the City has failed to pursue Citizen's Alternatives #1 or #2 and has made commitments to public agencies without the support of its residents. **This project should be denied.**

**How many cities (in California or elsewhere) move their existing sewer plants three miles inland to a higher elevation, tearing up the environment and wasting nonrenewable energy sources along the way?**

## Comment Letter – Jeff Heller

### Response to Heller-1

The City thanks Mr. Heller for submitting comments. The commenter's concern regarding potential spills into the estuary is addressed in **Master Response 3- Accidental Spills and Impacts to Morro Bay Estuary**. Master Response 3 details the measures in place to monitor, prevent, or contain any accidental spill that may occur as a result of the proposed project.

### Response to Heller-2

The CCC's comment letter to the Draft EIR states the CCC has previously and publically stated its support for the overall project and its objectives, and the CCC will continue working with the City throughout the proposed WRF planning and permitting process. The CCC also stated in that letter the key reasons for denying the January 2013 CDP were the current WWTP's coastal hazard issues, including those related to ocean and riverine flooding and tsunamis. The CCC also provided direction to the City to pursue a more inland facility out of the way of the currently existing sites coastal hazards issues, particularly given the exacerbation of those issues with future sea-level rise. A key goal of the CCC in its adopted 2015 Sea Level Rise Policy Guidance is to avoid the need for shoreline armoring via relocating critical public infrastructure keeping consistent with core Coastal Act objectives of relocating critical public infrastructure away from immediate shoreline and beach. Please also refer to **Master Response 1 – Alternatives** for additional information.

### Response to Heller-3

The comment suggests a project alternative that would maintain the current WWTP and purchase five acres of grazing land east of Highway 1 and south of Highway 41 to build a supplementary sewer treatment and recycled water facility. The comment states a pipeline would be required to connect the current WWTP to that alternative supplementary treatment facility. The City took into consideration multiple regulatory constraints from the Regional Water Quality Control Board and California Coastal Commission when considering where to locate the treatment plant. As such, the project as proposed by the City represents its best effort at accommodating the future treatment needs of Morro Bay while taking into consideration regulatory constraints.

The commenter's proposed alternative includes keeping the existing WWTP. The CCC previously denied a Coastal Development Permit (CDP) to upgrade the WWTP. Please refer to the CCC's comment letter in this Final EIR, which expresses support for moving the existing WWTP out of the coastal flood hazard zone. The commenter's proposed alternative includes constructing a pipeline to the supplementary treatment facility that would be located within 5 acres of grazing land. Those proposed facilities are similar to those included in the proposed project and, as such, would have similar environmental impacts as the proposed project. Please also refer to **Master Response 1 – Alternatives** for additional information.

## Response to Heller-4

The commenter is referred to Section 1.2 of the Draft EIR which discusses background of the project, including the RWQCB's requirements to upgrade the treatment facility to full-secondary treatment and the need to move components of the project inland and away from coastal hazards. Please also refer to **Master Response 1 – Alternatives** for additional information. CEQA does not require any and all project alternatives be considered, and alternatives analysis is only to examine ways to lessen or avoid impact to significant areas of impact in the project. Additionally, the CCC has publically made clear any CDP that maintains a wastewater treatment facility at the current site will not be allowed. As such Alternatives 1 and 2 provided by the commenter cannot be considered.

[Document title]

## WWTP-WRF EXTRAPOLATION OF REPORT FOR EIR

(page 75)

All comments should be directed to:

**Rob Livick, P.E.**

Public Works Director

City of Morro Bay

955 Shasta Avenue

Morro Bay, CA 93442

[rlivick@morrobayca.gov](mailto:rlivick@morrobayca.gov)**RECEIVED****MAY 21 2018**City of Morro Bay  
Public Works Department

During the 45-day public review period, Comments on this Draft EIR must be received by 5:00 p.m. on the last day of the 45-day review period unless the City of Morro Bay grants an extension.

(page 1-3)

The existing WWTP is located in the Coastal Zone; as such, in order to upgrade the existing WWTP at its existing location, a Coastal Development Permit (CDP) is required from the California Coastal Commission (CCC). However, in January 2013, the CCC denied the City and CSD's project application for the CDP to demolish the existing WWTP and construct a new treatment facility on the same site. The basis for that denial included the CCC's assessment the new facilities would be inconsistent with the City's Local Coastal Plan (LCP) zoning provisions, failed to avoid coastal hazards, failed to include a sizeable reclaimed water component, and that the project location was within an LCP-designated sensitive view area.

(page 1-3)

Through that public outreach program, criteria were determined for the siting process, and various studies were conducted to examine the suitability of each site. Some of the criteria included, but were not limited to, compliance with NPDES Permit requirements, distance to the City sewer collection system, avoidance of coastal hazards, minimal visual impacts, and sustainable use of public resources. In order to ensure public involvement during this process, a Citizens Advisory Committee (WRFCAC) was created in July 2014 to help oversee and evaluate the siting process.

(page 1-4)

After the 2016 comparative study was completed, the Tri-W site, which became known as the South Bay Boulevard site, was found to be the final site preference, and preliminary planning efforts began at that location based on City Council direction at that time.

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[Document title]

(page 1-5)

The proposed project must be in compliance with Section 7 of the federal Endangered Species Act (FESA), undergo a Clean Air Act conformity analysis (if in a nonattainment area or an attainment area subject to a maintenance plan), and be in compliance with Section 106 of the National Historic Preservation Act. The CEQA document must also disclose all project-specific information listed in the outline provided by the SWRCB and demonstrate compliance with federal laws and regulations, including the Clean Water Act, Farmland Protection Policy Act, Migratory Bird Treaty Act, Flood Plain Management Act, Wild and Scenic Rivers Act, and Coastal Zone Management Act. This Draft EIR has been prepared to comply with CEQA-Plus requirements and can be used to support the required federal consultations as described below. In addition, Chapter 7 of this Draft EIR addresses all federal laws and regulations required by *SRF Guidelines*.

(section 1.5.1 CEQA)

*"An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible."*

(section 1.5.2 Notice of Preparation)

On August 8, 2016, an NOP for the proposed project was submitted to the California OPR, and distributed to Responsible and Trustee agencies and other interested parties for a 30-day review period that ended September 7, 2016.

(page 74)

Each potentially significant impact includes a numbered impact statement with and significance determination for the environmental impact as follows:

- Class I. Significant and Unavoidable: An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the State *CEQA Guidelines*.
- Class II. Significant but Mitigable: An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings to be made under §15091 of the State *CEQA Guidelines*.
- Class III. Not Significant: An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- Class IV. Beneficial: An effect that would reduce existing environmental problems or

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[Document title]

hazards.  
(page 74)

## AREAS OF GREATEST CONCERN "KNOWN AREAS OF CONTROVERSARY AND ISSUES OF CONCERN"

Commenting parties have requested the EIR evaluate impacts related to traffic at major freeway ramps and on surface roadways during the pipeline and lift station construction. Additional comments were received on impacts related to a sewage spill risk downstream of the facility, odor, and the compatibility of industrial facilities on agricultural land. The greatest area of known controversy from an environmental perspective are perceived land use compatibility issues with the WRF, including visual, noise, and odor concerns.

(page 77)

## 2.2 Project Location

The proposed project is located within the City and in unincorporated area of the County of San Luis Obispo adjacent to the City boundaries (sees **Figure 2-1**). The preferred WRF site is currently located in an unincorporated portion of the County adjacent to the City, while the remaining proposed infrastructure is located in the City itself. The WRF would be constructed on an approximately 10- to 15-acre area within a 396-acre parcel that is located along Highway 1, north of the northern terminus of South Bay Boulevard. The proposed Operations and Maintenance buildings would also be located within the WRF site.

(page 80)

## 2.3 Project Objectives

The Morro Bay City Council refined and adopted the project objectives for the proposed project on October 24, 2017. The primary goals of the proposed project have not changed. The following refined objectives reflect the input of the community and stakeholders since issuance of the NOP in 2016, demonstrating the purpose and value of the CEQA scoping process:

- All aspects of the WRF project shall be completed ensuring economic value with a special emphasis on minimizing rate payer and City expense
- Communicate WRF project progress including general project status, milestones, and budget/cost information to our community members regularly
- Produce tertiary disinfected wastewater in accordance with 22 California Code of Regulations (CCR) 60001, *et seq.* requirements for unrestricted urban irrigation
- Design to produce reclaimed wastewater to augment the City's water supply, by either direct or indirect means, as described in a master water reclamation plan and to maximize funding opportunities
- Include features in the WRF project to maximize the City's opportunities to secure funding and maximize efficiencies, including energy generation and recovery.
- Design to minimize the impacts from contaminants of emerging concern in the future

1 cont.

[Document title]

- Ensure compatibility with neighboring land uses

(page 82)

#### Section 2.4.1 WRF

"The WRF would treat a maximum peak daily flow of 2.75 million gallons per day (MGD) and maximum average annual daily flow rate of 0.97 MGD."

"The facility design includes primary treatment; biological and tertiary treatment via or membrane bioreactor (MBR) or process that produces a similar level of water quality; advanced water treatment including membrane filtration (if needed), reverse osmosis, ultraviolet (UV) radiation disinfection, and reverse osmosis; and solids dewatering with off-site solids disposal or on-site reuse. "

"Regardless of the secondary and treatment process selected, advanced water treatment consistent with groundwater recharge requirements will be provided. All treatment processes would be covered or housed in one of the proposed WRF buildings."

(page 91)

#### CONVEYANCE PIPELINES

The proposed route of the raw wastewater and waste discharge conveyance pipelines is shown in **Figure 2-8**. The two options for the recycled water conveyance pipeline alignments are described further below and shown in **Figure 2-9**. Raw wastewater and brine/wet weather discharge pipelines would run along the proposed alignment that starts from the proposed lift station and travels east along Atascadero Road. The pipeline alignment then travels south along J Street and east around the perimeter of Lila Keiser Park, before following an existing parkway/bike path across Morro Creek. It continues southeast along the Main Street right-of-way until it joins and follows Quintana Road. It should be noted that the alignment route runs through some City streets that already support numerous existing utilities. Continuing in a southeast direction on Quintana Road, the pipeline passes through street crossings of Kennedy Way, Morro Bay Boulevard then Kings Avenue, Bella Vista Drive, and La Loma Avenue. The proposed alignment crosses under Highway 1 west of the South Bay Boulevard interchange and continues along Teresa Road to South Bay Boulevard, where it heads north towards the proposed WRF site. Both the 16-inch force main and 16-inch waste discharge pipeline would require casing for the Highway 1 crossing.

(page 97)

#### Section 2.4.2 (REASON FOR OFF-SHORE PLATFORM)

"Treated wet weather flows and/or brine from the WRF would be discharged through the existing ocean outfall, similar to existing conditions. The size and capacity of the outfall is sufficient to accommodate the proposed project. Thus, a pipeline would be built to convey treated wet weather flows and/or brine from the WRF site back to the ocean outfall in the vicinity of the existing WWTP; a new connection to the ocean outfall would be required."

1 cont.

[Document title]

"The pipeline would be designed to handle full capacity flow from the WRF, although discharges through the pipeline and outfall are intended to be minimized as advanced-treated recycled water is diverted elsewhere for beneficial reuse." **(REASON FOR BARGE REMOVALS)**

(page 98)

## 2.4.4 Decommissioning of Current WWTP

The existing WWTP would continue in operation until the new WRF is in full operation and the system is no longer delivering flow to the existing WWTP. The timing of decommissioning would also depend on when CSD's new wastewater facility is online and operational, since that agency also uses the current WWTP to treat wastewater. The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure such as the piping located four to five feet below grade. **Table 2-3** lists all of the structures to be demolished and removed from the existing WWTP site. All materials would either be discarded and hauled to a nearby landfill or salvaged.

(page 98)

### CONSTRUCTION SCHEDULE

**54 MONTHS IF NO DELAYS**

1 cont.



Bryan H Liebig, M.A, AIA

**BHL ARCHITECTURE**

P.O. BOX 19040

Sacramento, CA. 95819

Tel: (916) 432-9525



Mr. Lee Kleim

18-May-18

2260 Nutmeg Ave.

Morro Bay, CA. 93443-0262

P.O. Box 262

Morro Bay, CA. 93443-0262

Tel: (805) 225-1234

REF: Righetti Property WWTP

New Plant Location

Atascadero Road, Hwy. 41

Morrow Bay, CA. 93443

Adjacent to La Purisima Ave.

✓ Tri-W Site (South Bay Boulevard site)

Mr. Lee Kleim:

In the review of many items concerning this possible WWTP –WRF-sites, several conclusions have been developed. Please reference the attached material to support some of the observations.

The following are some of my OBSERVATIONS:

1. Section 1.5.1 CEQA states: "...to be reviewed in the light of what is reasonably feasible."
  - a. I find the evaluation of the siting and the complexity of the outline to be a "possible" overkill.
    - i. There may be too many hands in this card game.
2. Page 74 breaks down the classifications, (I, II, III, IV)
  - a. My observation is that the community has built in too many complications and not enough "simplicity."
    - i. They may have too many concerns and too many people having wants.
    - ii. The need is to get "re-cycled" and "re-useable" water.
    - iii. It appears there is too much digging and haul-off of materials.
    - iv. The abundance of detail will complicate even beginning the management of the project.

3. Many companies say, and train, "Think outside the box."
  - a. I find that too many people in this matter – (and this report) - are trying to climb out of the box, by constructing another wall.
  - b. Water will be returned to the ocean. It will be cleaned and treated, but returned to the ocean.
  - c. You are by the ocean...and the complex is located there...so why move inland?
  - d. The plan is to locate one plant across the highway "one."
    - i. It would still be in a bad location in case of the tsunami.
    - ii. The amount of piping to take water back to the injection well (unless it is used for storage capacity) - is not cost effective.
      1. The piping is going South, then across the highway and then returning North to the well injection site.
4. The time for construction is 54 months.
  - a. 30 months initially.
    - i. This timing does not allow for bidding, estimating, contract review, site setup and investigations by sub-contractors, or the allowance for materials and products to arrive on site.
    - ii. The manufacturing's of valves are a specialty item and have a lead time.
    - iii. Control units must be configured and if you have different sites they employ the logistics of wiring, WiFi, satellite connections or local utilities to interface with.
    - iv. The various components need to be tied together with the equal language.
    - v. A test and qualification period needs to be set up.
5. Estimating:
  - a. Because of the numerous variations and complexities in the study it will be a long lead time to have a "Project Coordinator," or team, to put in place. This should have been started.
  - b. The Team should be overseeing and advising the City Council on the Contractors, time-line and costs.
  - c. You have outside consultants; but I don't see anyone, or team with the above control, or contract, with the City and City Council.

## 6. CONSIDERATIONS:

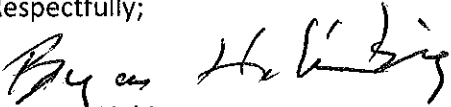
- a. Gain a consultant for a "Jack-up" rig.
- b. Utilize the "Jack-up" rig for WRF and WWTP processes.
- c. Utilize barges for removal of wastes
  - i. Wastes can be transported to a drying field and later re-used for soil treatments, amendments, or other properties.
- d. Have return lines to the shore; to the closest location for water.
- e. Minimize the impact of costs.

Email: chiefpropilarch@yahoo.com

- f. Remove the existing WWTP (slowly and phased.)
- g. Prepare for 2 (two) million gallons a day of processing.
- h. Estimating a land based facility will be costly and time consuming.
- i. A "Jack-up" rig and WRF may be possible with less time.

7 cont.

Respectfully;

  
Bryan H. Liebig.

## Comment Letter – Lee Kleim and Bryan H. Lieibg

### Response to Kleim/Lieibg-1

The commenter copied language directly from the Draft EIR, mainly from Chapters 1 and 2, which provide background information and the proposed project description. Some of the commenter's later comments appear to refer back to some of the extracted Draft EIR text. No further response is warranted, but please refer to subsequent responses to this letter.

### Response to Kleim/Lieibg-2

The comment is noted. Per CEQA Guidelines Section 15151, which is quoted in the Draft EIR Section 1.5.1 and also noted by the commenter, “[a]n evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible.”

### Response to Kleim/Lieibg-3

The comment notes language used on page ES-6 of the Draft EIR, which reiterates the significance determinations used in CEQA. The comment is noted for the record.

The commenter also states opinion and observation and does not state any specific comments regarding the adequacy of the analysis contained in the Draft EIR. Those comments expressing opinion do not address a “significant environmental issue” regarding the Draft EIR and, therefore, do not require further response per CEQA Guidelines subdivision 15088(c).

### Response to Kleim/Lieibg-4

The commenter expresses opinions about design parameters of the proposed project analyzed in the Draft EIR. The commenter is referred to Section 1.2 of the Draft EIR, which discusses background of the proposed project and the need to move components of the proposed project inland and away from coastal hazards.

Regarding the comment about tsunamis, the Draft EIR on page 3.9-9 states “the preferred WRF site is located further upland and outside of a tsunami hazard zone.” As further analyzed starting on page 3.9-42, the City states impacts related to the proposed project from tsunamis would be less than significant.

### Response to Kleim/Lieibg-5

As stated in the Draft EIR on page 2-23, the construction of the proposed project would take 36 months, not 54 months like the commenter suggests. The construction start date is when construction would begin; all other pre-construction activities would occur after the Final EIR is, if at all, certified, and prior to the start of construction, estimated to be in June 2019.

## Response to Kleim/Lieibg-6

If and when the Final EIR is certified, the City would initiate the design/build process with the firm selected to design and build the proposed WRF.

## Response to Kleim/Lieibg-7

The commenter's request for alternative methods and technology for proposed project construction equipment and proposed project components is unclear. Regarding alternatives to the proposed project, the commenter is referred to **Master Response 1 – Alternatives**. The commenter also states opinion and observation and does not state any specific comments regarding the adequacy of the analysis contained in the Draft EIR. Those comments expressing opinion do not address a "significant environmental issue" regarding the Draft EIR and, therefore, do not require further response per CEQA Guidelines 15088(c).

RECEIVED

MAY 18 2018

City of Morro Bay  
Public Works Department

Rob Livick, P.E.  
Public Works Director  
City of Morro Bay  
955 Shasta Avenue  
Morro Bay, CA 93442  
[rlivick@morrobayca.gov](mailto:rlivick@morrobayca.gov)

May 18, 2018

Dear Rob:

Thank you for the opportunity to review the Morro Bay Water Reclamation Facility Draft Environmental Impact Report (EIR, March 2018). The document is thorough, well organized, and reflects a tremendous amount of work on behalf of the City and their consultants.

The EIR reflects the City's commitment to community concerns regarding project siting, technology, construction impacts, and the subsequent operation and maintenance of the new facility and its features.

I support the proposed projects stated goal to:

"...provide opportunities for the City to produce and beneficially reuse advanced recycled water and to meet or exceed all wastewater treatment requirements of the California State Water Resources Control Board (SWRCB). The beneficial end use for the advanced treated recycles water is indirect potable reuse (IPR) through groundwater replenishment (ES-1)."

I support of the City's stated Project Objectives (page 2-4). I also encourage continued exploration of alternative funding sources and design modifications as a means to address the City's first objective:

"...All aspects of the WRF project project shall be completed ensuring economic value with a special emphasis on minimizing rate payer and City expense."

### Comments

This review includes a few technical comments (e.g. choose between right-of-way or ROW, etc) and address areas in the report that may benefit from further clarification.

Page E-S-1, para 1, lines 6 and 7: "...proposed project would provide wastewater treatment services for the City and potentially additional surrounding communities or customers." I know that recycled water for local agricultural purposes was discussed, but I don't remember a discussion of providing recycled water to other communities. And, such distribution is not listed in the City's identified project goals.

Page E-S-1, para 2, lines 2: I recommend that you use the same language in regard to the intended purpose of the EIR. See page 1-6, which includes public involvement, not just public agencies. Decide on one description for the purpose of the EIR and use throughout.

Page E-S-3, para 1, line 12: change to: "...for renewal of the NPDES permit..."

1

2

## **General Comment Project Background Executive Summary, Introduction and Background and Alternatives Analysis**

The project background sections, in the Executive Summary, Chapter 1 (Introduction and Background), and Chapter 6, (Alternatives Analysis) are short in detail. They do not adequately portray the tremendous amount of work that went into the development of the project. The City should provide a detailed accounting of who did what, when, and where. This information could be summarized in a table format, with critical decision points highlighted. The City should make greater use of previous siting reports, technical studies, summary reports and presentations, largely accomplished by John F. Rickenbach and Mike Nunley. As a decision making document, these sections should be written for the "cold reader."

I also encourage the City to develop a table that documents its public outreach program. It is enough to sufficient to state that you conducted public outreach. The EIR is a poor reflection of how the project was developed and City efforts to engage the public. Again, the City could make better use of the various reports, technical studies, and presentations prepared by John F. Rickenbach and Mike Nunley.

Page ES-4, para 3,: I recommend you insert a statement, and elsewhere in the EIR, regarding CSD future commitment to demolition of the existing treatment facility.

### **Project Alternatives**

The No Project Alternative, para 4: Would it be beneficial to cite recent written guidance prepared by the California Coastal Commission regarding coastal development, as well as recent communication and engagement between the City and Coastal staff (verbal and written)?

Alternative 2: Pipeline Alignment Alternative: When and how was this alternative developed? Was it discussed at City Council meetings or a public workshop? Were studies conducted to verify impacts, although impacts to the community are obvious.

Alternative 3: Were studies completed to verify impacts and to address the sizing issue?

Page ES-11, para 3, line 10: It is not clear how Alternative 2 would be a reduction in the number of cultural sites since there are two potential sites along the pipeline, similar to the number of sites affected by the conveyance alternatives currently under consideration for the proposed project.

### **Significant Unavoidable Environmental Effects and Irreversible Environmental Changes**

The Draft EIR describes potential impacts of the proposed project and recommends mitigation measures to reduce impacts. The proposed project:

"...particularly construction of conveyance pipelines and IPR injection and monitoring wells, would result in significant and unavoidable impacts to historic and archaeological resources and human remains that would not be reduced to less than significant levels even with mitigation. The alternatives analysis considers a Pipeline Alignment Alternative that may reduce the number of cultural resources affected but would not completely avoid such resources, and as such would also result in significant and unavoidable impacts."

No doubt there is the potential for disturbance to archaeological resources and human remains within the proposed project alternatives for conveyance, the IPR injection wells, and the monitoring wells. That assessment, however is not based on current subsurface investigations to determine if known and nearby sites are indeed located within the Area of Direct Impact (ADI). The assessment is based on surface surveys, previous studies, and modeling for the potential for buried resources. A good portion of the more sensitive areas are obscured by roads, residential and commercial development. With a few exceptions, previous subsurface investigations are limited in scope, and the precise site boundaries are not know.

8  
cont.

The City is correct in taking a cautionary stance regarding impacts, however, further field work may reveal an absence of cultural resources. In addition, subsequent design modifications and construction activities may lead to minimal impacts, which is major objective of the City. And, as revealed in later sections of the EIR, the City has made great effort to minimize potential impacts to cultural resources as reflected in their extensive mitigation measures and procedure that will be followed prior to construction and during construction. It is apparent that every effort will be made to plan for and fully evaluate any potential cultural resources located within the ADI.

## **Mitigation Measures**

### **Biological Resources:**

Bio-1, first bullet: spell out CRLF and MSS.

Bio-3: Morro Shoulderband Snail: Has a time line been developed for surveys, preparation of the biological assessment and acquisition of the biological opinion. Can those activities be successfully completed prior to construction?

9

10

### **Geology, Soils, and Seismicity**

Additional studies are proposed to address potential seismic induced ground shaking, liquefaction, and landslides that could damage structures and endanger employees. Design criteria, as identified in a future geotechnical investigation, would reduce risk of loss, injury or death. Mitigation measures specify that those geotechnical investigations shall be incorporated into the design of the facility prior to construction.

11

Do the current Design/Build proposals for the WRF take into consideration potential costs associated standard structural reinforcement that may be necessary? Does the City anticipate any substantial costs increases due to structural modifications?

12

### **Air Quality**

3.3-5: "A substantial number of people will not be affected by objectionable odor." Will residents of the nearby Bayside Care Center be affected by odor emanating from the facility?

13

## **Chapter 2**

Page 2-15, Conveyance Pipelines, para 2: This section is difficult to follow. Discussion of the raw wastewater and brine/wet weather discharge pipelines switch back in forth; referring to a proposed alignment, a pipeline alignment, an alignment, the pipeline, then back to a proposed alignment. They are two separate pipelines that transport material in opposite direction; one transports raw sewage from

14



the lift station to the new treatment facility, and the other transports brine waste to the ocean outfall. They share a common alignment. See 3.1-3 where you use the term "common alignment," which is preferred. The reference to J Street is not used in other sections of the draft EIR.

Page 2-21, Recycled Water Distribution System and Injection Wells, para 2, lines 3-5: This paragraph discusses the two proposed injection well locations (IPR-East and IPR-West). It is my understanding that injection wells would be sited on both private and public property or rights-of-way. As written it suggests that the injection wells would be sited on "...vacant lands owned by the City or within rights-of-way..."

Page 2-22, Decommissioning of Current WWTP: As noted previously, there should be a short discussion regarding coordination with Cayucos.

Page 2-23, Table 2-4 does not include decommissioning of the existing plant as a project component, however, on page 2-24, Table 2-5 equipment needs are identified as part of the decommissioning of the existing plant. Do you want to add Decommission of Current WWTP under Project Component, include activities, duration and construction equipment?

Page 2-25, para 3, line 4: Indicates that construction would occur over a 24 month period; Table 2-4 states that this is a 30 month operation. Table-6, add comma to Soil Removal-2,665.

Page 2-28, Conveyance Pipelines and Force Main, para 4, lines 3 and 4: Are you referring to the bike path bridge over Morro Creek? I don't believe the existing bridge could carry load for any of the proposed pipelines. Would a new bridge be required?

Page 2-30, Decommissioning of Existing WWTP, para 1, line 5: Add a statement that decommission of the existing facility would occur based upon a mutual agreement between the City and the CSD.

Page 2-31, O&M Buildings, para 1: Use this description. Previous section did not identify all components, such as the laboratory.

Page 3.1-1, Local Setting, para 1: Redundant.

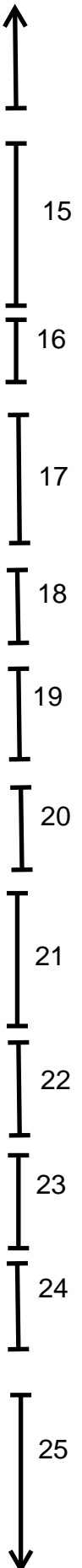
Page 3.1-3, Pipelines: This description of pipelines appears to switch back and forth when discussing the three different pipelines and their proposed alignments (raw waste, brine, and recycled water). Specifically, are the statements found in lines 4-8 correct?

Page 3.1-4, Injection Wells: This section does not include the City owned property and right-of-way as noted in previous sections.

Page 3.2-5, State Scenic Highway Program, lines 11, "State Rout 41 is a Designated State Scenic Highway, but not officially designated." Can you clarify?

## Biological Resources

General Comment: This chapter is very informative and mitigation measures a thorough. The document, however, appears to flip back and forth in regard to the potential for California-red legged frog, steelhead, and tidewater goby. Please compare the text throughout and the information provided in the Table 3.4-1. The author also assumes that directional boring will eliminate major impacts at the



creek crossing, particularly at Morro Creek. Size of equipment and materials are substantial. The project will need to take into consideration the area needed for construction set-up, equipment operation and storage.

## **Cultural Resources**

General Comment: This chapter is informative and the mitigation measures are thorough and well thought out. Several cultural resources have been identified within the proposed alignments for the conveyance of wastewater, brine and recycled water. Can the proposed wastewater and brine alignments be reconfigured to eliminate the running the pipelines along Morro Creek and through Lila Keiser Park? This may reduce impacts to known cultural resources and areas of high sensitivity for buried archaeological sites. In its place the wastewater and brine would parallel Highway 1 and utilize Atascadero Road.

Additional hydro-geologic studies are required prior to selection of the injection well field (IRR East or IPR West). This will determine the recycle water pipeline alignment (east or west of the highway). Additional studies are needed to determine if cultural resources are located within the ADI for the chosen recycle pipeline. In addition, the City has identified large parcels of land that could be used for two or three well locations that have a relatively small impact area (200 sq ft). Examination of the entirety of the potential well field would take a substantial amount of time and money. Once an IPR well field is chosen, the design team, and the project archaeologist and biologist should work together to hone down suitable locations for the injections sites. Those specific areas would require close examination for archaeological and biological resources and site specific mitigation measures can be developed as necessary.

Page 3.5-7, para 3, line 1: What is brush lupia? What you mean by greasewood, since this generally refers to a plant associated with desert habitat. Para 6, line 1, spell out WPA.

## **Identification of Cultural Resources in the Project Site**

Page 3.5-8, para 2: This section does not indicate whether all of the sites identified within or adjacent the proposed area result from surface survey, records search only or both. Para 3, Please include a citation in the text of the draft EIR, as well as in the references cited on 3.5-1 and 3.5-34 as to who prepared the historic resources survey for the existing facility. Para 4, Is LACM the correct abbreviation for the Natural History Museum of Los Angeles County? Cite McLeod 2018 in paragraph 4.

## **Buried Archaeological Site Assessment**

Page 3.5-10, para 2: This paragraph is confusing and the authors should revise.

## **Regulatory Framework**

Page 3.5-11, para 1-3: Were provisions developed to consult with the Advisory Council on Historic Preservation (ACHP) under the requirement of CEQA Plus? Has a time line been developed to complete the necessary for consultation with the SHPO, the ACHP, and representatives from Native American community?

Page 3.5-16, Archaeology Policies: 4.02 line 2, clean up spacing, line 5 delete period, add comma (?); 4.0 line 2, delete period, add comma (?); 4.07 should read all available measures...

32

Page 3.5-20, Construction, para 1: Do you want to add that CA-SLO-165 was determined eligible for listing on the National Register of Historic Places on (give date)?

33

Page 3.5-22: Do you want to break out what sites or number of sites are associated with each proposed conveyance pipeline and each well field?

34

Page 3.5-34, 3.15-10, References: Change Caste to Castle.

35

Page 3.5-25, CUL-3: Are there provisions in place for the archaeologist to work with the City and the design team responsible for the conveyance systems, and the injection and monitoring well locations.

36

### **Geology, Soils, and Seismicity**

See previous comments regarding additional studies that will be conducted during the design phase and how those studies might affect project cost. Have those potential structural requirements been taken into consideration as part of the Design Build proposals?

37

### **Hazardous Materials at the Existing WWTP**

Page 3.8-1, para 2: Asbestos and lead based paint studies should be re-visited prior to demolition since it is likely that more than 10 years will have transpired from time of the initial studies.

38

### **Hydrology and Water and Water Quality**

This chapter is thorough and well-written. It addresses many of the questions that have been raised by members of the community regarding the feasibility of IPR and impacts to local groundwater and salt water intrusion.

39

Page 3.9-24, para 4, line 3: quantify not quantity

Page 3.9, para 4, line 9: eliminate "t".

### **Growth Inducement**

This chapter is thorough and well-written. It addresses many of the questions that have been raised by members of the community regarding population and the potential for growth inducement, number of residential and commercial services, peak periods, and existing and future wastewater capacity.

40

### **Alternatives Analysis**

See comments on Executive Summary and Chapter 1. The authors could make better use of previous work prepared by John F. Rickenbach and Mike Nunley. Summary tables would help guide the reader.

41

Page 6-11, para 1, Alternative 1: According to all of the public meetings I have attended and review of reports, upgrade of the existing plant to treat to current secondary standards would not be a minor undertaking and would be subject to coastal permit requirements.

Page 6-12-13, para 1: Again, we do not have sufficient information to determine whether or not cultural resources are located within the impact area for the proposed pipeline alignment.

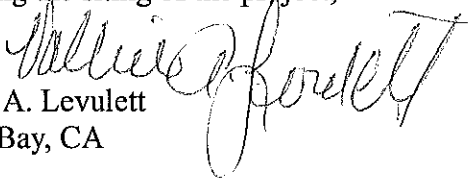
42

Page 6-14-6-15: Similar to previous comments, were studies ever completed to determine the potential impacts?

General comment: The City does not provide a good explanation for dropping Giannini. To say it has too many issues does not really identify what those issues are. In regard to Righetti the project was dropped due to fear of litigation. If a project alternative is dropped due to risk of litigation, it is unlikely any public agency would go forward with any project. I am not sure that fear of litigation is sufficient reason to drop an alternative from further consideration. The City may want to address public concern regarding the siting of the project,

43

Valerie A. Levulett  
Morro Bay, CA



## Comment Letter – Valerie Levulett

### Response to Levulett-1

The City thanks Ms. Levulett for her comments and support of certain goals and objectives of the proposed project.

### Response to Levulett-2

The statement on page ES-1, paragraph 1, lines 6 and 7 of the Draft EIR pertain to the potential, though not anticipated opportunity, to provide wastewater treatment services for other communities or customers rather than provision of recycled water for a water supply. While the EIR's project objectives do not specifically state connections to surrounding communities or other customers, the City may potentially use future partners in its wastewater treatment operations within the limitations of growth management restrictions, both within the City and other jurisdictions as appropriate. See also Response to Hawley-1, above.

Regarding the commenter's concern over language cited in CEQA Guidelines subdivision 15121(a), the City does intend for this Final EIR to be a document used both by public agency decision makers and the public generally. As a result, the Draft EIR text on page ES-1 is modified as follows:

As described in Section 15121(a) of the CEQA Guidelines, this Draft EIR is intended to serve as an informational document for pertinent public agency decision makers and the public.

In response to the commenter's note about a typo in the Draft EIR, the text on page ES-3 is modified as follows:

The existing WWTP has operated under that modified permit since its last upgrade in 1984. On July 7, 2003, the City submitted an application for renewal of the NPDES permit to USEPA and Central Coast Regional Water Quality Control Board (RWQCB) which expired in March 2014.

### Response to Levulett-3

The City appreciates Ms. Levulett's suggestion to include more detail about the history of the proposed project and the amount of work conducted by agencies and stakeholders to develop the proposed project. At this time, the level of detail is appropriate, for CEQA purposes, to understand the basis for and background of the project as proposed and more detail is not necessary to understand the possible environmental impacts of the proposed project. CEQA does not require extensive historical background information for a proposed project. CEQA Guidelines section 15124 includes the requirements for an EIR's project description, which should "not supply extensive detail beyond that needed for evaluation and review of the environmental impacts." In addition, CEQA requires a description of the baseline environmental setting to be used for evaluating impacts (CEQA Guidelines Section 15125(a)). Additional historical detail

about the proposed project may be appropriately included in the presentations to decision-makers, as needed to better understand the context of the proposed project, before any final decisions are made regarding the proposed project.

Regarding the suggestion to clearly state CSD's future commitment to demolish the existing WWTP, the Draft EIR includes language stating the existing WWTP is owned and operated jointly by the City and CSD (Draft EIR page 1-1) and demolition of the existing treatment facility will need to occur, but not until both the City's WRF and the CSD's new treatment facility are operational and online (Draft EIR page 2-22). Such decision and implementation of the demolition would be dealt with by both public bodies at the appropriate time and in the manner required by the current agreement between them.

### **Response to Levulett-4**

The CCC's comment letter to the Draft EIR states the CCC has previously and publically stated its support for the overall proposed project and its objectives, and the CCC will continue working with the City throughout the proposed WRF planning and permitting process. The CCC also stated in that letter the key reasons for denying the January 2013 CDP were the current WWTP's coastal hazard issues, including those related to ocean and riverine flooding and tsunami. The CCC also provided direction to the City to pursue a more inland facility out of the way of the currently existing sites coastal hazards issues, particularly given the exacerbation of those issues with future sea-level rise. A key goal of the CCC in its adopted 2015 Sea Level Rise Policy Guidance is to avoid the need for shoreline armoring via relocating critical public infrastructure keeping consistent with core Coastal Act objectives of relocating critical public infrastructure away from immediate shoreline and beach. Please also refer to **Master Response 1 – Alternatives** for additional information.

### **Response to Levulett-5**

The pipeline alternative is described in Chapter 6 as Alternative 2. The City has investigated multiple pipeline routes using assessment criteria that include, but are not limited to, utility impacts/conflicts, right of way procurement, and environmental/cultural constraints. The alternative route was included to lessen impacts related to cultural resources. As noted in the comment, the Draft EIR concludes that alternative alignment would have increased traffic impacts along the waterfront. No traffic studies were conducted with respect to the waterfront, but the disruption along the waterfront is likely, due to the need for lane closures during construction.

### **Response to Levulett-6**

As stated in the Draft EIR on page 6-14, during preparation of the draft Facility Master Plan and Master Water Reclamation Plan (MWRP), alternative treatment technologies and associated site plan configurations were considered. Alternative 3 is based on the work done to evaluate alternative WRF designs for the draft Facility Master Plan.

### **Response to Levulett-7**

While Alternative 2 would potentially involve impacts to two additional known cultural resources sites, it would avoid certain cultural resource sites along the proposed project's pipeline alignment. However, even with the reduction in number of cultural sites impacted, significant and unavoidable impacts would still remain due to impacts to the two additional known sites.

### **Response to Levulett-8**

Since previous studies and surveys have indicated a high potential to uncover cultural resources, the Draft EIR as currently written is appropriately conservative in its analysis and mitigation measures required during construction activities. If the Final EIR is certified, then the City would have chosen to adopt those conservative measures to protect any cultural resources discovered to the utmost degree. The commenter is correct the City has made every effort to plan for, evaluate, and mitigate any impacts to cultural resources located within the area of direct impact (ADI).

### **Response to Levulett-9**

In response to the comment, the Draft EIR has been modified to more clearly identify terms included in Mitigation Measure BIO-1 on pages ES-27 and 3.4-41.

1. The program shall include information on San Luis Obispo owl's clover and the life history of steelhead, California red-legged frog (CRLF), Morro shoulderband snail (MSS), and other raptors; nesting birds; as well as other wildlife and plant species that may be encountered during construction activities.

### **Response to Levulett-10**

Any surveys associated with Mitigation Measure BIO-1 would be conducted prior to construction. All permits associated with biological resources are required to be secured prior to construction, per federal and state laws. Any delays in permit acquisition would affect the start of construction.

### **Response to Levulett-11**

The commenter's summary of geologic impacts and mitigation measures is noted for the record.

### **Response to Levulett-12**

The comment regarding cost associated with standard structural reinforcement of the proposed WRF is unrelated to the environmental review associated with CEQA, and an EIR is not the appropriate forum to respond to this question in detail. The City has considered costs associated with structural enhancements consistent with design requirements. The need to implement mitigation commitment from the Draft EIR was factored into the request for proposals for the design/build contract.

## Response to Levulett-13

Residents of the Bayside Care Center would not be affected by odor emanating from the proposed WRF facility. As stated in the Draft EIR on page 3.3-24, “actual odors produced from a facility the size of the WRF tend to dissipate within a few hundred yards of the equipment. As such, at a distance of approximately 1,200 feet from the edge of the Bayside Case Center to the proposed WRF headworks, it would be reasonable to expect odorous emissions to dissipate and not cause nuisance, particularly when intervening topography would also act as a barrier to odor.”

## Response to Levulett-14

The commenter’s confusion with the description of conveyance pipelines is noted. In response, the Draft EIR text has been modified on page 2-15 as follows:

### Conveyance Pipelines

The offsite conveyance pipelines are comprised of a new force main to convey raw wastewater from the existing collection system and proposed lift station to the WRF site, a recycled water pipeline to convey treated water from the WRF to injection wells, and a waste discharge pipeline to convey brine or treated wet weather flows (compliant with California Ocean Plan discharge requirements) to the ocean outfall.

The proposed route of the raw wastewater pipeline from the proposed lift station to the WRF and brine/wet weather discharge pipelines from the WRF back to the ocean outfall ~~waste discharge conveyance pipelines~~ is shown in **Figure 2-8**. It should be noted those two pipelines would share a common alignment depicted on Figure 2-8 and described below. ~~The two options for the recycled water conveyance pipeline alignments are described further below and shown in Figure 2-9.~~ Raw wastewater and brine/wet weather discharge pipelines would run along the proposed alignment that starts from the proposed lift station and travels east along Atascadero Road. The pipeline alignment then travels south along J Street and east around the perimeter of Lila Keiser Park, before following an existing parkway/bike path across Morro Creek. It continues southeast along the Main Street right-of-way until it joins and follows Quintana Road. It should be noted that the alignment route runs through some City streets that already support numerous existing utilities. Continuing in a southeast direction on Quintana Road, the pipeline passes through street crossings of Kennedy Way, Morro Bay Boulevard then Kings Avenue, Bella Vista Drive, and La Loma Avenue. The proposed alignment crosses under Highway 1 west of the South Bay Boulevard interchange and continues along Teresa Road to South Bay Boulevard, where it heads north towards the proposed WRF site. Both the 16-inch force main and 16-inch brine/wet weather discharge ~~waste discharge~~ pipeline would require casing for the Highway 1 crossing.

Treated wet weather flows and/or brine from the WRF would be discharged through the existing ocean outfall in the vicinity of the WWTP, similar to existing conditions. The size and capacity of the outfall is sufficient to accommodate the proposed project. Thus, a pipeline would be built to convey treated wet weather flows and/or brine from the WRF



site back to the ocean outfall in the vicinity of the existing WWTP; a new connection to the ocean outfall would be required. Flow through the pipeline would be pumped from the WRF site to the high point along the Quintana Road alignment, then likely be gravity driven to the outfall based on topography. The pipeline would be designed to handle full capacity flow from the WRF, although discharges through the pipeline and outfall are intended to be minimized as advanced-treated recycled water is diverted elsewhere for beneficial reuse.

The two options for the recycled water conveyance pipeline alignments are shown in Figure 2-9. Both alignments would begin at the proposed WRF and travel northwest towards new injection well areas in the vicinity of the existing WWTP. The IPR West alignment would be located to the west of Highway 1 and would generally follow the same alignment for the raw wastewater and brine/wet weather discharge conveyance pipelines described above. The IPR East alignment would be located east of Highway 1 as shown on Figure 2-9. More information on the recycled water distribution system is found in Section 2.4.3 below.

## Response to Levulett-15

The precise location for proposed injection wells has not been determined, but every effort will be made to locate those on public land owned by the City or within existing public right-of-way.

## Response to Levulett-16

The commenter is referred to Response to Levulett-3 for a discussion of the relationship to CSD.

## Response to Levulett-17

The City acknowledges decommissioning of the existing WWTP is not included in Table 2-4, even though decommissioning is included in the project description and analyzed throughout the Draft EIR. In response, the Draft EIR text has been modified on page 2-23 as follows:

**TABLE 2-4  
ESTIMATED CONSTRUCTION DETAILS**

Project Component	Activities	Duration	Construction Equipment
WRF	Vegetation removal, grubbing, excavation, stockpiling, truck loading/transport, backfilling, paving	30 Months	Backhoes, excavators, cranes, dump trucks, front end loader, water trucks, paver, rollers, flatbed delivery trucks, concrete trucks, pickup trucks, compressors, and jackhammers
Conveyance Pipelines	Pavement removal, pavement replacement, excavation, trenching	12 Months	Backhoes, excavators, crane, dump trucks, front end loader, water trucks, paver, roller, flatbed delivery trucks, concrete trucks, trenchless construction equipment (horizontal directional drilling rig, pilot tube guided boring machine, auger bore and jack equipment, etc.), pickup truck, compressors, jackhammer
Lift Station	Grading, excavation,	10 Months	Pile driving and/or ground improvement grouting equipment, auger truck, backhoe, boom lift truck, excavator, plate compactor, scaffolding dump

Project Component	Activities	Duration	Construction Equipment
			trucks, front end loader, pickup truck, water trucks, paver, rollers, flatbed delivery trucks, and concrete trucks
Injection Wells	Drill rig for well completion and equipping of wells	2 Months	Dump trucks, flatbed delivery trucks, pickup truck
<u>Decommissioning of Existing WWTP</u>	<u>Permit issuance, demolition, removal of material, excavation, backfilling, compaction, grading</u>	<u>3 months</u>	<u>Backhoes, compactor, excavator, jackhammers, loaders, pickup trucks, rollers, water truck</u>

## Response to Levulett-18

Page 2-25 states construction workers would be at the preferred WRF site for 24 months. There are other activities associated with the 30-month construction duration noted in Table 2-4 (such as vegetation removal) that would not require construction workers. Each duration cited by the commenter is correct and no modifications are required to the Draft EIR.

Regarding the typographic comment on Table 2-6, a comma is added under the first line as indicated below.

Soil Removal	2,665
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## Response to Levulett-19

The paragraph in question is not referring to any one particular location, but leaves open the possibility of pipeline suspension or directional drilling as a method of construction for proposed pipelines. If pipeline suspension is not possible due to load constraints, then directional drilling or some other trenchless method of construction would be implemented.

## Response to Levulett-20

The commenter is referred to Response to Levulett-3 for a discussion of the relationship to CSD.

## Response to Levulett-21

Regarding the description of the O&M Building, the comment is noted for the record.

Regarding the comment about Regional/Local setting in Section 3.1, the settings may be redundant depending on the resource and location. This noted description is appropriate for aesthetics.

## Response to Levulett-22

The commenter's confusion with the description of conveyance pipelines is noted. In response, the Draft EIR text has been modified on page 3.1-3 as follows:

The collection system would include a lift station discussed above and multiple pipelines running along a common alignment between the lift station and the proposed WRF site.

The alignment shown in Figure 2-2 (see Chapter 2) would include: (1) a force main (raw wastewater) pipeline; (2) a ~~waste~~ brine/wet weather discharge pipeline; and (3) two options for a recycled water pipeline (IPR West and IPR East). Specifically, the proposed pipeline alignment for the raw wastewater (force main)/brine discharge pipeline and the IPR West recycled water pipeline would travel westward from the proposed WRF along Highway 1 then through residential areas along Quintana Road to the proposed lift station. The pipelines would primarily be constructed within public ROWs. The IPR East recycled water pipeline alignment would travel east of Highway 1 through open space as shown on Figure 2-2.

### **Response to Levulett-23**

This description of the injection wells is focused on noting the aesthetic resources in the area and, therefore, may not match the land use descriptions included in the Project Description.

### **Response to Levulett-24**

The Draft EIR inadvertently included the wrong designation for State Route 41 in the Regulatory Framework section. The City would like to note, however, the correct “eligible” designation is included in the Setting and Impacts and Mitigation Measures sections of Chapter 3.2 of the Draft EIR. In response to the comment, the text of the Draft EIR on page 3.2-5 is modified as follows:

Further, State Route 41 is an ~~Designated~~ Eligible State Scenic Highway, but not officially designated.

### **Response to Levulett-25**

The commenter’s note about the informative and thorough content of Section 3.4-24, Biological Resources, is noted for the record. The commenter states the Draft EIR discussion of the California red-legged frog, steelhead, and tidewater goby is not clear. The Draft EIR concludes the proposed project would not have significant and unavoidable impacts to the California red-legged frog, steelhead, or tidewater goby.

The commenter states construction equipment associated with directional boring will take sizeable equipment that could substantially impact biological resources. The City acknowledges in the analysis starting on page 4.3-38 construction-related activity (including equipment staging) could contribute to impacts to biological resources. Mitigation Measure BIO-2 includes avoidance and protection measures to be implemented during all construction, operation, and decommissioning activities. With implementation of this measure and other mitigation measures, the Draft EIR found impacts to special-status species would be less than significant.

### **Response to Levulett-26**

As described in the Draft EIR in Chapter 6 Alternatives Analysis, the City considered Alternative 2, which would move a segment of the raw wastewater pipeline to a different alignment along Embarcadero Road to the west of the existing WWTP and proposed lift station, traveling south

and then east along Pacific Street, and meeting with the currently proposed raw wastewater pipeline at Butte Street. That segment under Alternative 2 would result in construction near two different and known cultural resources sites, may result in geotechnical challenges along the waterfront, and would result in a significant increase of construction impacts related to traffic, air quality and noise. Further, that segment of pipeline under Alternative 2 would require acquisition of additional rights-of-way through residential property. Comparison of Alternative 2 impacts to the proposed project impacts indicate Alternative 2 would meet the proposed project's objectives, and would result in a reduction in impacts on number of cultural resources sites, although impacts to cultural resources would still remain significant and unavoidable similar to the proposed project. In addition, Alternative 2 would increase the costs to the City related to construction and would result in more severe impacts on air quality, noise, and traffic.

The City notes the suggested pipeline alignment along Highway 1 and Atascadero Road. The City has investigated multiple pipeline routes, including an option that is like the one described by Ms. Levulett. That alternative is currently being assessed based on criteria that include, but are not limited to, utility impacts/conflicts, right of way procurement, and environmental/cultural constraints.

The Draft EIR identified the proposed project as the environmentally superior alternative based on a variety of factors. As an informational document, the Draft EIR allows the lead agency to make an informed decision whether to approve or disapprove a project or alternative (CEQA Guidelines subdivision 15121). As the Lead Agency, the City will decide whether to proceed with the proposed project or whether to accept or reject any of the identified alternatives.

## **Response to Levulett-27**

Mitigation Measure CUL-2: Pre-Construction Phase I Cultural Resources Survey requires survey of all area that have not been previously surveyed within the last 5 years. That would include the final Area of Direct Impact (ADI) for the recycled water pipeline alignment and well locations that have not been surveyed in the past 5 years. Mitigation Measure CUL-3: Avoidance and Preservation in Place of Archaeological Resources requires the City to avoid and preserve in place any resources that are identified as potentially qualifying as historical resources or unique archaeological resources under CEQA as the preferred manner of mitigating impacts to archaeological resources. Given that wells have a small impact area (200 square feet) and they can be moved more easily than a pipeline, it is anticipated that impacts to archaeological resources could be avoided in the well fields.

## **Response to Levulett-28**

Brush lupia refers to a historic plant found in the area. Greasewood is native to locations other than desert habitat.

## Response to Levulett-29

The cultural resources sites identified are a result of a combination of surface survey and records search. In response to this comment, the text on page 3.5-8 of the Draft EIR has been revised as follows:

A total of 19 cultural resources have been identified within a 0.25-mile radius of the proposed and preferred project sites as a result of records searches at the CHRIS-CCIC and pedestrian surveys (Table 3.5-2).

Regarding the 2009 historic survey report, the report is titled *Morro Bay Wastewater Treatment Plant Upgrade Project, San Luis Obispo County, California, Archaeological Survey and Historic Resources Evaluation Report* prepared by ESA (Brad Brewster) in 2009. This report was completed for a previous EIR. In response to this comment, the text on page 3.5-1 of the Draft EIR has been modified as follows:

*Morro Bay Wastewater Treatment Plant Upgrade Project, San Luis Obispo County, California: Archaeological Survey and Historic Resources Evaluation Report (Brewster, 2009)*

Also in response to this comment, the text on page 3.5-8 of the Draft EIR has been revised as follows:

A historic resources survey of the WWTP was conducted on January 30, 2009 (Brewster, 2009).

LACM is the abbreviation for the Natural History Museum of Los Angeles County commonly used by professional paleontologists.

A paleontological resources records search was requested from the Natural History Museum of Los Angeles County (LACM) in an effort to identify paleontological resources and/or fossil-bearing geologic formation, which may underlie the proposed and preferred project sites.

Also in response to this comment, the text on page 3.5-34 of the Draft EIR has been revised as follows:

Brewster, Brad, *Morro Bay Wastewater Treatment Plant Upgrade Project, San Luis Obispo County, California: Archaeological Survey and Historic Resources Evaluation Report*, prepared for the City of Morro Bay, prepared by Environmental Science Associates, February 2009.

McLeod 2018 is cited on page 3.5-10 under Paleontological Resources Records Search and not inserted into the text requested by the commenter.

### **Response to Levulett-30**

The paragraph referred to by the commenter means the proposed project components located to the north on Figure 2-2 are identified as having a High to Highest potential for buried resources, while the project features at the southern end of Figure 2-2 have less potential.

### **Response to Levulett-31**

Regarding the question whether consultation was conducted with the Advisory Council on Historic Preservation (ACHP) under the requirement of CEQA Plus, consultation with ACHP would be conducted by the lead federal agency, who is responsible for completing all consultation required by Section 106 of the National Historic Preservation Act.

All required Section 106 consultation with SHPO, ACHP, and Native American representatives is the responsibility of the lead federal agency and must be conducted prior to federal funding, permitting, or approval of the project and prior to construction. Any delays in consultation would affect the start of construction.

### **Response to Levulett-32**

The commenter is requesting minor typographic modifications to the 1982 City of Morro Bay Land Use Plan included on page 3.5-16 of the Draft EIR. The text is able to be understood despite the typos, but the City appreciates being made aware of these. No Draft EIR revisions are provided.

### **Response to Levulett-33**

The commenter referred to the discussion on page 3.5-20, which itself is referring to impacts to “historical and archaeological resources” as defined in CEQA Guidelines section 15064.5. Table 3.5-3 indicates that CA-SLO-165 was determined eligible for the NRHP, and is listed in the CRHR (resources determined eligible for the NRHP through the Section 106 process are automatically listed in the CRHR). Under CEQA, eligibility for the NRHP is not one of the definitions of “historical resource.” According to CEQA Guidelines subdivision 15064.5(a), historical resources are those that are listed in or determined eligible for listing in the CRHR, those that are listed in a local register of historical resources or identified as significant in a historical resources survey, and those that are determined to be eligible by the lead agency as supported by substantial evidence (i.e., meet the criteria for listing in the CRHR). Thus, only the CRHR status of CA-SLO-165 is relevant to the discussion of impacts to historical resources and the City as decided to leave the text as-is. No Draft EIR revisions are provided.

### **Response to Levulett-34**

The analysis as presented is sufficient for CEQA and no further revisions to the Draft EIR are provided.

### **Response to Levulett-35**

The commenter is correct; a reference was misspelled. In response to the comment, the Draft EIR text is modified on pages 3.5-34 and 3.15-10.

~~Caste~~ Castle, Roger, and Gary Ream. 2006. Images of America, Morro Bay.

### **Response to Levulett-36**

The mitigation measure is written to allow for some flexibility with respect to an archaeologist's role during project design and construction. The City will work with qualified archaeologists as appropriate in the process.

### **Response to Levulett-37**

Please refer to Response to Levulett-12.

### **Response to Levulett-38**

Although lead-based paint and asbestos surveys were conducted in 2010, approximately eight years ago, the City asserts those findings still apply and do not need to be redone because all potential asbestos contamination would have been previously found.

### **Response to Levulett-39**

The comment the Hydrology and Water Quality section is thorough and well written is noted for the record. In response to the comment, the City has made the following requested typographic changes on page 3.9-24 of the Draft EIR:

Prior to the modeling, aquifer testing was conducted on the existing city wells to better ~~quantity~~ quantify the parameters of the aquifer to be used for injection, including the horizontal and vertical hydraulic conductivity, as discussed above in the Environmental Setting.

### **Response to Levulett-40**

The comment about the thorough and well written Growth Inducement chapter is noted for the record.

### **Response to Levulett-41**

The commenter is referred to Response to Levulett-3 regarding previous work conducted for the project.

The Draft EIR acknowledges, on page 6-12, a CDP would be required in order to implement the No Project Alternative, which would very likely be reviewed by the CCC. That is the fundamental reason why the No Project Alternative is not feasible.

## **Response to Levulett-42**

The City has chosen to presume presence of cultural resources given the high likelihood of occurrence in some areas of the preferred project site, rather than to do extensive Phase 1 testing prior to construction. Surveys were conducted to determine potential impacts. The City has included implementation of mitigation measures that will reduce impacts to cultural resource to the greatest extent possible, however significant and unavoidable impacts still remain.

## **Response to Levulett-43**

The commenter states the Draft EIR did not provide a good explanation for dropping the Giannini alternative and fear of litigation is not a sufficient reason to drop an alternative (Righetti alternative). Please refer to **Master Response 1 – Alternatives**.



**Andrea K. Lueker**  
**Los Osos, CA 93042**  
**805.550.3909**

May 18, 2018

Good Day Mr. Livick,

I am a 32 year resident of Los Osos and, along with many of my neighbors, am concerned about the proposed placement of Morro Bay's Sewer Plant. First and foremost, it is extremely unfortunate the City of Morro Bay finds themselves in a situation where they believe they need to add an additional plant to the already multiple sewer plants that have proliferated along the Central Coast. While the purpose of this correspondence is to provide input regarding the effects to Los Osos and our surrounding environment directly associated with the location of the proposed plant, it is also important to point out specific history that was seemingly overlooked in the Draft Environmental Impact Report's opening sections.

In January 2013, immediately after appointment, the newly elected Morro Bay City council majority (Christine Johnson, Noah Smuckler and Jamie Irons) passed a City Council Resolution in a Special City Council meeting (3-2 vote) to allow the mayor to appear before the California Coastal Commission and request a denial of the coastal development permit for the rebuild of the Morro Bay sewer plant at its current location. The Coastal staff was not supportive of the rebuild project but the individuals that actually make the decision – the Coastal Commissioners were never afforded the opportunity to discuss the project and approve/deny the permit due to the unprecedented request from three members of the Morro Bay City Council to deny their own project. At that time the estimated project cost was \$37 million, today I understand the proposed project is estimated at over \$150 million. Following their action at the Coastal Commission meeting coupled with a lack of communication to the Cayucos Sanitary District (part owner of the existing plant and property on which it currently sits), the Cayucos Sanitary District was alienated to the point where they decided to move forward on their own, purchase property and will be building their own plant (soon to break ground).

In terms of impacts to Los Osos, our small community has made significant progress in the last few years in dealing with wastewater and to see a neighboring community propose an industrial project on agricultural land in an area that could impact Los Osos is extremely concerning. The proposed site for the new sewer project is basically at the intersection of South Bay Blvd. and Highway 1. If built, the sewage will be piped uphill almost 3 miles from a large lift station that will remain at or near the site of the current plant. Most importantly, parts of that pipeline with raw sewage and the proposed sewer plant are less than a mile to Chorro Creek and less than two miles to the estuary.

The siting of the proposed plant, within the Morro Bay watershed, on agricultural land that is outside the City limits of Morro Bay, presents a clear and significant impact to Chorro Flats, Chorro Creek, the estuary and residents of Los Osos. The proposed location should be of concern based on the potentially significant environmental impacts including input of pollutants to the creeks and estuary both from normal operations and accidental discharges – otherwise known as spills. It appears that the DEIR doesn't take into account the fact that currently the community of Los Osos has no impact from the Morro Bay Sewer Plant as sited, but with the proposed location, Los Osos is in direct line for impacts. The DEIR fails to address this in any sort of adequate manner.

Sincerely,



## Comment Letter – Andrea Lueker

### Response to Lueker-1

The City thanks Ms. Lueker for submitting comments. The commenter is referred to Section 1.2 of the Draft EIR which discusses background of the proposed project, including the RWQCB's requirements to upgrade the treatment facility to full-secondary treatment, the California Coastal Commission's denial of the CDP for upgrading the WWTP at the existing location, the need to move components of the proposed project inland and away from coastal hazards, and the City's past relationship with Cayucos Sanitary District (CSD) and CSD's decision to pursue its own wastewater facility. The location of the proposed WRF, and its proximity to Chorro Creek and Morro Bay Estuary as noted in the comment, is shown in the Draft EIR in Figure 3.9-1.

### Response to Lueker-2

The City notes the commenter's concern for potential proposed project impacts such as discharge to Chorro Flats, Chorro Creek, and the Morro Bay estuary. Please refer to **Master Response 3-Accidental Spills and Impacts to Morro Bay Estuary**. In particular, Master Response 3 details different ways in which a spill might occur and all the measures that would be taken to monitor, prevent, or contain any potential spills.

May 18, 2018

RECEIVED

MAY 18 2018

City of Morro Bay  
Public Works Department

11:35  
G.G.

Mr. Rob Livick  
Director of Public Works

Re: EIR

Mr. Livick:

The No. 1 issue for the residents of Morro Bay is affordability. There has been no Economic Impact Report or any kind of Affordability Study. The current project is simply too expensive for residents.

1

The No. 2 issue is Alternative Technologies. (The Coastal Commission says that alternative technologies should have been and should be studied, rather than just alternative sites).

2

  
Pam Ochs

## Comment Letter – Pam Ochs

### Response to Ochs-1

The City thanks Ms. Ochs for submitting comments. The first Project Objective of the Draft EIR states the proposed project will be implemented “ensuring economic value with a special emphasis on minimizing rate payer and City expense.” In July 2017, the City Council requested a final site comparison to confirm, from a cost and regulatory perspective, the South Bay Boulevard site would be the preferred site to meet City’s goals. As stated in the Draft EIR on page 6-7, the 2017 Updated Site Comparison Report included the South Bay Boulevard site, Giannini site, Righetti site, and a site west of Highway 1, such as the existing WWTP site. At the City Council meeting on September 27, 2017, the Council decided to move forward with the South Bay Boulevard site as the preferred site due to the following conclusions:

*there was Council consensus that the Coastal Commission would not permit a project west of Highway 1, the Giannini site had too many issues and no cost advantages, and due to the risk of litigation, the Righetti site was not feasible. There was stated support to proceed with planning and permitting at South Bay Blvd. as the preferred site. (Minutes – Morro Bay City Council Regular Meeting – September 26, 2017).*

### Response to Ochs-2

Several treatment technologies were reviewed for the City’s proposed WRF project in the draft Facility Master Plan. For biological treatment technologies, that draft plan compared suspended growth systems, including various activated sludge processes, sequencing batch reactor, and oxidation ditch; hybrid systems, including membrane bioreactor and integrated fixed-film activated sludge; and fixed film systems, moving bed bioreactors and biological aerated filters. The technologies reviewed in the draft Facility Master Plan consist of commonly available systems, with history of successful operations, and which can be provided by several manufacturers. Please refer to Chapter 6 within that plan for a discussion of alternative technologies.

The Draft EIR includes an assessment of alternative treatment technologies in Alternative 3. The CCC’s comment letter to the Draft EIR states the CCC has previously and publically stated its support for the overall proposed project and its objectives, and the CCC will continue working with the City throughout the proposed WRF planning and permitting process.

Attention:  
Mr. Rob Livick, PE/PLS  
Public Works Director  
City of Morro Bay

May 18, 2018

SUBJECT: Comments and questions on the WRF Draft EIR

The city's DEIR for the proposed WRF project failed to adequately address several issues and concerns that are currently being required by law in the state of California. AB 2616 California Coastal Commission, Environmental Justice , signed into law in 2016 , directs the CCC to consider environmental justice when acting on a coastal development permit.

AB 2616 states;

"This bill would require one of the members of the commission appointed by the Governor to reside in, and work directly with, communities in the state that are disproportionately burdened by, and vulnerable to, high levels of pollution and issues of environmental justice, as defined."

Also there is this statement;

"This bill would authorize the issuing agency, or the commission on appeal, to consider environmental justice, as defined, or the equitable distribution of environmental benefits in communities throughout the state, when acting on a coastal development permit."

It appears that the city is circumventing this law by separating the WRF project from the associated supporting sewer collection infrastructure. By moving the project outside the coastal zone, and having SLO county as the lead permitting agency it no longer falls into the CCC jurisdiction. It has been stated in public meetings by city staff that the permitting responsibilities of the proposed Lift Station and associated Force Main and outfall infrastructure will be done by the city of Morro Bay. In a public meeting the city's public works director stated that in his opinion the city would not need a Coastal Development Permit ( CDP) for the construction of the Lift Station and Force Main.

These actions weaken the ability for the citizens of Morro Bay to be able to appeal to the CCC with their environmental justice concerns.

Furthermore, California AB 398, California's Global Warming Solutions Act, states:

"The California Global Warming Solutions Act of 2006 establishes the State Air Resources Board as the state agency responsible for monitoring and regulating sources emitting greenhouse gases. The act requires the state board to approve a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions level in 1990 to be achieved by 2020 and to ensure that statewide greenhouse gas emissions are reduced to at least 40% below the 1990 level by 2030. The act authorizes the state board to include the use of market-based compliance mechanisms."

1

2

The city's DEIR fails to mitigate the sewer gases generated by the proposed Lift Station and WRF facility. As a 30 year resident in north Morro Bay, i have been subjected to the continuing exposure of H2S gasses generated by the conveyance of sewage from the neighboring town of Cayucos. All of Cayucos's sewage is conveyed along North Main Street and during daily peak flows have caused H2S gases to vent from the manholes. I know of at least 2 neighbors who have moved due to health concerns. With Cayucos building their own sewer plant, I am relieved that this issue will soon be resolved. However, with the construction of a new Lift Station at or near the existing MB/CSD WWTP

the issue of H2S gas will be greater due to the larger volume of sewage that will be pumped as compared to what the town of Cayucos generated.

There is no way to mitigate the effects of sewer gas generated from a Lift Station and accompanied Force Main.

The Air Quality Control Board is given the task of addressing these matters. This DEIR falls short of mitigating the GHG concerns generated by sewer gas in collection systems and energy usage concerns of the proposed construction and operation of the Lift Station and SSB WRF.

Sincerely,



Marla Jo Bruton Sadowski  
North Morro Bay Stakeholder

2

3

## Comment Letter – Marla Jo Bruton Sadowski Letter 1

### **Response to Bruton Sadowski-1**

The City thanks Ms. Bruton Sadowski for submitting comments. Section 3.12 of the Draft EIR discusses the environmental justice impacts of the proposed project. As indicated on page 2-33, the proposed project would require a Coastal Development Permit (CDP) from both the City and the County because the proposed project includes new facilities within both jurisdictions.

Contrary to the statement made in the comment, the entire project would be located within the Coastal Zone, including the proposed WRF, as shown in Figure 1-1 of the Draft EIR. As suggested in the California Coastal Commission's letter included in this Final EIR, the City may choose to prepare a consolidated CDP through the CCC, instead of two separate CDPs. That is included in the list of potential project approvals required in Table 2-10 of the Draft EIR.

### **Response to Bruton Sadowski-2**

The City notes the commenter's concerns regarding the need to mitigate for air quality impacts from sewer gases generated by the proposed lift station. Please refer to Response to Sadowski-1 and Response to Sadowski-2 above regarding GHG emissions and hydrogen sulfide gas (sewage gas) generated from the proposed lift station and force main.

### **Response to Bruton Sadowski-3**

The City notes the commenter's concerns regarding the need to mitigate for greenhouse gas impacts from sewer gases generated by the proposed lift station and WRF. Please refer to Response to Sadowski-1 and Response to Sadowski-2 above regarding GHG emissions and hydrogen sulfide gas (sewage gas) generated from the proposed lift station and force main.

Regarding energy use, the Draft EIR includes an analysis of proposed project's energy use and associated GHG emissions in Chapter 3.7 Greenhouse Gas Emissions and Energy.



MAY 18 2018

Rec'd City Hall

Attention:  
Mr. Rob Livick, P.E./PLS  
Morro Bay Public Works Director

May 18, 2018

Bruton Sadowski  
Letter 2

Subject: Comments and questions on the Morro Bay Draft EIR

I.)

There is no mention of a plan B in this environmental document.  
I want to object to there not being a Plan B to consider.

I believe that the no project alternative is best.

It should be noted that on Dec. 7, 2017 a Plan B proposal for RFQ and RFP was sent to Public Works Director Rob Livick. That proposal was ignored and buried from consideration. The proposal would save the ratepayers \$60 million dollars.

To my limited understanding from a search done on public Records on this topic, it should be noted the city's response did not come from the Public Works director rather it came from a single Morro Bay councilman in which the councilman's eventual correspondences ended with the councilman speaking for the city and denying consideration of the vendors submission for various reasons.

Question: Why did the city staff omit The Plan B Alternative when investigating the proposed sites west of Hwy 1 ?

References available upon request:

- a) city communications with a vendor who supplied staff a SOQ and another communication indicating that the vendor had not received a return reply from staff.
- b) communications from a Morro Bay council member to the same vendor dismissing the SOQ

II.)

There are two conflicting pieces of information regarding the Native American Cultural Resources in the area of the current WWTP and the Hanson's site which is adjacent the current WWTP.

In Michael Nunnely and Associates power point presentation of his firms evaluation of the Hanson site as an alternative WRF site, he pointed out that although the Hanson site would be the number one preferred site due to costs associated with building a WRF, it was his firms recommendation against looking at that site. One of his environmental concerns dealt with his report that there were significant Native American cultural resources at the Hanson site.

To the contrary, a letter in the DEIR from Salian Tribal Administrator states that there are no known cultural resources near the current WWTP site. She further indicates that the site has been previously disturbed. In addition The Salinans prefer the routing of the WRF pipes be routed in the area of the current WWTP rather than the Lila Kaiser area to avoid impacts to cultural resources.

1

2



In addition the Northern Chumash Tribal Council (NCTC) Administrator Fred Collins takes the strong position that all Native American sensitivities be left undisturbed. He is invoking a 100 foot distance be kept from any findings of Native American remains. I respect the NCTC stance on this. As far as the SBB Site is concerned and the associated piping routes I believe it is best not to take the chance of encountering Native American sensitivities due to the 100 foot requirement. It seems to indicate to me that there will be major change orders in the project along the way.

2 cont.

Questions;

Which is correct with regard to Native American sensitivities as it applies to the Hanson site feasibility study report by Nunelly and Associates: the Nunnely and Associates report on the Hanson site feasibility study; or the Native American Tribal representatives with regard to the likelihood of Native American sensitivity?

What mitigation measures will be taken in the event of an encounter with archeological sensitive findings ?

What cost estimates and budgetary measures has the city estimated with respect to archeological mitigation measures encountered during the construction of the Lift Station, sewer force main, effluent discharge piping and WRF ?

Which is correct with regard to Native American sensitivities as it applies to the Hanson site feasibility study report by Nunelly and Associates?

The Native American Tribal Administrators or Nunnely and Associates with regard to the best alternative of a site for the WRF that has the least Native American sensitivities?

If you choose not to answer this question due to the fact that the Hanson feasibility study report is not included in this document, I would point out that my original position is that there be no project until there are Plan B options.

Isn't it more prudent to take a serious look at the possibility of Native American sensitivities with project sites in a more detailed study of the facts other than just saying there will be no Native American sensitivities or there are major Native American sensitivities?

In my opinion this DEIR falls short with regard to Native American sensitives reporting. It needs to be redone.

Sincerely,



Marla jo Bruton Sadowski  
North Morro Bay stakeholder

## Comment Letter – Marla Jo Bruton Sadowski Letter 2

### Response to Bruton Sadowski-1

The City, as lead agency under CEQA, has described and evaluated the proposed project in the Draft EIR. The commenter's request for a "Plan B" is not specifically required under the CEQA environmental review process; however, per Section 15126.6 of the CEQA Guidelines, an EIR is required to include an alternatives analysis, which can be found in Chapter 6 of the Draft EIR. It is not clear what "Plan B" proposal the commenter is referring to, but presumably some sort of alternative proposal to build the project outside of the City's approved design/build process. Note the design/build process is the statutorily allowed method by which potential designers and contractors are able to submit proposals to design and build the proposed project. That process encouraged creative and cost-effective solutions in those responses. However, proposals or other information sent that was not submitted through that design/build process, while possibly useful for eliciting discussions, cannot be legally considered by the City. Those who submitted such proposals chose not follow the statutorily required procedures, which are designed to provide a fair and level playing field.

The commenter expresses support for the No Project Alternative, which is noted for the record.

### Response to Bruton Sadowski-2

Regarding the comment about the discrepancy about whether there are significant Native American cultural resources near the Hanson RV/Storage site, there are no known Native American archaeological resources within the 12-acre area of focus on the Hanson RV/Storage site; however, there are resources nearby and the area was identified as having a higher sensitivity for buried archaeological resources by Far Western, the City's cultural resources consultant.

Regarding the comment about the routing of pipelines around Lila Keiser Park to avoid impacts to cultural resources, as explained in Draft EIR in Chapter 6 Alternatives Analysis, the City considered Alternative 2, which would move a segment of the raw wastewater pipeline to a different alignment along Embarcadero Road to the west of the existing WWTP and proposed lift station, traveling south and then east along Pacific Street, and meeting with the currently proposed raw wastewater pipeline at Butte Street. That segment under Alternative 2 would result in construction near two different and known cultural resources sites, may result in geotechnical challenges along the waterfront, and would result in a significant increase of construction impacts related to traffic, air quality and noise. Comparison of Alternative 2 impacts to the proposed project impacts indicate Alternative 2 would meet the proposed project's objectives, and would result in a reduction in impacts on number of cultural resources sites, although impacts to cultural resources would still remain significant and unavoidable similar to the proposed project. In addition, Alternative 2 would increase the costs to the City related to construction and possible private property acquisition and would result in more severe impacts on air quality, noise, and traffic.

The Draft EIR identified the proposed project as the environmentally superior alternative based on a variety of factors. As an informational document, the Draft EIR allows the lead agency to make an informed decision whether to approve or disapprove a project or alternative (CEQA Guidelines

section 15121). As the Lead Agency, the City will decide whether to proceed with the proposed project or whether to accept or reject any of the identified alternatives.

### **Response to Bruton Sadowski-3**

Mitigation Measure CUL-9: Inadvertent Discovery (see page 3.5-29 to 3.5-30 of the Draft EIR) outlines what would happen in the event of discovery of an archaeological resource, and includes cease work measures, implementing the protocols and procedures outlined in the CRMMP (see Mitigation Measure CUL-5: Development of a Cultural Resources Monitoring and Mitigation Program (CRMMP)), evaluation of the resource by the Qualified Archaeologist, development of an Archaeological Resources Data Recovery and Treatment Plan for the resource in accordance with the CRMMP, and following the procedures outlined in Mitigation Measure CUL-4: Development of an Archaeological Resources Data Recovery and Treatment Plan. Mitigation Measure CUL-9 also states that “when assessing significance and developing treatment for resources that are Native American in origin, the Qualified Archaeologist and the City shall consult with the appropriate Native American representatives.”

### **Response to Bruton Sadowski-4**

Costs of implementing mitigation measures related to archaeological resources are unknown at this time. California Public Resources Code section 21083.2 provides guidance on the amount to be paid by a project applicant or proponent for mitigation measures for unique archaeological resources:

(c) To the extent that unique archaeological resources are not preserved in place or not left in an undisturbed state, mitigation measures shall be required as provided in this subdivision. The project applicant shall provide a guarantee to the lead agency to pay one-half the estimated cost of mitigating the significant effects of the project on unique archaeological resources. In determining payment, the lead agency shall give due consideration to the in-kind value of project design or expenditures that are intended to permit any or all archaeological resources or California Native American culturally significant sites to be preserved in place or left in an undisturbed state. When a final decision is made to carry out or approve the project, the lead agency shall, if necessary, reduce the specified mitigation measures to those which can be funded with the money guaranteed by the project applicant plus the money voluntarily guaranteed by any other person or persons for those mitigation purposes. In order to allow time for interested persons to provide the funding guarantee referred to in this subdivision, a final decision to carry out or approve a project shall not occur sooner than 60 days after completion of the recommended special environmental impact report required by this section.

(e) In no event shall the amount paid by a project applicant for mitigation measures required pursuant to subdivision (c) exceed the following amounts:

(1) An amount equal to one-half of 1 percent of the projected cost of the project for mitigation measures undertaken within the site boundaries of a commercial or industrial project

According to CEQA Guidelines subdivision 15064.5(c)(2), if an archaeological site meets the definition of historical resource set forth in subdivision 15064.5(a), then the limits provided in California Public Resource Code section 21083.2 do not apply.

## Response to Bruton Sadowski-5

The commenter is referred to Response to Bruton Sadowski-2.

## Response to Bruton Sadowski-6

Regarding the comment about the best alternative for the WRF location, as stated in the Draft EIR on page 6-7, the 2017 Updated Site Comparison Report included the South Bay Boulevard site, Giannini site, Righetti site, and a site west of Highway 1, such as the existing WWTP site. At the City Council meeting on September 27, 2017, the Council decided to move forward with the South Bay Boulevard site as the preferred site due to the following conclusions:

*there was Council consensus that the Coastal Commission would not permit a project west of Highway 1, the Giannini site had too many issues and no cost advantages, and due to the risk of litigation, the Righetti site was not feasible. There was stated support to proceed with planning and permitting at South Bay Blvd. as the preferred site. (Minutes – Morro Bay City Council Regular Meeting – September 26, 2017).*

Of these locations, regardless of other constraints, the preferred WRF alternative (South Bay Boulevard site) provides the least cultural resources constraints, since it is located in an area with no known cultural resources and a low potential for buried sites.

Regarding the comment about inadequate analysis of Native American sensitivities, according to CEQA Guidelines section 15151, “an EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision with intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of the EIR is to be reviewed in the light of what is reasonably feasible.” CEQA Guidelines section 15126.2 states “an EIR shall identify and focus on the significant environmental effects of the proposed project... Direct and indirect significant effects of the project on the environment shall be clearly identified and described.” The EIR shall also “describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance” and “the reasons why the project is being proposed, notwithstanding their effect.”

Chapter 3.5 – Cultural Resources provides an analysis of impacts to Native American archaeological sites and concludes the proposed project would result in a significant and unavoidable impact to cultural resources even after implementation of mitigation. As explained in the Draft EIR, Chapter 6 Alternatives Analysis, the City has determined the proposed project as the environmentally superior alternative based on a variety of factors. As an informational document, the Draft allows the lead agency to make an informed decision whether to approve or disapprove a project or alternative (CEQA Guidelines Section 15121). As the Lead Agency, the

City will decide whether to proceed with the proposed project or whether to accept or reject any of the identified alternatives.

May 17, 2018

Robert Livick  
City of Morro Bay

RE: Comments on the DEIR for the WRF

Rob:

Please accept this letter as my comments on the Draft EIR for the WRF. I will submit an electronic copy as well.

Thank you,  
Betty Winholtz

### Executive Summary

1. "and potentially additional surrounding communities or customers." (ES-1) Do current ratepayers have to pay for future ratepayers who may not be inside city limits? 1
2. "Public outreach was conducted through stakeholder meetings, stakeholder interviews, and public workshops, which gathered input related to cost, environmental concerns, engineering and design issues, site-related issues, and logistics and process issues." (ES-3) This blanket statement does not reflect the growing discontent and reduced outreach of the last 2 years. 2
3. "In order to ensure public involvement during this process, a Citizens Advisory Committee (WRFCAC) was created in July 2014 to help oversee and evaluate the siting process." (ES-4) WRFCAC met consistently for 1.75 years beginning September 2014 through April 2017, then meetings were canceled 9 times over the course of 12 months May 2017 through April 2018. 4. "The Morro Bay City Council refined and adopted the project objectives for the proposed project on October 24, 2017. The primary goals of the proposed project have not changed." (ES-4) Though the first goal is "emphasis on minimizing rate payer and City expense," (page ES-5) the Morro Bay Community does not believe this is happening. On the date the City Council chose S. Bay Blvd. as their preferred site, City Council acknowledged it was the most expensive site. In March 2017, citizens formed a grassroots PAC to oppose another Proposition 218 vote because one had just passed in 2015 and no accounting of the money was forthcoming. While the scope of the project was downsized on April 25, 2017 in response to community concerns about escalating costs, it was re-supersized in July 2017. 3
5. "The proposed project would not require modification of the existing sewer collection system. All wastewater would continue to flow to a collection point near the existing." (ES-5) This is about more than flowing through the collection system. Modification to the collection system should be included because flow predictions will not be accurate if there are leaky pipes, which is known to be true. The Proposition 218 passed in the first decade of the century was to address the collection system, since it was known then that infiltration and ex-filtration were occurring. However, this task was not completed. 4
6. There is a typo here: "Each potentially significant impact includes a numbered impact statement **with** **and** significance determination for the environmental impact as follows:" (ES-6) 5

7. "Upgrade of the WWTP was considered in the September 2007 WWTP Facility Master Plan Report (Carollo Engineers, 2007)." (ES-8) While the data in the paragraph that follows this statement is true for that time (2007), it does not include updated information that has been produced in the ten years since the report was created. In particular, pieces of the plant machinery that have already been replaced, a new flood map, and a proposal that would allow the recycle component to be placed on the current site.

8. "Alternative 2 would result in construction of all the same facilities as the proposed project, except for a segment of the raw wastewater pipeline that would have a different alignment". (ES-8) With **all the "same** facilities as the proposed project", altering **a part** of the route of **one** of three proposed pipelines does not sound like a real alternative. (bolding mine)

### 3.5 Cultural Resources

1. The term "Indian" tribe rather than "Native American" tribe on page 3.5-11 in the last full paragraph is inappropriate and should be corrected.

2. The archaeologist has been made the dominant monitor rather than the Native American monitors over the latter's personal story (3.5-24). Therefore, the archeologist should be approved by both of the Councils of the two tribes recognized in the CEQA document. To what extent did the CEQA writer(s) engage both or either Tribe in designing this section of the report?

3. Both the conveyance pipelines, and injection and monitoring wells are identified as "significant and unavoidable" impacts to Cultural Resources (3.5-22,23). All pieces of this project--WRF, lift station, conveyance pipelines, injection and monitoring wells, decommissioning of the WWTP--except operation, are identified as "significant and unavoidable" impact to human remains (3.5-33). In addition, page ES-11 states, "Here, the No Project Alternative may in some respects qualify as the environmentally superior alternative because it would avoid the significant and unavoidable impacts to historic and archaeological resources, and human remains." Having this prior knowledge, will the City recommend/choose a different location for the lift station, another route for the piping, another site location, or choose the No Plant Alternative, any of which have the ability to mitigate "significant and unavoidable" impacts to Cultural Resources? If not, why not?

### 3.7 Greenhouse Gas Emissions and Energy

1. It appears that data is being used that is over a decade old, 13 years to be exact. (3.7-3) The last sentence in the paragraph entitled "The City of Morro Bay" cites 2014 but expands on the 2005 data quoted earlier in the paragraph. Which year is the data from? Why isn't, or shouldn't, current data be used?

2. It doesn't make sense to amortize Construction Emissions over 25 years when they are happening within a 3-year time frame: affecting residents and the environment in that specific time period. (3.7-23,24) In particular, the plant site is close to a sensitive receptor site, Casa de Flores Senior Assisted Living and Bayside Care Center.

3. The Goals listed on page 3.7-30,31--upgrades, lighting, tree planting, solid waste diversion, management, and infrastructure--are not unique to the proposed project: they can be met on any site. What is unique to this site is the operational increase of vehicle fleet mileage due to the plant's distance from town. In addition, new Construction on virgin land as opposed to a remodel on the current site adds GHG unnecessarily. The one environmental plus

is the "small-scale, on-site solar PV" proposal. I would argue that PV panels can be added onto any site by going rooftop. This project is GHG-friendly rather than GHG-reducing. Is money in the project budget for buying zero/low-emission plant vehicles?

4. I don't see where the utility use of pumping 3 pipes (the conveyance piping) 24/7/365 is identified. Is it just subsumed in the larger number? This is an extra expense that would not exist if the site were somewhere else, particularly where it is currently located.

5. "Energy consumption during project construction and operations would be relatively negligible and not excessive or wasteful. The proposed projects energy requirements are within PG&E's existing and planned electricity capacity and supplies would be sufficient to support the project's demand. (ES-13)

A utility use comparison should be done between the use of the proposed project at the proposed site and the same proposed plant at the current site.

### 3.9 Hydrology and Water Quality

1. Page 3.9-5 states "Active groundwater supply users...[include] a cement plant". The cement company hasn't been operational for a decade.

2. The modeling result is not unequivocal that the injection wells will be successful with language like "may be possible to meet the minimum required retention time." (3.9-26) The data doesn't change, yet the conclusion becomes more affirmative in the summary, "likely feasible for the aquifer to accept" and "The 2-month minimum...will likely be met." (3.9-27) It has not been demonstrated that this particular aquifer at the proposed points will accept recharge effectively. Actually, the opposite was demonstrated in a study done in the last few years.

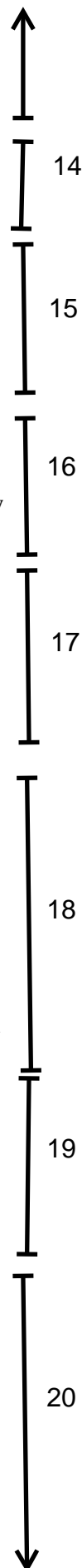
3. No where in this chapter is the hydrology of the lift station site or conveyance piping route specifically identified; only the proposed plant site and injection well sites. Therefore, it is not mentioned that the proposed lift station site was once a marsh that has been filled in, nor that the piping route goes directly through town along a creek or drainage bed. Because the specific site descriptions for the lift station and conveyance piping has not been identified, the following two impacts should be reevaluated: "Alteration of Drainage Patterns Impact 3.9-4: Installation of the proposed project components would alter topography and drainage patterns at each site;" (3.9-37) and "Stormwater Runoff and Drainage Systems Impact 3.9-5: Installation of the proposed project components would add impervious surfaces that could increase stormwater runoff from proposed project sites." (3.9-39)

### 3.10 Land Use and Land Use Planning

1. It's my understanding that the adjacent property owners, the Jones Family, have a conservation easement on their property. I do not know the exact location to know if it is relevant to the following: "Impact 3.10-3: The project would not be not located in or adjacent to a habitat conservation plan or a natural community conservation plan...."

### 3.11 Noise

1. A cumulative noise factor is not being considered with the construction of the lift station near the high school. Morro Bay High School is in the midst of a multi-year construction project. No construction has been done so far this calendar year, which means school construction activity is pushed into the same time frame as the construction of the lift station. This must create an untenable situation for learning. At the least, (1) coordination of heavy machinery to not occur at the same time should be mandatory between the city and the school district, and (2) three of the 10 proposed





construction months should have to occur in the summer. The adjacent RV parks are filled all year round, so avoiding summer for them is moot.

2. This impact statement is difficult to believe: "Groundborne Vibration Impact 3.11-3: The proposed project would not expose people to excessive groundborne vibration either during construction or operation." (3.11-26) How is 24/7 for a month drilling wells within 50' of a sensitive receptor site not impactful? How is the vibration that goes into tearing up Quintana or any city street not going to cause cracks in the adjacent business buildings and houses? Is the city or construction companies willing to sign insurance agreements with the business and home owners?

### 3.12 Environmental Justice

1. On page 3.12-1, population numbers for 2017 do not match the math. The document states, "The City's current population is 10,762. Between 2016 and 2017, the City's population grew approximately 0.4 percent..." The US Census estimates Morro Bay City's population to be 10,519 in 2016. Apply the stated .4% interest increase and the population for 2017 is an increase of 42 persons for a total of 10,561. Even if you add the margin of error of 32 people, the largest the population is 10,593.

2. More appropriately, on page 3.12-5, the term "Black" should be replaced with "African American."

3. What this chapter fails to address is the income of the whole town. The chapter states, "The 2015 median household income in the County was \$60,691 (US Census, 2015). In 2010, the median household income was \$57,335" This 5-year increase will become a zero net gain, virtually wiped out by the increase in sewer and water rates. As stated in the TRIBUNE last year, \$65,350 is considered low income in the county.

### 3.13 Public Services

1. This quote is from page 3.13-5, "existing fire protection and police services within the City and County would be able to sufficiently respond to emergency events with existing equipment and staffing capacities." Equipment and staff is addressed, but not water. Will a pipe. now a fourth, have to be built to convey water to the site for fire fighting? What is the plan? Is the cost included in the project cost?

### 3.14 Transportation and Traffic

1. Were the 3 intersection at South Bay Blvd. evaluated with the completion of the 16-home Black Hills Villas project, the 10-home project just west of Bayside Care Center and the proposed work force housing just north of Casa de Flores?

2. How is it that the South Bay/Quintana intersection is operating at level C when it was operating at level F when the Black Hills Villas project was proposed 10 years ago?

3. There is no analysis of the Quintana and Kennedy Way intersection. This is a major intersection between 2 shopping centers where the conveyance piping will be passing, the conveyance piping will also disrupt if not close year-round businesses for 12 months.

4. There is no analysis of the **roundabout** at Quintana and Morro Bay Blvd; this is a route for the conveyance piping. The roundabout is the primary entrance to the downtown and Embarcadero business districts, as well as access to the south Morro Bay residential area. Will there be some kind of coordination with **State Parks** to use upper and lower Park Road as a detour? Their roads are not always in the best condition. If Quintana and Main intersection will be used as a detour, is there a guarantee that both intersections will not be under construction at the same time? Will there be

coordination with the **RTA** because their county bus schedule will be disrupted and delayed. New sewer/water pipes were laid under the roundabout 10 years ago: how will this be handled, ripped up or avoided?

### **5.6 Growth Inducement**

1. I do not see any comment that the proposed project is being bought from Tri W Enterprises, a development company headquartered in Santa Maria. While Tri W owns land within city limits, the majority of its landholdings are adjacent to the city in the County. At the end of the last century, Tri W made a development proposal to the city that was rejected by the residents, ending in court, adjudicated. In light of the land purchase MOU between the city and Tri W, I believe the access road to the proposed project could be the foot-in-the-door to open up Tri W's agricultural land for residential and other development. Yes, annexation has to go to a vote of the people, but that does not preclude the city from facilitating such a vote for the developer. What is the city's intent?

### **6.3 Project Alternatives**

1. "The No Project Alternative is not feasible because it would require a CDP from the CCC, which previously denied the same permit for an upgrade to the WWTP." (6-12) "The CCC supports the proposed new treatment plant location..." (ES-4) These are erroneous statements: (1) the CA Coastal Commissioners have all been replaced except for a couple of appointees, and (2) a new upgrade project would not be identical to the one previously submitted. Communications have been between city and Coastal staff. The Commissioners have not heard this proposal.

2. "Here, the No Project Alternative may in some respects qualify as the environmentally superior alternative because it would avoid the significant and unavoidable impacts to historic and archaeological resources, and human remains." (6-15) These are not the only impacts it avoids: potential growth inducement, construction traffic and transportation (and resultant economic impact to local business), a new extended fire protection system, environmental justice (rate increases out of range for residents, who are predominately very low to moderate income residents), unnecessary, disruptive, prolonged noise to sensitive receptors, utilizes greenhouse gas avoidance rather than mitigation.

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## Comment Letter – Betty Winholtz

### Response to Winholtz-1

The City thanks Ms. Winholtz for submitting comments. While the Draft EIR’s proposed project objectives do not specifically state connections to surrounding communities or other customers, the City may potentially use future partners in its wastewater treatment operations within the limitations of growth management restrictions, both within the City and other jurisdictions as appropriate. Any future negotiations with surrounding communities regarding rates is outside of the scope of this Draft EIR.

The commenter expresses stakeholder opinion about the frequency and type of outreach conducted for the project. The City satisfied and exceeded the public outreach requirements required in CEQA Guidelines section 15087. Additionally, the City supported the WRFCAC process as noted by the commenter below. Comments expressing opinion do not address a “significant environmental issue” regarding the Draft EIR, and therefore do not require a response per CEQA Guidelines subdivision 15088(c).

### Response to Winholtz-2

The purpose of the WRFCAC is to provide technical input on the key issues of economics, engineering, and environmental concerns on various documents related to the proposed WRF project in order to better inform the City Council at key junctures in the proposed project as the Council provides direction on the proposed project. The frequency of WRFCAC meetings is a function of whether or not there are documents to review. Prior to late 2017, there were many technical documents related to the preparation of the draft Facility Master Plan, Master Water Reclamation Plan, and various siting studies that required WRFCAC input. The period encompassing late 2017 and early 2018 focused on preparing the Draft EIR based on the preferred project site, and as needed, to provide updates on related efforts regarding funding and technical assistance.

### Response to Winholtz-3

The first Project Objective of the Draft EIR states the proposed project will be implemented “ensuring economic value with a special emphasis on minimizing rate payer and City expense.” While the City has emphasized minimizing ratepayer costs in the proposed project objectives, the cost of implementing the proposed project is unrelated to the CEQA analysis required of an EIR. Per CEQA Guidelines subdivision 15064(e), “economic and social changes resulting from a project shall not be treated as significant effects.” The comment is noted for the record.

### Response to Winholtz-4

The proposed project does not require modification to the sewer collection system. The proposed WRF would have a slightly reduced capacity to reflect the reduction in influent from the City’s service area only (without influent from the CSD service area) that would require treatment. The capacity of the proposed WRF is designed to meet planned future demand associated with the

City's projected population of 12,000 by 2040. Any modifications to the sewer system associated with previous Proposition 2018 votes are outside of the scope of this Final EIR analysis.

### Response to Winholtz-5

The commenter notes a typographic error. As a result, the Draft EIR text on page ES-6 is modified as follows:

Each potentially significant impact includes a numbered impact statement ~~with~~ and significance determination for the environmental impact as follows:

### Response to Winholtz-6

The intent of the quoted text is to illustrate upgrades would be required at the existing WWTP for full-secondary treatment to be implemented under the No Project Alternative.

### Response to Winholtz-7

The commenter's restatement of the Alternative 2 alignment is accurate but does not change the selection of the alternative for analysis in the Draft EIR. CEQA Guidelines subdivision 15126.6(f)(2) includes a process for determining whether an alternative location is appropriate. In this case, the City has determined the alternative pipeline route avoids cultural resource sites located along the proposed project pipeline route; however, new cultural sites have been identified along the alternative pipeline route. While the significant and unavoidable impacts of the proposed project are avoided, new significant and unavoidable impacts to cultural resources remain under Alternative 2. See also **Master Response 1 – Alternatives**.

### Response to Winholtz-8

The term "Indian" is used by the Bureau of Indian Affairs (BIA) and commonly by many Native Americans themselves without any disrespect. However, in response to this comment the text on page 3.5-11 has been revised as follows:

The steps of the Section 106 process are accomplished through consultation with the State Historic Preservation Officer (SHPO), federally-recognized ~~Indian~~ tribes, local governments, and other interested parties.

### Response to Winholtz-9

Regarding the comment about allowing the Councils of the two tribes identified in the CEQA document to have approval over the selection of the Qualified Archaeologist, it is the responsibility of the City to hire the appropriately qualified specialists to carry out the Mitigation and Monitoring Reporting Program for the proposed project, should it be approved. However, nothing precludes the City from consulting with Native American representatives during the selection process.

Regarding the comment about consultation with the NCTC, pages 3.15-3 to 3.15-7 of the Draft EIR describe the Native American outreach that was conducted by the City and its cultural resources consultant, Far Western. Fred Collins, spokesperson for the NCTC, responded to a request for information from Far Western via a telephone call on March 21, 2017, and expressed concerns about potential impacts of the proposed pipeline alignment within and adjacent to Lila Keiser Park and suggested rerouting the alignment to avoid the park and Morro Creek. Mr. Collins requested an in-person meeting with the City and County. A representative of the City, John Rickenbach, met with Mr. Collins and his representative, Barry Price of Applied Earthworks, on May 4, 2017. They discussed the proposed project and potential concerns Mr. Collins might have with the proposed project. It is not the responsibility or role of the CEQA consultant to conduct Native American consultation, but rather to describe the results of consultation in the EIR.

## **Response to Winholtz-10**

Because of the previous years of studies and evaluations of a large variety of alternatives, the Draft EIR focuses on three viable alternatives, including the No Project Alternative required by CEQA. As described in the Draft EIR in Section 6.1.4.1, the City Council determined there is no feasible alternative location for the proposed WRF because the CCC would not permit a project west of Highway 1, the Giannini site had no cost advantages, and due to risk of litigation the Righetti site is not feasible. As described in the Draft EIR in Sections 6.1.4.2 to 6.1.4.4, the Council removed the Corporation Yard from the proposed project in response to public input, alternative lift station alternatives have already been screened, and alternate beneficial end uses of recycled water also have already been considered.

Under the No Project Alternative, the proposed project would not be constructed, nor would the lift station, associated conveyance pipelines, or injection and monitoring wells. As a result, the significant impacts to historic and archaeological resources, as well as human remains, would not occur. The No Project Alternative would avoid those significant and unavoidable impacts associated with the proposed project. However, the No Project Alternative also would not achieve the benefits of the proposed project, including removing critical community infrastructure from a coastal hazard area subject to flooding and sea level rise. In addition, the No Project Alternative would not meet any of the project objectives, including the ability to provide reclaimed wastewater to augment the City's water supply or to meet wastewater effluent conditions that reduce impacts from contaminants of emerging concern.

The No Project Alternative is not feasible because it would require a CDP from the CCC, which previously denied the same permit for an upgrade to the WWTP. The basis for that denial included the CCC's assessment such upgraded facilities would be inconsistent with the City's Local Coastal Plan's zoning provisions, would fail to avoid coastal hazards and would fail to include a sizeable reclaimed water component; and the project location would be within an LCP-designated sensitive view area. It is expected the CCC would similarly deny a CDP for the proposed No Project Alternative.

The Draft EIR considered Alternative 2, which would move a segment of the raw wastewater pipeline to a different alignment along Embarcadero Road to the west of the existing WWTP and proposed lift station, traveling south and then east along Pacific Street, and meeting with the currently proposed raw wastewater pipeline at Butte Street. That segment under Alternative 2 would result in construction near two different and known cultural resources sites, may result in geotechnical challenges along the waterfront, and would result in a significant increase of construction impacts related to traffic, air quality and noise. Comparison of Alternative 2 impacts to the proposed project impacts indicate Alternative 2 would meet the proposed project's objectives, and would result in a reduction in impacts on number of cultural resources sites, although impacts to cultural resources would still remain significant and unavoidable similar to the proposed project. In addition, Alternative 2 would increase the costs to the City related to construction and would result in more severe impacts on air quality, noise, and traffic.

The analysis of alternatives presented in Chapter 6 of the Draft EIR, taken together with the analysis of the proposed project in Chapter 3 of the Draft EIR, identified the proposed project as the environmentally superior alternative. As an informational document, the Draft EIR allows the lead agency to make an informed decision whether to approve or disapprove a project or alternative (CEQA Guidelines section 15121). As the Lead Agency, the City will decide whether to proceed with the proposed project or whether to accept or reject any of the identified alternatives. The commenter is referred to Chapter 6 – Alternatives or the Draft EIR for additional information.

## **Response to Winholtz-11**

The comment cites data from 2005 on page 3.7-3. Such data and a paragraph entitled “The City of Morro Bay” is not found on that page. In general, the analyses in the Draft EIR are based on the most recent, publically-available data to evaluate baseline conditions and determine impacts.

## **Response to Winholtz-12**

As explained in the Draft EIR on page 3.7-24, the 25-year threshold was recommended by the San Luis Obispo Air Pollution Control District: “as recommended by the SLOAPCD, the proposed project's total construction emissions are amortized over the project's 25-year lifetime in order to include these emissions as part of a project's annualized lifetime total emissions, so GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies.”

Air Quality impacts to the Bayside Case Center as a sensitive receptor are addressed in Section 3.3, Air Quality. Greenhouse Gas Emissions (GHG) analysis is on a global scale, which is why the Bayside Case Center is not referenced in that section. While the Casa de Flores facility is not specifically mentioned in the Draft EIR, it is co-located with the Bayside Case Center and, therefore, analyzed as part thereof.

### **Response to Winholtz-13**

The Draft EIR text cited in the comment from page 3.7-30 to 3.7-31 is intended to demonstrate the proposed project is consistent with the City's Climate Action Plan goals, actions and strategies, not to demonstrate that the proposed project is unique.

The comment states the proposed project is "GHG-friendly" rather than "GHG-reducing." The Draft EIR analysis of impacts associated with GHG emissions, as described in Chapter 3.7, concludes no significant impacts.

Regarding use of zero/low-emission plant vehicles in the budget, the cost of implementing the proposed project is unrelated to the CEQA analysis required of an EIR. The commenter is referred to Response to Winholtz-3.

### **Response to Winholtz-14**

The description of energy requirements for operation of all proposed project components is included in the Draft EIR on page 2-32. The environmental impacts associated with pumping through all pipelines is included in the Air Quality and GHG analysis. The cost of implementing the proposed project is unrelated to the CEQA analysis required of an EIR. The commenter is referred to Response to Winholtz-3.

### **Response to Winholtz-15**

On page 3.7-25 of the Draft EIR, the discussion states the analysis of energy use deducts the existing energy use for the WWTP of 3,000 kWh/day from the proposed project's projected total operational demand of 9,000 kWh/day.

### **Response to Winholtz-16**

The comment regarding the cement plant is noted. This statement is from the City's 2015 UWMP and is intended to characterize the baseline conditions, including groundwater pumpers in the Morro Valley basin; the validity of the statement does not have a material effect on the environmental impact analysis in the Draft EIR.

### **Response to Winholtz-17**

As stated in the Draft EIR on page 3.9-24, a screening level groundwater model was developed for the proposed project to determine the feasibility of the proposed injection and extraction of advanced treated recycled water (GSI, 2017) (see Appendix G to the Draft EIR). The modeling effort evaluated the feasibility of injecting 825 acre-feet per year (AFY), determined the maximum annual production (extraction) capacity of the existing wells without causing seawater intrusion, and the ability to satisfy the CCR Title 22 minimum response retention time requirements for the injected recycled water. The modeling results suggest it may be possible to meet the minimum required retention time (Draft EIR page 3.9-26). In conjunction with the State's Division of Drinking Water, the City will conduct a pilot injection program to confirm the

modeling results (Draft EIR page 3.9-27). The commenter does not provide a copy of, or the citation for, the cited study done that demonstrates opposite results.

### **Response to Winholtz-18**

The comment states the specific proposed site descriptions for the proposed lift station and conveyance pipeline has not been identified and Impact 3.9-4 and 3.9-5 should be reevaluated. The Project Description included in Chapter 2 of the Draft EIR provides project details that are available in order to conduct meaningful environmental review. CEQA Guidelines Section 15124 includes the requirements for an EIR project description, which should “not supply extensive detail beyond that needed for evaluation and review of the environmental impacts.” In particular, the proposed project description should include the location and boundaries of the proposed project, shown on a map; a statement of the proposed project objectives; a general description of the proposed project’s technical, economic, and environmental characteristics, considering any principal engineering proposals, and a statement briefly describing the intended use of the EIR. Based on those requirements, the description of proposed project facilities in the Draft EIR are adequate for CEQA and the analysis of impacts.

### **Response to Winholtz-19**

Conservation easements are different from state and federally established habitat conservation plan or natural community conservation plans. No further response is provided.

### **Response to Winholtz-20**

The modernization of the Morro Bay High School is listed as a cumulative project in Table 4-1 “Cumulative Projects List.” Therein, a detailed description of construction activities is provided, including the fact facilities are to be constructed at a later date. As explained on page 4-21, “the largest projects near the proposed project are the Morro Bay High School Project...,” which demonstrates that project was taken into consideration in the noise analysis. The analysis determines that even though “the combined effect could result in the exposure of off-site sensitive receptors to higher noise levels than what was predicted under each of the proposed project components,” mitigation measures are in place to reduce the project’s contribution to the cumulative noise condition to less than significant levels.

### **Response to Winholtz-21**

As explained on page 3.11-27, the Draft EIR analysis applies the “strongly perceptible” threshold of 0.9 in/sec PPV for transient sources (Caltrans, 2013b). None of the project activities (construction of the WRF, Lift Station, Injection/Monitoring wells, decommissioning of the WWTP) would result in vibration levels above 0.027 (see Table 3.11-10 in the Draft EIR). Impact pile driving, which typically emits vibration at perceptible levels, is not proposed under any of the project components. As a result, the impact is less than significant, and no mitigation is required.



## Response to Winholtz-22

The numbers cited for City population are derived from the California Department of Finance as cited on page 3.12-7. The commenter has presented a different dataset from the U.S. Census. While the numbers are similar, it is reasonable to arrive at different numbers if different datasets are used. The purpose of the statement: “the City’s population grew approximately 0.4 percent” (page 3.12-1) is to demonstrate the slow growth in population of the City.

## Response to Winholtz-23

The term “Black” is a term used by the U.S. Census to describe “individuals identifying primarily with a Black ethnicity” as explained on page 3.12-3. No modification to the Draft EIR is made in response to the comment.

## Response to Winholtz-24

The comment the project would erase the 5-year gain of median household incomes is speculative and is also unrelated to the CEQA analysis required of an EIR. Per CEQA Guidelines subdivision 15064(e), “economic and social changes resulting from a project shall not be treated as significant effects.”

## Response to Winholtz-25

The Impact statement 3.13-1a is only related to increased fire or protection services per CEQA Guidelines Appendix G. Impacts associated with increased need for water supply is address in Section 3.16, “Utilities and Service Systems,” Impacts Statement 3.16-4, page 3.16-8. As stated therein, water needs associated with construction activities would be minor and temporary. Operation of the lift station, wells, recycled water distribution system, and conveyance pipelines would move water, but would be unmanned and would not generate water demand during operation. At the preferred WRF site, the proposed Operations and Maintenance buildings would require potable water for sinks, showers, and toilet flushing, minor laboratory use, and emergency eyewash stations. The existing WWTP, which has a similar operational potable water demand to the preferred WRF facility, would be decommissioned concurrently with commencement of operation of WRF facility operation. That would result in approximately a zero net increase in water demand in the area of the proposed project. No additional water supply would be required above what is currently associated with the WWTP (or associated cost).

## Response to Winholtz-26

As stated in the Draft EIR on page 3.14-1, the 2018 Traffic Impact Study (TIS) prepared by Central Coast Transportation Consulting (CCTC) for the proposed project documented existing traffic conditions in the project area. The analysis evaluated conditions based on traffic counts collected in February 2018 and does not include traffic from the projects the commenter lists. The *Black Hill Villas Traffic Impact Study Reevaluation* (Omni-Means, February 24, 2016) evaluated conditions with Black Hills Villas project in place and concluded no improvements were

warranted at the study intersections consistent with the results of the analysis of the proposed project.

### **Response to Winholtz-27**

As stated in the Draft EIR, the 2018 TIS documented existing conditions of LOS E/C at the Quintana Road/South Bay Boulevard intersection during the AM/PM peak hours, respectively (see Draft EIR, Table 3.14-1). The Black Hills Villas project is not the subject of the analysis included in the Draft EIR. The traffic study conducted in 2016 for the Black Hills Villas project reported LOS D/D during the AM/PM peak hour. That difference is considered reasonable given the different count dates, which reflect typical daily traffic variations.

### **Response to Winholtz-28**

The intersection mentioned in the comment is not expected to be impacted by project construction traffic. Rather, the environmental impacts of installing pipeline within roadways constitutes a temporary impact and would not permanently impact the business community. As required by Mitigation Measure TRAF-1, a Traffic Control Plan would be implemented that requires access be maintained to individual properties during construction. In addition, the proposed pipeline would be installed at approximately 150 feet per day, as described on page 2-28 of the Draft EIR. As such, the disruption to any one business location would be limited to approximately one week or less.

### **Response to Winholtz-29**

As explained in the Draft EIR on page 3.14-16, the City would be required to prepare and implement a Traffic Control Plan for construction of proposed pipelines in accordance with Mitigation Measure TRAF-1. The Traffic Control Plan would include, but not be limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City Traffic Engineer. Specifically, Mitigation Measure TRAF-1 includes the following:

The Traffic Control Plan shall include provisions to ensure that the construction of the lift station, conveyance pipelines, and the IPR injection and monitoring wells do not interfere unnecessarily with the work of other agencies such as mail delivery, school buses, and municipal waste services.

### **Response to Winholtz-30**

The Draft EIR only analyzes impacts associated with construction and operation of the proposed project, which includes an access road to the proposed WRF. The City would purchase up to 27.6 acres for development of the proposed 10- to 15-acre WRF, with remaining acres available to be placed into an agricultural or open space easement. No additional development is proposed as part of the proposed project. Any future activities or development, including creation of a

roadway, would be analyzed under a separate environmental document. The proposed project would only provide wastewater treatment services to the City at a capacity to support growth as currently planned; as such, annexation of the proposed WRF site itself into the City would have no growth inducing impacts since no residential or commercial development would directly result from the project.

### **Response to Winholtz-31**

Please see the Draft EIR comment letter submitted by the CCC at the beginning of this chapter in support of the proposed project, confirming the No Project Alternative, which leaves the WWTP in its current location west of Highway 1, is not feasible. The CCC's comment letter to the Draft EIR states the CCC has previously and publically stated its support for the overall project and its objectives, and the CCC will continue working with the City throughout the WRF planning and permitting process. The Draft EIR recognizes the construction impacts avoided by the No Project Alternatives, but finds it meets none of the project objectives. See also **Master Response 1 – Alternatives**.

The commenter makes claims the No Project Alternative would avoid additional project impacts than those are identified in Chapter 6, "Alternatives Analysis." Those opinions are not supported by substantiation. The analysis in the Draft EIR substantiates the conclusion the impacts to growth inducement, construction traffic and transportation, fire protection services, environmental justice, nuisance construction noise at sensitive receptors, and GHG emissions are less than significant, some with implementation of mitigation.

Rob Livick, P.E.  
Public Works Director  
City of Morro Bay  
955 Shasta Avenue  
Morro Bay, CA 93442

Comments on  
Morro Bay Water Reclamation Facility  
Draft Environmental Impact Report  
SCH#2016081027

Submitted by  
Michael Lucas, [submitted as resident]  
2637 Koa Avenue, Morro Bay, CA 93442

Dear Rob-

As you are aware, I have had concerns from the earliest 'replacement plant' design that the holistic situation of the city and the water cycle were set aside for too narrow a focus on 'engineering'. I have not been able to review the work over the last few years in depth, but have seen the managed retreat aspect succeed. While I would suggest the Morro Creek sites superior to the one chosen, I understand the political realities of the proposed site selection. While I feel the technology and possible alternate technologies have not been fairly dealt with and that that will impact costs, I do think the proposed solution is a move forward for Morro Bay in the long term.

1

I have reviewed the draft EIR and have two major comment areas concerning what I assume may be mitigation aspects of relocation that are neither mentioned or seem to be overtly considered in the draft text. I think as many outside the community who read this are not familiar with Morro Bay or the locations involved, some of the following may be able to be included in various referenced mitigation or description parts noted or otherwise.

I am particularly concerned that in the discussions that little mention of the benefits of relocation relative to the existing treatment plant site are mentioned, such as potential visitor-serving uses, coastal access enhancement, or possible income flows to the city. While these future developments are not part of the project explicitly, they do open income streams and possibilities that offset costs, while furthering the access and visitor serving goals of the Coastal Act.

2

Similarly, the amount of water generated for reuse and tertiary treatment for human consumption [through aquifer/well enhancement] suggest further review of possibilities of economic 'selling'/leasing of our contracted rights from State Water to others. The current state of water in California suggests we would have many entities interested and this possible income would also impact the operational and construction costs.

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Comments below are not an exhaustive placement of where these concerns may have impact, but they did seem like the starting point.

#### 2.4.4/ Page 2-22 Decommissioning

The section describes the decommissioning, but the phrase '...to leave the site cleared and available for other uses in the future', while accurate does not state clearly that the beach block site is exceptional for adding to the visitor serving coastal access mandates of the Coastal Commission and aspects of the city General Plan. This value-added dislocation makes available a significant site for the city future. The economic advantages of lease or sale of the property as an economic offset to costs of the construction area also not identified as mitigation for costs.

4

#### 2.6.3/Page 2-32 Reclamation and Reuse.

The reclamation and reuse also allows a review of the contracted State water, and the ability of the City to lease or sell rights to contacted amounts to other jurisdictions. This economic advantage in terms of income is an offset to costs of implementing the full tertiary option and reuse.

5

### 3/Page3-2 Population

The beach block site made available could have the impact of attracting additional visitor serving commercial or even transient housing [similar to current adjacent use], both of which are possible additions of water draw.

### 3.1/Page 3.1-2 [Page 3.1-18] Aesthetics

#### 4.3/Page 4-8

There is no mention of the fact a negative land use is moved away from the beach, beach block, high school, public parklands, and future Power Plant site. Significantly beneficial alternative sites were disputed by residents whose homes were approximately 600 feet from the study facility, and dismissed by the city in the review process. By that logic, this site removal to inland agricultural property is a significant aesthetic gain for the city.

This point also could be considered in the 'Visual Character' aspect on page 3.1-18.

### 3.2.3/Page 3.2-12 Significance Criteria

#### 3.2-5/Page 3.2-17 Conversion to Non-agricultural Use

The availability of the currently used site for coastal access and visitor serving commercial, should be evaluated as possible mitigation for loss of pasturelands. This is a strategic trade that benefits the City and California citizens long term.

### 3.3/Page 3.3-4 Existing Air Quality

#### 3.7.3/Pages 3.7-22, 3.7-25, 3.7-26 Greenhouse Gas Emissions and Energy

The possible reuse of the treated water to become the city water supply would mean a possible lack of need of the State Water System assets. The State Water System has significant air quality impacts regionally as a major set of pumps moves the water across the coastal range and significant distances from the delta source. While gaining one impact in its own local pumping, the City does not further contribute to the air quality burden of the State Water System [assumed transferred to another locality].

### 3.3.5 /Page 3.3-24 Odors Operation

Another mitigation is removal of documented odor problem from the current site, which has impacted rental of the visitor serving transient spaces and anecdotally the students, faculty and staff of Morro Bay High School.

### Figure 3.9-4 FEMA Flood Zones

#### 3.9-6/Page 3.9-41 Flood Hazard Areas-Lift Station

My understanding is that there were new flood levels being discerned by various entities to include wind driven wave height not previously identified, as well as flood pool levels- this would increase the areas of the 100 and 500 year flood plains, directly impacting the armoring design of the required lift station. These considerations may also be informed by the California Coastal Commission Residential Adaptation Policy Guidance [draft, March 2018], which while aimed at residential situations, has numerous suggestions for future locations of assets.

### 3.12/Page 3.12-1 Environmental Justice

The location of the plant makes possible additional coastal access and potentially lower cost visitor serving transient housing on the current beach block site.

Thank you,



Michael Lucas

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## Comment Letter – Michael Lucas

### Response to Lucas-1

The City thanks Mr. Lucas for submitting comments. The comment regarding his concern for costs, but overall support for the proposed project. The comment has been noted.

### Response to Lucas-2

The comment is noted regarding potential project benefits such as potential visitor-serving uses at the existing WWTP site, coastal access enhancement, and possible income increase to the City. Section 1.2 of the Draft EIR explains the need for relocating the existing WWTP and the Coastal Commission's involvement with that decision. Those benefits are not covered in the Draft EIR because the future land use designation for the existing WWTP is being evaluated as part of the ongoing General Plan/LCP Update. As such, the proposed project does not include or identify the future redevelopment of the WWTP site. As part of the General Plan/LCP Update, the future uses will be aligned with the California Coastal Commission and Coastal Act objectives. The City will conduct appropriate environmental review in accordance with CEQA for the General Plan/LCP Update. Any potential environmental impacts associated with the redevelopment of the existing WWTP would be evaluated at that time or at a future time if a specific redevelopment project is considered.

### Response to Lucas-3

The City estimates the proposed project could produce as much as 825 AFY of recycled water from the proposed WRF for indirect potable reuse in the future (Draft EIR, page 5-6). The proposed project would extract volumes of water that would be equal to or more than the volume of injected water. As stated in the Draft EIR on page 5-6, by utilizing indirect potable reuse to increase existing groundwater supplies, the City would be able to produce more potable water from its own controlled water source to be used within the City and decrease its dependency on the water supplied by the SWP. That may result in cost savings in the future. The comment suggests the possibility of selling or leasing the City's right to State Water to others. The feasibility of that approach is not clear at this time, but may be considered by the City in the future through its ongoing efforts to manage its water supply.

### Response to Lucas-4

The City notes the potential economic advantages associated with the decommissioning of the WWTP as suggested in the comment, including revenue generated from lease or sale of the site and/or use of the site to attract visitors to the coast, which benefits the tourism sector of the City's economy. Please refer to Response to Lucas-2 regarding the future land use designation for the existing WWTP site.

### Response to Lucas-5

Please see Response to Lucas-3.

## Response to Lucas-6

Please see Response to Lucas-2.

## Response to Lucas-7

In response to the comment, the text of the Draft EIR is modified on page 3.1-15 as follows:

### Decommissioning of Current WWTP

The existing WWTP would continue in operation until the new WRF is in full operation (and the CSD's new treatment facility as well) and the collection system is no longer delivering flow to the existing WWTP. The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure including the piping located four to five feet below grade. After demolition and removal of facilities, backfilling, compaction, and grading would occur to create a site that is cleared, cleaned and available for other uses in the future. The decommissioning would remove aboveground WWTP facilities from coastal viewshed, visible from Highway 1 and Atascadero Road. Therefore, no structures or existing facilities would obstruct scenic views or vistas within the project area. The removal of WWTP structures would result in a beneficial impact to scenic vistas. Impacts would be less than significant.

## Response to Lucas-8

The City would purchase up to 27.6 acres for development of the proposed 10- to 15-acre WRF, with remaining acres available to be placed into an agricultural or open space easement (Draft EIR, page 3.2-7). The existing WWTP site is not needed to compensate or mitigate for loss of rangeland at the preferred WRF site.

## Response to Lucas-9

As stated in the Draft EIR on page 5-7, the proposed project is a water supply reliability project. Although the proposed recycled water would reduce reliance on water imported through the SWP during normal years, the proposed recycled water is included in the City's water supply portfolio, along with imported water, per the City's 2015 Urban Water Management Plan (see Draft EIR, page 3.16-2 and 5-6).

## Response to Lucas-10

Although the removal of potential odor generating facilities at the existing WWTP site would be beneficial, it would not be considered a mitigation. However, the following text has been added to the Air Quality impact analysis on page 3.3.-25 of the Draft EIR:

The sewer lift station proposed to be installed at the inlet to the WRF will be fully enclosed. The plant influent will not be exposed to atmosphere. In addition, at the proposed lift station, odor control measures such as the addition of calcium ammonium

nitrate, use of an onsite odor scrubbing system and installation of sealed hatches to reduce the release of odors may also be applied. Lastly, implementation of the proposed project would have a beneficial impact due to the removal of odor-generating facilities at the existing WWTP site.

Therefore, with the robust odor control technology proposed for the project, project operations are not expected to generate significant odors. This would be a less than significant impact.

### **Response to Lucas-11**

As shown in Figure 3.9-4 and on page 3.9-9 of the Draft EIR, some of the proposed project pipelines and the proposed lift station are already located within the 100-year flood hazard zone. As such, as stated in the Draft EIR on page 3.9-41, the proposed lift station would be floodproofed, designed to be watertight with impermeable walls and two feet above base flood elevation. The proposed project final design will be determined during the design/build process. The proposed lift station would be designed to comply with all local, state, and federal requirements associated with flood hazard areas.

### **Response to Lucas-12**

The comment is addressed in the Response to Lucas-4. The comment has been noted.



## 10.5 Oral Comments and Responses

Attendee	Comment/Question	Responses
Steve Shively, WRFCAC member	<ol style="list-style-type: none"> <li>1. All of the Class I Unavoidable impacts appear to be cultural only. Is this based on surveys (seeing resources physically in pipeline route) or assumptions that these resources may occur?</li> <li>2. Class II Significant but Mitigable impacts appear to be short-term impacts. Is that correct?</li> <li>3. In the Project Description, there is discussion about the IPR East and IPR West wellfields. Is this an either/or situation or are you looking to put in two separate pipelines to different wellfields?</li> <li>4. I understand you are looking to close the comment period on May 18, however it sounds like the document will not be ready for certification until the fall. Wondering why that lapse in time between end of comment period to certification?</li> </ol>	<ol style="list-style-type: none"> <li>1. As indicated on page 3.5-1 of the Draft EIR, the cultural resource analysis was based on several resources including record searches, database review, and survey reports which involved pedestrian surveys.</li> <li>2. This is correct. The comment has been noted.</li> <li>3. As described in Chapter 2 of the Draft EIR, IPR East and IPR West wellfields are alternatives; only one of the wellfields and pipeline routes will be constructed.</li> <li>4. The City will allocate appropriate time to respond to all comments to the Draft EIR. However, it is currently anticipated the Final EIR will be available in summer 2018.</li> </ol>
Robert Davis	What are the pipelines shown in Alternative 2 graphic?	In the Draft EIR, Figure 6-2 shows the proposed project pipelines along with the pipeline associated with Alternative 2, which is an alignment that runs from the proposed WRF along the Embarcadero to the proposed lift station near the existing WWTP.
Paul Donnelly	<ol style="list-style-type: none"> <li>1. In regards to the site layout (Figure 2-4): It says the source of the figure is from the City, so I was wondering where did the figure come from?</li> <li>2. In the Facilities Master Plan, it showed rough grading but this new exhibit does not, which would be the total area of disturbance at the plant site, which I imagine the EIR would want to speak to. Since the area looks a lot different than the area of take, the area that we need to acquire for the plan, is going to be different as well? Is that to be assumed?</li> <li>3. In reading the Geology section, it is my understanding that you will encounter Franciscan formation when you get down beneath the soil and is a thin soil layer so you will be doing rock excavation. Is blasting allowed in this project?</li> <li>4. There is a very sensitive noise receptor nearby (Casa Del Flores). Also if you will not allow blasting then they will have to use jack hammering. That noise will be excessive. Right over the hill, there is a very sensitive noise receptor. I am not sure if any of these things were considered in the EIR but the noise coming from grading will be noticeable.</li> <li>5. Tremendous amount of excess materials from pipeline construction will result. I did not see anything in the EIR that suggested where will this material will go? If there is federal involvement in this project, the federal agencies will want to know the destination of these materials and that the destination is qualified to take the materials. As Chorro Valley pipeline manager, we mainly went cross-country to avoid these displacement areas. In regards to the proposed alignment along the bike path, how will you get the pipe delivered to the actual</li> </ol>	<ol style="list-style-type: none"> <li>1. The City and MKN collaborated to create the figure, to remove the Corporation Yard from the layout for the proposed WRF.</li> <li>2. The comment is addressed in the response for Donnelly-5.</li> <li>3. As indicated on page 3.11-26, blasting would not result from project implementation.</li> <li>4. The noise impact analysis did consider impacts to nearby sensitive receptors such as Casa Del Flores. Refer to the noise impact analysis in Section 3.11.4 of the Draft EIR.</li> <li>5. The comment is addressed in responses for Donnelly-11, Donnelly-12, and Donnelly-13.</li> <li>6. The comment is addressed in response for Donnelly-3.</li> <li>7. The comment is addressed in response for Donnelly-4.</li> <li>8. The comment is addressed in response for Bast-3.</li> <li>9. The comment is addressed in the response for Donnelly-9.</li> <li>10. Per Section 15093 of the CEQA Guidelines, since the proposed project may result in significant impacts to cultural resources that may not be fully mitigated, the City shall state in writing</li> </ol>

Attendee	Comment/Question	Responses
	<p>place you will put it in when you have this whole area excavated out and it is so narrow? Also, the EIR did not speak to how they will replace that bike path with all of the paving and trucks trying to get into a narrow area and there is already a City waterline and gas line in that bike path. Is it even feasible to run pipelines down that bike path? I don't see it to be possible since it is a horrendous feat.</p> <p>6. In regards to the modification of the existing collection system in town It seems that you can mitigate some of the impacts like perpetual pumping by reconfiguring the Morro Bay Heights area and make it drain by gravity to South Bay Boulevard. It doesn't have to drain all the way down to the new pump station and then back past it when it can just be gravity-down and energy use at the lift station can be reduced.</p> <p>7. In regards to the return line along the east side of the freeway, I was told that the alignment would be impossible because it is impossible to cross coastal streams. It may be possible to use a siphon instead to carry the water which would eliminate some energy use and pumping costs.</p> <p>8. The City was about to do a study on the injection wells and never got around to it. As I recall, the last study that was done showed that there may not be enough aquifer present to dispose that much material (600,000 gallons per day for the whole year) without having a severe impact from flooding or land subsidence. Whether or not that may happen and the water is used at the well head, this has to be decided by a lot of other state agencies (SWRCB Water Rights, RWQCB, CDFG, and State Department of Health Services). We don't know if the water will be reused as drinking water either.</p> <p>9. In reference to decommissioning (p. 2-30, bullet 6): After speaking with Stephen Kahn at the California Coastal Commission, it is unacceptable. He wants to know what that will look like and see a restoration plan. They don't want to just make it look like an old abandoned parking lot. Need to demonstrate environmental stewardship and show that it can be used to alleviate drainage/flooding in the area. The CCC is concerned about what the property will look like after the implementation of the project.</p> <p>10. Now that we have identified Class I impacts, the City will have to prepare a Statement of Overriding Considerations or Findings. Do you have an idea of what will go in it or what statement we will make to classify it as a Class I impact?</p>	<p>the overriding considerations for moving forward with the project, including as applicable economic, legal, social, technological or other benefits, including region-wide or statewide environmental benefits that outweigh the potential adverse environmental effects. In addition, overriding considerations may include the timely need to implement the project to ensure public health and safety. The City Council will consider the statement of overriding considerations when making its final determination of whether to approve the project.</p>

Attendee	Comment/Question	Responses
Valerie Levulett, WRFCAC member	<ol style="list-style-type: none"> <li>1. In terms of cultural resources, I believe there were 6 identified archaeological sites. I don't know if the consultants actually conducted studies for historical archaeological but the project affects the archaeological sites in a differential manner depending upon on what injection wells (East or West) or conveyance system (East or West). In regards to conveyance, I believe the East alignment has the least potential to affect cultural resources. If decide to with West alignment, I recommend to come up with an alternative that does not parallel Morro Creek and goes past Lila Keiser and up to Atascadero Road in order to avoid potential archaeological conflicts.</li> <li>2. A lot of the work is survey-level information and information that has been collected from other studies, particularly for sites along Highway 41 and could potentially affect the vicinity of the Highway 41 intersection, IPR East groundwater injection well area, etc. Depending on which alternative is selected, there are avoidance measures and I hope the cultural resources consultants will work in tandem with the design-build team.</li> <li>3. When I reviewed the RFP for the design-build contract, there was a significant amount of information about proposed mitigations related to sensitive resources. I am assuming you have developed a relationship with the design-build team since the EIR had more details than the RFP. I hope ESA relays the thorough cultural resources mitigation measures and is working closely with the Design Build team so they are aware of what is recommended in the EIR.</li> <li>4. In reference to consultation about CEQA-Plus: This document and cultural reports are supposed to be used for federal clearance. Have you allowed enough time for this consultation process to occur? I have worked on projects with adverse effects and those consultations can last from weeks to years and can be a significant amount of time. Once designed, do we have enough time to do what is recommended in the document?</li> <li>5. In the demolition of the existing WWTP, there is no discussion that requires it be demolished within any particular timeframe. Is there a timeframe we need to be working under? Are there requirements for CSD? I believe this discussion may be useful to add into the EIR since it can be helpful to the reader.</li> <li>6. In reference to the property for the proposed injection wells on the east side, need to clarify whether the wells would be located on private-owned or City-owned land.</li> </ol>	<ol style="list-style-type: none"> <li>1. The comment is addressed in the response for Levulett-26.</li> <li>2. The City appreciates Valerie Levulett's comment regarding her concern for the consultants to work with the design-build team. The comment has been noted.</li> <li>3. The City appreciates the support for the cultural resource mitigation measures and concern for the consultants to work closely with the design/build team. The comment has been noted. If and when the Final EIR is certified by the Morro Bay City Council, all mitigation measures will be implemented including those pertinent to the design/build process.</li> <li>4. The City is coordinating with the USEPA and SWRCB regarding the CEQA Plus process and required federal consultations.</li> <li>5. The comment is addressed in the response for Levulett -3.</li> <li>6. The comment is addressed in response for Levulett-15.</li> </ol>

Attendee	Comment/Question	Responses
Doug Rogers, WRFCAC member	<ol style="list-style-type: none"> <li>1. I discussed with Joe Mueller about the layout of the sewage system and thought it would be good to include in the Draft EIR. I had a question about the lift station and Joe explained there is an existing line along Embarcadero and into the WWTP from the rock side of Highway 1. I believe that would be useful in the discussion of the pumping of 2.75 mgd at the plant and the lift station pumps 7 mgd. I believe it would be useful to add wet water flow discussion because the public is interested in that difference</li> <li>2. In Section 5.6 which discusses the future water supply, there is a very strong statement about how the project will put the City in a better water position. But the discussion earlier in Section 3.7, it is weak in comparison. I suggest the stronger language should be mentioned earlier in the document rather than just at the end.</li> </ol>	<ol style="list-style-type: none"> <li>1. Please refer to Chapter 6 Alternatives Analysis in the Draft EIR for a discussion of the lift station location alternatives.</li> <li>2. The comment is noted.</li> </ol>
Richard Sadowski, WRFCAC member	<ol style="list-style-type: none"> <li>1. Did you say "No Project alternative" is not a considered alternative?</li> <li>2. One of things mentioned in the No Project Alternative: In 2004, the Cayucos Sanitary District (CSD) staff determined that H<sub>2</sub>S along North Main Street was a result from the CSD lift station 5. There were H<sub>2</sub>S issues due to their lift station. With No Project Alternative, the H<sub>2</sub>S disappears since no lift station would be implemented. However, the other two alternatives that you have would add in a lift station will create H<sub>2</sub>S just from the cycling of the pumps and the force main. I noticed this issue is not addressed in the EIR. Please add H<sub>2</sub>S impact discussion.</li> <li>3. I noticed in the Air Quality section, you referenced the Federal EPA and Cal EPA. This EIR does not address some of the issues related to AB32, SB 32, and AB 398 even with the "No Project Alternative."</li> <li>4. Did you help with writing the WIFIA application? As stated in the application letter, could you explain how the outfall is polluting the Back Bay?</li> </ol>	<ol style="list-style-type: none"> <li>1. As indicated on page 6-10 of the Draft EIR, the No Project Alternative is evaluated as a project alternative. The analysis concludes the No Project Alternative is not feasible to implement.</li> <li>2. The comments are addressed in responses to Sadowski-2 through Sadowski-4.</li> <li>3. The comment is addressed in response to Sadowski-2 and Sadowski-4.</li> <li>4. The City is preparing the WIFIA application. The comment regarding pollution in the Back Bay is addressed in the response to Sadowski-5.</li> </ol>
Bart Beckman	Of the 17 alternatives discussed, I believe I understand why most were knocked out. As I recall, Toro Creek was knocked out because it was not a site available to be purchased. If that is the reason, then Paul's concerns would be mitigated. I don't believe it is reasonable to inject all of that water back into the wells as it seems like a huge volume, but if at Toro Creek, then we can work with Cayucos to pump and use Whale Rock. The commenter prefers Toro Creek alternative.	The City appreciates Mr. Beckman's comment regarding his preference for the Toro Creek site for the proposed WRF. The comment is addressed in the responses for the Beckman comment letter. Please also refer to Master Response 1 – Alternatives.



# CHAPTER 11

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## Clarifications and Modifications

The following clarifications and revisions are intended to update the Draft EIR in response to the comments received during the public review period. These changes, which have been incorporated into the Draft EIR, constitute the Final EIR, to be presented to the City Council for certification and approval. These modifications clarify, amplify, or make insignificant changes to the Draft EIR. Revisions to the Draft EIR have not resulted in new significant impacts or mitigation measures or increased the severity of an impact. None of the criteria for recirculation set forth in the CEQA Guidelines section 15088.5(a) have been met, and recirculation of the Draft EIR is not required.

The changes to the Draft EIR are listed by section and page number. Text that has been removed is shown in this chapter with a ~~strikeout~~ line, while text that has been added is shown with an underline.

### Executive Summary

- Page ES-1      As described in Section 15121(a) of the CEQA Guidelines, this Draft EIR is intended to serve as an informational document for pertinent public agency decision makers and the public.
- Page ES-3      The existing WWTP has operated under that modified permit since its last upgrade in 1984. On July 7, 2003, the City submitted an application for renewal of the NPDES permit to USEPA and Central Coast Regional Water Quality Control Board (RWQCB) which expired in March 2014.
- Page ES-6      Each potentially significant impact includes a numbered impact statement ~~with~~ and significance determination for the environmental impact as follows:

### Chapter 2 Project Description

- Page 2-1      **2.2 Project Location**
- The proposed project is located within the City and in unincorporated area of the County of San Luis Obispo adjacent to the City boundaries (sees **Figure 2-1**). The preferred WRF site is currently located in an unincorporated portion of the County adjacent to the City, while the remaining proposed infrastructure is located in the City itself. The WRF would be constructed on an approximately 10- to 15-acre area within a 27.6-acre site to be purchased by the City. The 27.6-

acre site would ultimately be annexed to the City. Refer to Section 2.7.1 below for further discussion about the annexation process. The WRF site is part of a greater 396-acre parcel that is located along Highway 1, north of the northern terminus of South Bay Boulevard. The City will seek a modification to its Sphere of Influence (SOI) to include the entire 396-acre parcel. Refer to Section 2.7.1 below for further discussion about the process to modify the SOI. The proposed Operations and Maintenance buildings would also be located within the 10- to 15-acre preferred WRF site.

Page 2-12

**Security**

The 10- to 15-acre WRF site would be secured by a fence. An electrical gate would be located near the front of the property and be controlled by a key from the O&M buildings and would be monitored by a video surveillance camera. Furthermore, a buffer area of more than 50 feet would be located between the operational portion of the WRF and its neighboring land uses.

Page 2-15

**Conveyance Pipelines**

The offsite conveyance pipelines are comprised of a new force main to convey raw wastewater from the existing collection system and proposed lift station to the WRF site, a recycled water pipeline to convey treated water from the WRF to injection wells, and a waste discharge pipeline to convey brine or treated wet weather flows (compliant with California Ocean Plan discharge requirements) to the ocean outfall.

The proposed route of the raw wastewater pipeline from the proposed lift station to the WRF and brine/wet weather discharge pipelines from the WRF back to the ocean outfall waste-discharge conveyance pipelines is shown in **Figure 2-8**. It should be noted those two pipelines would share a common alignment depicted on Figure 2-8 and described below. ~~The two options for the recycled water conveyance pipeline alignments are described further below and shown in Figure 2-9.~~ Raw wastewater and brine/wet weather discharge pipelines would run along the proposed alignment that starts from the proposed lift station and travels east along Atascadero Road. The pipeline alignment then travels south along J Street and east around the perimeter of Lila Keiser Park, before following an existing parkway/bike path across Morro Creek. It continues southeast along the Main Street right-of-way until it joins and follows Quintana Road. It should be noted that the alignment route runs through some City streets that already support numerous existing utilities. Continuing in a southeast direction on Quintana Road, the pipeline passes through street crossings of Kennedy Way, Morro Bay Boulevard then Kings Avenue, Bella Vista Drive, and La Loma Avenue. The proposed alignment crosses under Highway 1 west of the South Bay Boulevard interchange and continues along Teresa Road to South Bay Boulevard, where it heads north towards the proposed WRF site. Both the 16-inch force main and 16-

inch brine/wet weather discharge ~~waste~~ discharge pipeline would require casing for the Highway 1 crossing.

Treated wet weather flows and/or brine from the WRF would be discharged through the existing ocean outfall in the vicinity of the WWTP, similar to existing conditions. The size and capacity of the outfall is sufficient to accommodate the proposed project. Thus, a pipeline would be built to convey treated wet weather flows and/or brine from the WRF site back to the ocean outfall in the vicinity of the existing WWTP; a new connection to the ocean outfall would be required. Flow through the pipeline would be pumped from the WRF site to the high point along the Quintana Road alignment, then likely be gravity driven to the outfall based on topography. The pipeline would be designed to handle full capacity flow from the WRF, although discharges through the pipeline and outfall are intended to be minimized as advanced-treated recycled water is diverted elsewhere for beneficial reuse.

The two options for the recycled water conveyance pipeline alignments are shown in **Figure 2-9**. Both alignments would begin at the proposed WRF and travel northwest towards new injection well areas in the vicinity of the existing WWTP. The IPR West alignment would be located to the west of Highway 1 and would generally follow the same alignment for the raw wastewater and brine/wet weather discharge conveyance pipelines described above. The IPR East alignment would be located east of Highway 1 as shown on Figure 2-9. More information on the recycled water distribution system is found in Section 2.4.3 below.

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**TABLE 2-4**  
**ESTIMATED CONSTRUCTION DETAILS**

Project Component	Activities	Duration	Construction Equipment
WRF	Vegetation removal, grubbing, excavation, stockpiling, truck loading/transport, backfilling, paving	30 Months	Backhoes, excavators, cranes, dump trucks, front end loader, water trucks, paver, rollers, flatbed delivery trucks, concrete trucks, pickup trucks, compressors, and jackhammers
Conveyance Pipelines	Pavement removal, pavement replacement, excavation, trenching	12 Months	Backhoes, excavators, crane, dump trucks, front end loader, water trucks, paver, roller, flatbed delivery trucks, concrete trucks, trenchless construction equipment (horizontal directional drilling rig, pilot tube guided boring machine, auger bore and jack equipment, etc.), pickup truck, compressors, jackhammer
Lift Station	Grading, excavation,	10 Months	Pile driving and/or ground improvement grouting equipment, auger truck, backhoe, boom lift truck, excavator, plate compactor, scaffolding dump trucks, front end loader, pickup truck, water trucks, paver, rollers, flatbed delivery trucks, and concrete trucks



Project Component	Activities	Duration	Construction Equipment
Injection Wells	Drill rig for well completion and equipping of wells	2 Months	Dump trucks, flatbed delivery trucks, pickup truck
<u>Decommissioning of Existing WWTP</u>	<u>Permit issuance, demolition, removal of material, excavation, backfilling, compaction, grading</u>	<u>3 months</u>	<u>Backhoes, compactor, excavator, jackhammers, loaders, pickup trucks, rollers, water truck</u>

Page 2-25 Regarding the typographic comment on Table 2-6, a comma is added under the first line as indicated below.

Soil Removal 2,665

Page 2-32 **2.7.1 Annexation Process**

According to LAFCO policies, the procedures for the annexation and Sphere of Influence amendment consist of consultation with LAFCO prior to application submittal, preparation of application materials including a certified resolution or petition, vicinity map, topographical map, environmental documents, and indication the annexing municipality (the City) has prezoned the property, and review of the proposal application by LAFCO Executive Officer within 30 days after its receipt to determine if it is complete. The prezoning requirement involves “the city prezone the territory to be annexed or present evidence satisfactory to the commission that the existing development entitlements on the territory are vested or are already at build-out, and are consistent with the city's general plan. However, the commission shall not specify how, or in what manner, the territory shall be prezoned.”

As part of the application review for an annexation, the LAFCO Executive Officer must approve a Negotiated Tax Agreement between the City and County. The LAFCO Executive Officer determines if master property tax agreements are applicable or separate property tax exchange resolutions are required. If negotiations leading to adoption of separate resolutions are required, then either the County or any affected municipality must agree to a tax exchange or the County negotiates a property tax exchange on behalf of any Special District (Revenue and Taxation Code Section 99).

Then, the LAFCO Executive Officer requests review by affected agencies and residents, submits public notification by at least 21 days prior to the hearing, prepares the written report and recommendations which are presented to the Commissioner at the hearing, and the Commission adopts a resolution of determination at the hearing or within 35 days of the hearing. Post annexation steps include condition compliance and Board of Equalization Filing and other notifications.

## Chapter 3.1 Aesthetics

Page 3.1-3 The collection system would include a lift station discussed above and multiple pipelines running along a common alignment between the lift station and the proposed WRF site. The alignment shown in Figure 2-2 (see Chapter 2) would include: (1) a force main (raw wastewater) pipeline; (2) a waste brine/wet weather discharge pipeline; and (3) two options for a recycled water pipeline (IPR West and IPR East). Specifically, the proposed pipeline alignment for the raw wastewater (force main)/brine discharge pipeline and the IPR West recycled water pipeline would travel westward from the proposed WRF along Highway 1 then through residential areas along Quintana Road to the proposed lift station. The pipelines would primarily be constructed within public ROWs. The IPR East recycled water pipeline alignment would travel east of Highway 1 through open space as shown on Figure 2-2.

Page 3.1-6

### **Policy 2: Divisions of Land**

Land division in agricultural areas shall not limit existing or potential agricultural capability. Divisions shall adhere to the minimum parcel sizes set forth in the Coastal Zone Land Use Ordinance. Land divisions for prime agricultural soils shall be based on the following requirements:

- a. The division of prime agricultural soils within a parcel shall be prohibited unless it can be demonstrated that existing or potential agricultural production of at least three crops common to the agricultural economy would not be diminished.
- b. The creation of new parcels whose only building site would be on prime agricultural soils shall be prohibited.
- c. Adequate water supplies are available to maintain habitat values and to serve the proposed development

Land divisions for non-prime agricultural soils shall be prohibited unless it can be demonstrated that existing or potential agricultural productivity of any resulting parcel determined to be feasible for agriculture would not be diminished. Division of non-prime agricultural soils shall be reviewed on a case-by-case basis to ensure maintaining existing or potential agricultural capability.

### **Policy 3: Non-Agricultural Uses**

In agriculturally designated areas, all non-agricultural development which is proposed to supplement the agricultural use permitted in areas designated as agriculture shall be compatible with preserving a maximum amount of agricultural use. When continued agricultural use is not feasible without some supplemental use, priority shall be given to commercial recreation and low

intensity visitor-serving uses allowed in Policy 1. Non-agricultural developments shall meet the following requirements:

- a. No development is permitted on prime agricultural land. Development shall be permitted on non-prime land if it can be demonstrated that all agriculturally unsuitable land on the parcel has been developed or has been determined to be undevelopable.
- b. Continued or renewed agricultural use is not feasible as determined through economic studies of existing and potential agricultural use without the proposed supplemental use.
- c. The proposed use will allow for and support the continued use of the site as a productive agricultural unit and would preserve all prime agricultural lands.
- d. The proposed use will result in no adverse effect upon the continuance or establishment of agricultural uses on the remainder of the site or nearby and surrounding properties.
- e. Clearly defined buffer areas are provided between agricultural and non-agricultural uses.
- f. Adequate water resources are available to maintain habitat values and serve both the proposed development and existing and proposed agricultural operations.
- g. Permitted development shall provide water and sanitary facilities on-site and no extension of urban sewer and water services shall be permitted, other than reclaimed water for agricultural enhancement.
- h. The development proposal does not require a land division and includes a means of securing the remainder of the parcel(s) in agricultural use through agricultural easements. As a condition of approval of non-agricultural development, the county shall require the applicant to assure that the remainder of the parcel(s) be retained in agriculture and, if appropriate, open space use by the following methods:

**Agricultural Easement.** The applicant shall grant an easement to the county over all agricultural land shown on the site plan. This easement shall remain in effect for the life of the non-agricultural use and shall limit the use of the land covered by the easement to agriculture, non-residential use customarily accessory to agriculture, farm labor housing and a single-family home accessory to the agricultural use.

**Open Space Easement.** The applicant shall grant an open space easement to the county over all lands shown on the site plans as land

unsuitable for agriculture, not a part of the approved development or determined to be undevelopable. The open space easement shall remain in effect for the life of the non-agricultural use and shall limit the use of the land to non-structural, open space uses.

Development proposals shall include the following:

- a. A site plan for the ultimate development of the parcel(s) which indicates types, location, and if appropriate, phases of all non-agricultural development, all undevelopable, non-agricultural land and all land to be used for agricultural purposes. Total non-agricultural development area must not exceed 2% of the gross acreage of the parcel(s).
- b. A demonstration that revenues to local government shall be equal to the public costs of providing necessary roads, water, sewers, fire and police protection.
- c. A demonstration that the proposed development is sited and designed to protect habitat values and will be compatible with the scenic, rural character of the area.
- d. Proposed development between the first public road and the sea shall clearly indicate the provisions for public access to and along the shoreline consistent with LUP policies for access in agricultural areas.

Page 3.1-8

The proposed WRF site is located within the Estero planning area and is subject to standards for Sensitive Resource Area (SRA), including protection of the Morro Area SRA critical viewsheds along Highway 1. Pursuant to Section 23.04.210 of the CZLUO, all new development must obtain a land use permit that includes a landscaping plan, grading and drainage plan, lighting plan, fencing plan, and visual analysis, including the use of story-poles as required, that is prepared by a licensed architect, a licensed landscape architect or other qualified professional acceptable to the Director of Planning and Building. The plans and visual analysis shall be used to determine compliance with the following standards:

1. **Location of development.** Locate development, including, but not limited to primary and secondary structures, accessory structures, fences, utilities, water tanks, and access roads, in the least visible portion of the site, consistent with protection of other resources. Emphasis shall be given to locations not visible from major public view corridors. Visible or partially visible development locations shall only be considered if no feasible non-visible development locations are identified, or if such locations would be more environmentally damaging. New development shall be designed (e.g., height, bulk, style, materials, color) to be subordinate to, and blend with, the character of the area. Use naturally occurring topographic features and slope-created “pockets” first

and native vegetation and berming second, to screen development from public view and minimize visual intrusion.

2. **Structure visibility.** Minimize structural height and mass by using low-profile design where feasible, including sinking structures below grade. Minimize the visibility of structures by using design techniques to harmonize with the surrounding environment.
3. **Ridgetop development.** Locate structures so that they are not silhouetted against the skyline or ridgeline as viewed from the shoreline, public beaches, the Morro Bay estuary, and applicable roads or highways described in the applicable planning area standards in the area plans, unless compliance with this standard is infeasible or results in more environmental damage than an alternative.
4. **Landscaping for hillside and ridgetop development.** Provide screening of development at plant maturity using native vegetation of local stock, non-invasive, or drought-tolerant vegetation without obstructing major public views (e.g., screening should occur at the building site rather than along a public road). The use of vegetation appropriate to the site shall be similar to existing native vegetation. Alternatives to such screening may be approved if visual impacts are avoided through use of natural topographic features and the design of structures. Provisions shall be made to maintain visual screening for the life of the development.
5. **Land divisions and lot-line adjustments - cluster requirement.** New land divisions and lot-line adjustments where the only building site would be on a highly visible slope or ridgetop shall be prohibited. Land divisions and their building sites that are found consistent with this provision shall be clustered in accordance with Chapter 23.04 or otherwise concentrated in order to protect the visual resources.
6. **Open space preservation.** Pursuant to the purpose of the Critical Viewshed or SRA to protect significant visual resources, sensitive habitat or watershed, open space preservation is a compatible measure. Approval of an application for new development in these scenic coastal areas is contingent upon the applicant executing an agreement with the county to maintain in open space use appropriate portions of the site within the Critical Viewshed or SRA (for visual protection). Guarantee of open space preservation may be in the form of public purchase, agreements, easement controls or other appropriate instrument approved by the Planning Director, provided that such guarantee agreements are not to provide for public access unless acceptable to the property owner or unless required to provide public access in accordance with the LCP.

Page 3.1-15      **Decommissioning of Current WWTP**

The existing WWTP would continue in operation until the new WRF is in full operation (and the CSD's new treatment facility as well) and the collection system is no longer delivering flow to the existing WWTP. The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure including the piping located four to five feet below grade. After demolition and removal of facilities, backfilling, compaction, and grading would occur to create a site that is cleared, cleaned and available for other uses in the future. The decommissioning would remove aboveground WWTP facilities from coastal viewshed, visible from Highway 1 and Atascadero Road. Therefore, no No structures or existing facilities would obstruct scenic views or vistas within the project area. The removal of WWTP structures would result in a beneficial impact to scenic vistas. Impacts would be less than significant.

## Chapter 3.2 Agriculture and Forestry Resources

Page 3.2-1      The proposed WRF site is underlain by Cropley clay soils, which consist of clay overlying silty clay loam that is typically found at a depth of 36 to 60 inches (JFR Consulting, 2016). Those soils are designated by the Natural Resources Conservation Science (NRCS) as prime farmland if irrigated. According to the Cortese-Knox-Hertzberg Local Government Reorganization Act and California Government Code 56064, the definition of prime agricultural land is:

an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use...and that qualifies, if irrigated, for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.

Historically, that portion of the project area and its adjacent land has been used for rangeland and has not been irrigated (JFR Consulting, 2013). Currently, the WRF site is not irrigated and neither are immediately adjacent parcels, which are also rangelands used for grazing. There currently is no existing irrigation infrastructure at or around the preferred WRF site. Irrigation feasibility at the preferred project site is low due to the requirement for substantial investment in either pipeline and pumping infrastructure to convey water to the site or construction of onsite groundwater wells, followed by installation of onsite piping for irrigation. As a result, the property in which the proposed WRF ~~is~~ would be located on does not support Prime Farmland (JFR Consulting, 2016). Thus, from a practical perspective, implementation of the proposed project would not remove important areas of prime agricultural potential.

**San Luis Obispo LAFCO Policies and Procedures****2.9 Agricultural Policies**

1. Vacant land within urban areas should be developed before agricultural land is annexed for non-agricultural purposes.
2. Land substantially surrounded by existing jurisdictional boundaries should be annexed before other lands.
3. In general, urban development should be discouraged in agricultural areas. For example, agricultural land should not be annexed for nonagricultural purposes when feasible alternatives exist. Large lot rural development that places pressure on a jurisdiction to provide services and causes agricultural areas to be infeasible for farming should be discouraged.
4. The Memorandum of Agreement between a city and the County should be used and amended as needed to address the impacts on and conversion of Agricultural Lands on the fringe of a city.
5. The continued productivity and sustainability of agricultural land surrounding existing communities should be promoted by preventing the premature conversion of agricultural land to other uses and, to the extent feasible, minimizing conflicts between agricultural and other land uses. Buffers should be established to promote this policy.
6. Development near agricultural land should not adversely affect the sustainability or constrain the lawful, responsible practices of the agricultural operations.
7. In considering the completeness and appropriateness of any proposal, the Executive Officer and this Commission may require proponents and other interested parties to provide such information and analysis as, in their judgment, will assist in an informed and reasoned evaluation of the proposal in accordance with these policies.
8. No change of organization, as defined by Government Code 56021, shall be approved unless it is consistent with the Spheres of Influence of all affected agencies.
9. Where feasible, and consistent with LAFCO policies, non-prime land should be annexed before prime land.
10. The Commission will consider feasible mitigation (found in the following guidelines) if a proposal would result in the loss of agricultural land.

11. The Commission encourages local agencies to adopt policies that result in efficient, coterminous and logical growth patterns within their General Plan and Sphere of Influence areas and that encourage protection of prime agricultural land in a manner that is consistent with this Policy.

12. The Commission may approve annexations of prime agricultural land only if mitigation that equates to a substitution ratio of at least 1:1 for the prime land to be converted from agricultural use is agreed to by the applicant (landowner), the jurisdiction with land use authority. The 1:1 substitution ratio may be met by implementing various measures:

a. Acquisition and dedication of farmland, development rights, and/or agricultural conservation easements to permanently protect farmlands within the annexation area or lands with similar characteristics within the County Planning Area.

b. Payment of in-lieu fees to an established, qualified, mitigation/conservation program or organization sufficient to fully fund the acquisition and dedication activities stated above in 12a.

c. Other measures agreed to by the applicant and the land use jurisdiction that meet the intent of replacing prime agricultural land at a 1:1 ratio.

13. Property owners of agricultural lands adjacent to a LAFCO proposal shall be notified when an application is submitted to LAFCO.

Page 3.2-2      **Figure 3.2-2** shows the Williamson Act contracted land present in the project area. There are Williamson Act contracted lands located east and north of the proposed WRF site, however none coincide with the location of proposed project components. These Williamson Act lands shown in Figure 3.2-2 include the Maino Ranch. Specifically, the 1,860-acre Maino Ranch includes a 436.4-acre parcel and a 138.3-acre parcel adjacent to the proposed project. Ranching and farming occurs in accordance with “best management practices” according to management plans by the owners, limiting future development (MBNEP, 2018).<sup>1</sup> The area of Maino Ranch closest to the proposed project is used for calving. Additionally, none of the project facilities would be located on land designated as Timber Production Zones or Forest land.

Page 3.2-5      Further, State Route 41 is an ~~Designated~~ Eligible State Scenic Highway, but not officially designated.

Page 3.2-7      **Policy AGP17: Agricultural Buffers**

<sup>1</sup> Morro Bay National Estuary Program (MBNEP), Restoration & Conservation, available at: <http://www.mbneep.org/restoration-conservation/>, accessed June 5, 2018.



Protect land designated Agriculture and other lands in production agriculture by using natural or man-made buffers where adjacent to non-agricultural land uses in accordance with the agricultural buffer policies adopted by the Board of Supervisor (see Appendix C).

### **Appendix C: Agricultural Buffer Policies**

#### **Agriculture Buffer Distance Determination**

The buffer is placed on the developer's property and will be recorded as a distance from the property line to the proposed occupied structure. However, the total buffer distance calculation and recommendation is measured from proposed occupied structure to the edge of the agricultural operation. The buffer will allow for such land uses as landscaping, barns, storage buildings, orchards, pastures, etc., while protecting the agricultural use and the public's health and safety.

##### **1. General Guidelines**

A. Determinations are made based on all relevant site and project criteria, practical knowledge of agricultural practices, technical literature, contact with other professionals within the University, industry, government agencies and training.

B. "Margin of safety" and "probability" concepts are used in determining setback distances.

C. The department's land use reports will identify recommended mitigation measures and will not provide alternatives.

D. Existing dwellings adjacent to agricultural use may already negatively impact agriculture. Buffer mitigations address reducing future or additional impacts and aren't necessarily affected by existing dwellings unless the extent of existing development is such that the proposal does not significantly worsen the land use conflict already present.

##### **2. Buffer Distance Ranges by Crop**

Agricultural practices associated with the production of crops are the most important contributing factor to land use conflict when development occurs in close proximity to agricultural areas. Since production practices vary considerably by type of crop, buffer distances may vary accordingly. Ranges in distance are necessary due to the influence that site or project specific factors may have.

##### **Non-Intensive Agricultural Uses:**

Dry farm field crops, orchards and vineyards - 100-200 feet

Rangeland/pasture - 50-200 feet

Site specific non-crop factors (such as topography, prevailing wind direction, and elevation differences) and proposal specifications often affect the final buffer distance recommendation within ranges listed in Number 1 and 2. Significant

overriding factors or land unsuitable for agricultural use could justify recorded buffers less than the indicated range.

Page 3.2-14

The proposed WRF would be located on lands designated as Agriculture under the County's General Plan. According to the County's General Plan and Land Use Ordinance, public utility facilities (such as a treatment plant) are allowed within lands zoned for Agricultural – Non-Prime soils, subject to special standards or permit procedures such as approval of a Development Plan (County Coastal Zone Land Use Ordinance 23.08.288). A Development Plan is similar to a Minor Use Permit in that its application includes a preliminary floor plan, architectural elevations, adjacent land uses, landscape plan, grading plan, construction schedule, cross-sections, and public access locations and includes a public hearing. A Development Plan requires the development or project is consistent with the Coastal Zone Land Use Ordinance, which could result in minimizing the proposed project's disturbance at the site and including fencing or visual screening.

Construction of the proposed WRF and connecting pipelines in agricultural areas could result in the spread of noxious weeds on surrounding rangelands or fields. Specifically, ground disturbance and regular movement of vehicles into and out of the property could increase the potential for an introduction of invasive weed species which may impair the agricultural use of the surrounding areas. As part of the Development Plan, a landscape plan would select plants that are native and drought tolerant and that protect and preserve native species and natural areas (CZLUO Section 23.04.186(c)(4)), minimize the potential for introduction and establishment of invasive species. A weed control plan may also be included as part of the landscape plan. A weed control plan would include methods, success criteria, and a monitoring and reporting program.

As a result, acquisition of appropriate permits would allow the WRF to be constructed and operated on agricultural land. Furthermore, the buffer and fencing around the proposed WRF and access roads implemented as part of the project design would place the operational portion of the proposed WRF more than 50 feet away from the neighboring agricultural uses and allow for the continuation of neighboring cattle grazing and reduce any land use incompatibilities. Therefore, impacts related to conflicts with existing zoning for agricultural use would be considered less than significant.

Page 3.2-17

Current agricultural production in the proposed project area is shown in the aerial photograph of Figure 2-2. The proposed WRF site is rangeland that is currently used for cattle grazing (Yeh & Associates, 2017). For almost a century, land use at this site has not changed (Yeh & Associates, 2017). The proposed WRF would occupy 10 to 15 acres of a 396-acre parcel of rangeland, a land use that is considered agricultural. That is the primary project component that has the potential to permanently convert land that is currently being used for grazing to a non-agricultural use. Per the City's General Plan policies, the proposed project

would be in compliance with Policy LU-44, which states that “All non-agricultural development permitted on non-prime agricultural lands shall preserve the maximum amount of lands in agricultural use. The proposed use will result in no adverse effect upon the continuance or establishment of agricultural uses on the undeveloped portion of the property.” Implementation of the proposed WRF would convert between approximately 2.5% and 3.8% up to approximately 4% of the 396-acre parcel to non-agricultural use. The City would purchase 27.6 acres of the 396-acre parcel; the area not directly developed for the proposed WRF ~~The remainder of the parcel~~ would still be available for grazing or to be placed into an agricultural or open space easement in compliance with County Land Use Ordinance policy 23.04.050. Also, the proposed WRF is being designed to minimize its footprint as much as possible to minimize such effects to agriculture, and would maintain the remainder of the rangeland area in one contiguous and useable parcel. In compliance with the City’s General Plan land use policies and the County’s Agricultural Element agricultural buffer policies, a buffer area is included for the proposed WRF site design to ensure that the operational portion of the facility is located more than 50 feet away from neighboring agricultural uses. The fencing surrounding the proposed WRF facility and access roads allows for the continuation of cattle grazing in neighboring lands as it reduces the potential for trespassing or other nuisance issues. That buffer area and fencing, along with the elimination of a corporation yard within the proposed WRF site, reduces the amount of agricultural land converted to non-agricultural use and helps further reduce land use incompatibilities. Thus, the impact of building the proposed WRF relative to the continued use of agricultural lands is less than significant.

The other project component that has a similar potential to convert agricultural land to non-agricultural use is the proposed IPR East groundwater wells. A small portion of the IPR East wellfield area overlaps with active agricultural lands at the Narrows (see Figure 2-2). Those lands are also FMMP-designated Prime Farmland. However, the results from the LESA model indicate that the conversion of 1.26 acres of Prime Farmland within the proposed IPR East groundwater well injection area to non-agricultural use would not be considered a significant impact to agricultural resources. Therefore, the potential to convert agricultural land to non-agricultural use would be considered less than significant.

## Chapter 3.3 Air Quality

Page 3.3-18 The following mitigation measures are required to reduce construction emissions of ROG, NO<sub>x</sub>, and DPM. Although the proposed project’s fugitive dust emissions would not exceed Tier 1 or 2 thresholds, SLOAPCD requires any project with grading areas greater than 4.0 acres or that are within 1,000 feet of any sensitive receptor to implement standard fugitive dust mitigation measures. Therefore, Mitigation Measure AQ-1a is also required. These mitigation

measures would help manage fugitive dust emissions such that the Project's fugitive dust emissions would not exceed the APCD's 20 percent opacity limit (APCD Rule 401) or prompt nuisance violations (APCD Rule 402).

**AQ-1a: Fugitive Dust Control Measures.** Construction projects shall implement the following dust control measures so as to reduce PM10 emissions in accordance with SLOAPCD requirements.

- Reduce the amount of the disturbed area where possible;
- Use of water trucks or sprinklers in sufficient quantities to prevent airborne dust from leaving the site and from exceeding the APCD's limit of 20 percent opacity for greater than 3 minutes in any 60-minute period. ~~Water trucks or sprinkler systems shall be used during construction in sufficient quantities to prevent airborne dust from leaving the site.~~ Increased watering frequency shall be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water shall be used whenever possible; and in order to conserve water used for dust control, the contractor or builder shall consider the use of an APCD-approved dust suppressant where feasible. Potential dust suppressants to select from to mitigate dust emissions can found at the link below:

<http://www.valleyair.org/busind/comply/PM10/Products%20Available%20for%20Controlling%20PM10%20Emissions.htm>

- All dirt stock pile areas shall be sprayed daily and covered with tarps or other dust barriers as needed;
- "Track-Out" is defined as sand or soil that adheres to and/or agglomerates on the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto any highway or street as described in California Vehicle Code Section 23113 and California Water Code. To prevent 'track out', designate access points and require all employees, subcontractors, and others to use them. The Project shall install and operate a 'track-out prevention device' where vehicles enter and exit unpaved roads onto paved streets. The 'track out prevention device' can be device or combination of devices that are effect at preventing track out, located at the point of intersection of an unpaved area and a paved road. Rumble strips or steel plate devices need periodic cleaning to be effective. If paved roads accumulate track out soils, the track out prevention device may need to be modified;
- The construction contractor shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20 percent opacity for greater than 3 minutes in any 60-minute period, and to prevent transport of dust offsite. Their duties shall include holidays and

weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to SLOAPCD Compliance Division prior to the start of any grading, earthwork or demolition.

Page 3.3-19 **AQ-1c: BACT for Construction Equipment.** The following BACT for diesel-fueled construction equipment shall be implemented during construction activities at the project site, where feasible:

- Further reducing emissions by expanding use of Tier 3 and Tier 4 off-road and 2010 on-road compliant engines where feasible;
- Prior to commencement of construction activities, the applicant shall submit a list of equipment to be used on the project to the APCD. The list would include details of each piece of equipment, including: equipment serial number, engine model year, engine emission tier, and emission family for each. If the list contains other than Tier 4 equipment, a revised CalEEMod run for annual mitigated construction emissions, using the list of specific equipment proposed for the project and demonstrating quarterly emissions below the APCD thresholds of significance shall then be submitted.

Page 3.3-22 If it is determined that asbestos containing materials (ACM) would be removed as part of the project's demolition phase, the project shall remove the ACM in accordance with APCD regulations, as well as the requirements found in the National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M-asbestos NESHAP). These requirements include, but are not limited to:

1. Written notification, within at least 10 business days of activities commencing, to the APCD;
2. Asbestos survey conducted by a Certified Asbestos Consultant; and,
3. Applicable removal and disposal requirements of identified ACM.

Page 3.3-22 If it is determined that existing structures to be removed are coated with lead-based paint, the construction manager shall consult with the APCD to determine if a permit is required for the lead abatement.

Page 3.3-25 The sewer lift station proposed to be installed at the inlet to the WRF will be fully enclosed. The plant influent will not be exposed to atmosphere. In addition, at the proposed lift station, odor control measures such as the addition of calcium ammonium nitrate, use of an onsite odor scrubbing system and installation of sealed hatches to reduce the release of odors may also be applied. Lastly, implementation of the proposed project would have a beneficial impact due to the removal of odor-generating facilities at the existing WWTP site.

## Chapter 3.4 Biological Resources

### Page 3.4-34 ***Morro Bay National Estuary Program***

The Morro Bay National Estuary Program (MBNEP) seeks to identify a network of interconnected lands to focus conservation efforts that provide critical habitat for sensitive species; high biodiversity patterns; essential ecosystem services and functions; and provide the greatest opportunity for biodiversity to adapt naturally in a changing and variable environment. In order to do this, the ~~Program~~ MBNEP has developed the Comprehensive Conservation and Management Plan (MBNEP, 2012 Update), which identifies, among other things, action plans to be implemented to support the conservation and sound management of the estuary and watershed. The following action plans~~has identified the following needs for biological resources that~~ are pertinent to the proposed project:

Page 3.4-41 1. The program shall include information on San Luis Obispo owl's clover and the life history of steelhead, California red-legged frog (CRLF), Morro shoulderband snail (MSS), and other raptors; nesting birds; as well as other wildlife and plant species that may be encountered during construction activities.

Page 3.4-49 Ensuring sediment-laden runoff does not leave the preferred and proposed project sites during construction, and that post-construction runoff is consistent with pre-construction conditions is essential to reduce impacts to water quality. As described in Chapter 3.9, Hydrology and Water Quality, the City would be required to prepare a SWPPP for the proposed project in compliance with the NPDES General Construction Permit. The SWPPP would include BMPs to control erosion, sedimentation, and hazardous materials release. In addition, construction of the proposed project is also subject to the BMPs included in the City's Storm Water Management Plan to control runoff and protect water quality during the construction period. In accordance with the Morro Bay Municipal Code for Building Regulations—Stormwater Control (Chapter 14.48), the SWPPP would need to be approved by the City prior to commencement of construction activities. The City also would coordinate review of the SWPPP for the WRF site with the San Luis Obispo County Department of Public Works. Mitigation Measure BIO-8 includes specific BMPs to be incorporated into the SWPPP to minimize impacts to water quality and ensure there are no significant impacts to aquatic habitat downstream of the ephemeral drainages within the project area. With implementation of Mitigation Measures BIO-1, BIO-2, BIO-7, BIO-8, and BIO-9, impacts to migratory wildlife or native wildlife nursery sites would be less than significant.

## Chapter 3.5 Cultural Resources

- Page 3.5-1 Morro Bay Wastewater Treatment Plant Upgrade Project, San Luis Obispo County, California: Archaeological Survey and Historic Resources Evaluation Report (Brewster, 2009)
- Page 3.5-5 At the time of European contact of the Morro Bay area (ca. 1542), the preferred and proposed project sites were occupied by two Native American groups: the Chumash and the Salinan. Since there is some disagreement about the pre-contact boundaries for each group (see Gibson, 1983b; Kroeber, 1925; Mason, 1912; Milliken 2010; and Milliken and Johnson 2005), the following discussion focuses on the post-contact period.
- Page 3.5-6 Morro Rock, the prominent landmark at the entrance to Morro Bay, was first named by the Northern Chumash and was called Lisamu. It was later named again by Spanish explorer Juan Rodriguez Cabrillo during his voyage of the California coast in 1542. Cabrillo called the rock “El Moro,” because it resembled the head of a Moor, the people from North Africa known for the turbans they wore.
- Page 3.5-8 A total of 19 cultural resources have been identified within a 0.25-mile radius of the proposed and preferred project sites as a result of records searches at the CHRIS-CCIC and pedestrian surveys (Table 3.5-2).
- A historic resources survey of the WWTP was conducted on January 30, 2009 (Brewster, 2009).
- A paleontological resources records search was requested from the Natural History Museum of Los Angeles County (LACM) in an effort to identify paleontological resources and/or fossil-bearing geologic formation, which may underlie the proposed and preferred project sites.
- Page 3.5-11 The steps of the Section 106 process are accomplished through consultation with the State Historic Preservation Officer (SHPO), federally-recognized ~~Indian~~ tribes, local governments, and other interested parties.
- Page 3.5-17 **County of San Luis Obispo Coastal Zone Land Use Ordinance**  
**23.07.104- Archaeologically Sensitive Areas:**  
To protect and preserve archaeological resources, the following procedures and requirements apply to development within areas of the coastal zone identified as archaeologically sensitive.
- A. **Archaeologically sensitive areas.** The following areas are defined as archaeologically sensitive:

1. Any parcel within a rural area which is identified on the rural parcel number list prepared by the California Archaeological Site Survey Office on file with the county Planning Department.
  2. Any parcel within an urban or village area which is located within an archaeologically sensitive area as delineated by the official maps (Part III) of the Land Use Element.
  3. Any other parcel containing a known archaeological site recorded by the California Archaeological Site Survey Office.
- B. **Preliminary site survey required.** Before issuance of a land use or construction permit for development within an archaeologically sensitive area, a preliminary site survey shall be required. The survey shall be conducted by a qualified archaeologist knowledgeable in local Native American culture and approved by the Environmental Coordinator. The County will provide pertinent project information to the Native American tribe(s).
- C. **When a mitigation plan is required.** If the preliminary site survey determines that proposed development may have significant effects on existing, known or suspected archaeological resources, a plan for mitigation shall be prepared by a qualified archaeologist. The County will provide pertinent project information to the Native American tribe(s) as appropriate. The purpose of the plan is to protect the resource. The plan may recommend the need for further study, subsurface testing, monitoring during construction activities, project redesign, or other actions to mitigate the impacts on the resource. Highest priority shall be given to avoiding disturbance of sensitive resources. Lower priority mitigation measures may include use of fill to cap the sensitive resources. As a last resort, the review authority may permit excavation and recovery of those resources. The mitigation plan shall be submitted to and approved by the Environmental Coordinator, and considered in the evaluation of the development request by the Review Authority.
- D. **Archeological resources discovery.** In the event archeological resources are unearthed or discovered during any construction activities, the standards of Section 23.05.140 of this title shall apply. Construction activities shall not commence until a mitigation plan, prepared by a qualified professional archaeologist reviewed and approved by the Environmental Coordinator, is completed and implemented. The County will provide pertinent project information to the affected Native American tribe(s) and consider comments prior to approval of the mitigation plan. The mitigation plan shall include measures to avoid the resources to the maximum degree feasible and shall provide mitigation for unavoidable impacts. A report verifying that the



approved mitigation plan has been completed shall be submitted to the Environmental Coordinator prior to occupancy or final inspection, whichever occurs first.

[Amended 1995, Ord. 2715; Amended 2004, Ord. 3048]

## **County of San Luis Obispo Local Coastal Plan**

### **Chapter 12- Archaeology**

#### **Policy 1: Protection of Archaeological Resources**

The county shall provide for the protection of both known and potential archaeological resources. All available measures, including purchase, tax relief, purchase of development rights, etc., shall be explored at the time of a development proposal to avoid development on important archaeological sites. Where these measures are not feasible and development will adversely affect identified archaeological or paleontological resources, adequate mitigation shall be required. [THIS POLICY SHALL BE IMPLEMENTED AS A STANDARD.]

#### **Policy 3: Identification of Archaeological Sites**

- The county shall establish and maintain archaeological site records of data files about known sites. These sensitive areas shall be defined as follows:
- Within rural areas, the county maintains on file a parcel number list of known sites as prepared and updated by the California Archaeological Site Survey Office.
- Within urban areas, the county shall maintain maps in the Land Use Element (combining designation) which reflect generalized areas of known sites. These maps shall be prepared by the California Archaeological Site Survey Regional Office.

Specific archaeological site information shall be treated as confidential to protect the archaeological resources. Development within an archaeological sensitive area shall not occur until a preliminary site survey is conducted for the site, and if necessary, mitigation measures implemented. [THIS POLICY SHALL BE IMPLEMENTED PURSUANT TO SECTION 23.07.106 OF THE COASTAL ZONE LAND USE ORDINANCE.] Early information on sensitive sites where new development is anticipated can be used to design and locate structures and site alterations to eliminate impacts. A preliminary archaeological survey can also help facilitate the timing of construction: if there is no evidence of the potential existence of archaeological resources, construction can commence; if the preliminary survey does indicate the presence of archaeological resources, mitigation measures can be designed into the development. Early identification can save both time and money for the applicant. Concerns have been raised by

previous applicants about the expense and time-consuming delay if a project is stopped. Work crews, equipment and capital remain suspended until mitigation measures are drafted. Although all construction must cease if a site is discovered during any phase of construction, a preliminary survey can usually determine the potential extent of resources and thus avert unnecessary delays through an appropriate mitigation plan.

**Policy 4: Preliminary Site Survey for Development within Archaeologically Sensitive Areas**

Development shall require a preliminary site survey by a qualified archaeologist knowledgeable in Chumash culture prior to a determination of the potential environmental impacts of the project. [THIS POLICY SHALL BE IMPLEMENTED PURSUANT TO SECTION 23.07.106 OF THE CZLUO.]

**Policy 5: Mitigation Techniques for Preliminary Site Survey before Construction**

Where substantial archaeological resources are found as a result of a preliminary site survey before construction, the county shall require a mitigation plan to protect the site. Some examples of specific mitigation techniques include:

- a) Project redesign could reduce adverse impacts of the project through relocation of open space, landscaping or parking facilities.
- b) Preservation of an archaeological site can sometimes be accomplished by covering the site with a layer of fill sufficiently thick to insulate it from impact. This surface can then be used for building that does not require extensive foundations or removal of all topsoil.
- c) When a project impact cannot be avoided, it may be necessary to conduct a salvage operation. This is usually a last resort alternative because excavation, even under the best conditions, is limited by time, costs and technology. Where the chosen mitigation measure necessitates removal of archaeological resources, the county shall require the evaluation and proper deposition of the findings based on consultation with a qualified archaeologist knowledgeable in the Chumash culture.
- d) A qualified archaeologist knowledgeable in the Chumash culture may need to be on-site during initial grading and utility trenching for projects within sensitive areas.

[THIS POLICY SHALL BE IMPLEMENTED PURSUANT TO SECTION 23.07.106 OF THE CZLUO.]

### **Policy 6: Archaeological Resources Discovered during Construction or through Other Activities**

Where substantial archaeological resources are discovered during construction of new development, or through non-permit related activities (such as repair and maintenance of public works projects) all activities shall cease until a qualified archaeologist knowledgeable in the Chumash culture can determine the significance of the resource and submit alternative mitigation measures. [THIS POLICY SHALL BE IMPLEMENTED PURSUANT TO SECTIONS 23.05.140 AND 23.07.106 OF THE CZLUO.]

### **Relationship to the Land Use Element/Coastal Zone Land Use Ordinance**

Archaeological information will remain confidential, and will be used only to assist property owners in the design of development projects in a manner which protects resources. The sensitivity maps, in conjunction with the Site Survey Office's official maps of known sites, will be used to identify known and potential archaeological resources. The CZLUO addresses the protection of archaeological resources through the review process.

### **Findings**

Through the maintenance of a sensitivity map and parcel number list of known archaeological sites, and through the establishment of pre-construction requirements and appropriate review procedures, the county has greatly improved the methods for protecting archaeological resources. The policies provide for the protection of both known and potential archaeological resources as required by the Coastal Act Section 30244.

Page 3.5-34     Brewster, Brad, *Morro Bay Wastewater Treatment Plant Upgrade Project, San Luis Obispo County, California: Archaeological Survey and Historic Resources Evaluation Report*, prepared for the City of Morro Bay, prepared by Environmental Science Associates, February 2009.

Castle Castle, Roger, and Gary Ream. 2006. Images of America, Morro Bay.

## **Chapter 3.6 Geology, Soils, and Seismicity**

Page 3.6-18     **GEO-2: Post-Construction Site Restoration.** After construction of project pipelines, disturbed areas shall be managed to control erosion, including without limitation: repaving areas within roadways, restoring vegetated areas (with native plants if applicable), and regrading surfaces to minimize changes in drainage patterns.

## Chapter 3.9 Hydrology and Water Quality

Page 3.9-9 According to flood zone mapping compiled by the Federal Emergency Management Agency's Flood Insurance Rate Maps (FIRMs), the proposed WRF location is outside of the 100-year flood zone (See **Figure 3.9-4**). However, the proposed lift station and existing WWTP, proposed injection wellfield areas, and portions of the pipeline alignments west of Highway 1 are located within what is known as Flood Zone AE where the flood zone elevation occurs at approximately 20 feet above sea level (FEMA, 2017).

Page 3.9-24 Prior to the modeling, aquifer testing was conducted on the existing city wells to better ~~quantity~~ quantify the parameters of the aquifer to be used for injection, including the horizontal and vertical hydraulic conductivity, as discussed above in the Environmental Setting.

## Chapter 3.10 Land Use and Land Use Planning

Page 3.10-3 **San Luis Obispo LAFCO Policies and Procedures**

### **2.3 Policies for City Annexation**

1. The boundaries of a proposed annexation must be definite and certain and must conform to lines of assessment whenever possible.
2. The boundaries of an area to be annexed will not result in any areas difficult to serve.
3. There is a demonstrated need for governmental services and controls in the area proposed for annexation.
4. The municipality has the resources capable of meeting the need for services in the area proposed for annexation and has submitted studies and information documenting its ability to serve.
5. There is a mutual social and economic community of interest between the residents of the municipality and the proposed territory.
6. The proposed annexation is compatible with the municipality's general plan. The proposed annexation represents a logical and reasonable expansion of the annexing municipality.
7. The Commission shall determine if a disadvantaged unincorporated community is associated with an application. If a disadvantaged unincorporated community does exist, the procedures for processing the annexation as outlined in the CKH Act shall be implemented.

8. That the City Prezone the area to be annexed and complete CEQA as the Lead Agency for the proposal and/or project. LAFCO should in most instances act as the Responsible Agency with regard to an annexation and CEQA.

## **2.6 Sphere of Influence Review Policies**

The CKH Act provides the legislative authority and intent for establishing a Sphere of Influence and is included by reference in these policies. A Sphere of Influence is the probable 20-year growth boundary for a jurisdiction's physical development. These policies are intended to be consistent with the CKH Act and take into consideration local conditions and circumstances. All procedures and definitions in the CKH Act are incorporated into these policies by reference.

1. LAFCO intends that its Sphere of Influence determination will serve as a master plan for the future organization of local government within the County. The spheres shall be used to discourage urban sprawl and the proliferation of local governmental agencies and to encourage efficiency, economy, and orderly changes in local government.

2. The Sphere of Influence lines shall be a declaration of policy which shall be a primary guide to LAFCO in the decision on any proposal under its jurisdiction. Every determination made by the Commission shall be consistent with the spheres of influence of the agencies affected by those determinations.

3. No proposal which is inconsistent with an agency's adopted Sphere of Influence shall be approved until the Commission, at a noticed public hearing, has considered an amendment or revision to that agency's Sphere of Influence.

4. The adopted Sphere of Influence shall reflect city and county general plans, growth management policies, annexation policies, resource management policies, and any other policies related to ultimate boundary area of an affected agency unless those plan or policies conflict with the legislative intent of the CKH Act (Government Code Section 56000 et seq.) Where inconsistencies between plans exist, LAFCO shall rely upon that plan which most closely follows the legislature's directive to discourage urban sprawl, direct development away from prime agricultural land and open space lands, and encourage the orderly formation and development of local governmental agencies based upon local conditions and circumstances. In accordance with the CKH Act a municipal service review shall be conducted prior to the update of a jurisdiction's Sphere of Influence. The service review is intended to be a basis for updating a jurisdiction's Sphere of Influence.

5. LAFCO will designate a Sphere of Influence line for each local agency that represents the agency's probable physical boundary and includes territory eligible for annexation and the extension of that agency's services within a zero to twenty-year period.

6. LAFCO shall consider the following factors in determining an agency's Sphere of Influence:

a. Present and future need for agency services and the service levels specified for the subject area in applicable general plans, growth management plans, annexation policies, resource management plans, and any other plans or policies related to an agency's ultimate boundary and service area (CKH 56425 (e)(1)).

b. Capability of the local agency to provide needed services, taking into account evidence of resource capacity sufficient to provide for internal needs and urban expansion (CKH 56425 (e)(2)).

c. The existence of agricultural preserves, agricultural land and open space lands in the area and the effect that inclusion within a Sphere of Influence shall have on the physical and economic integrity of maintaining the land in non-urban use (CKH 56426.5 (a)).

d. Present and future cost and adequacy of services anticipated to be extended within the Sphere of Influence.

e. Present and projected population growth, population densities, land uses, and area, ownership patterns, assessed valuations, and proximity to other populated areas.

f. The agency's capital improvement or other plans that delineate planned facility expansion and the timing of that expansion.

g. Social or economic communities of interest in the area (CKH 56425 (e)(4)).

h. For an update of a Sphere of Influence of a city or special district that provides public facilities or services related to sewers, municipal and industrial water, or structural fire protection, a written determination regarding the present and probable need for those public facilities and services of any disadvantaged unincorporated communities within the existing Sphere of Influence shall be prepared.

7. LAFCO may adopt a zero Sphere of Influence encompassing no territory for an agency. This occurs if LAFCO determines that the public service functions of the agency are either nonexistent, no longer needed, or should be reallocated to some other agency of government. The local agency which has been assigned a zero Sphere of Influence should ultimately be dissolved.

8. Territory not in need of urban services, including open space, agriculture, recreational, rural lands, or residential rural areas shall not be assigned to an

agency's Sphere of Influence unless the area's exclusion would impede the planned, orderly and efficient development of the area.

9. LAFCO may adopt a Sphere of Influence that excludes territory currently within that agency's boundaries. This occurs where LAFCO determines that the territory consists of agricultural lands, open space lands, or agricultural preserves whose preservation would be jeopardized by inclusion within an agency's Sphere of Influence. Exclusion of these areas from an agency's Sphere of Influence indicates that detachment is appropriate.

10. Where an area could be assigned to the Sphere of Influence of more than one agency providing needed service, the following hierarchy shall apply dependent upon ability to serve:

a. Inclusion within a municipality Sphere of Influence.

b. Inclusion within a multipurpose district Sphere of Influence.

c. Inclusion within a single-purpose district Sphere of Influence. In deciding which of two or more equally capable agencies shall include an area within its Sphere of Influence, LAFCO shall consider the agencies' service and financial capabilities, social and economic interdependencies, topographic factors, and the effect that eventual service extension will have on adjacent agencies.

11. Sphere of Influence boundaries shall not create islands or corridors unless it can be demonstrated that the irregular boundaries represent the most logical and orderly service area of an agency.

12. Nonadjacent publicly owned properties and facilities used for urban purposes may be included within that public agency's Sphere of Influence if eventual annexation would provide an overall benefit to agency residents.

13. At the time of adoption of a city Sphere of Influence LAFCO may develop and adopt in cooperation with the municipality, an urban area boundary pursuant to policies adopted by the Commission in accordance with Government Code Section 56080. LAFCO shall not consider any area for inclusion within an urban service area boundary that is not addressed in the general plan of the affected municipality or is not proposed to be served by urban facilities, utilities, and services within the first five years of the affected city's capital improvement program.

14. LAFCO shall review Sphere of Influence determinations every five years or when deemed necessary by the Commission consistent with an adopted work plan. If a local agency or the County desires amendment or revision of an adopted Sphere of Influence, the local agency, by resolution, may file such a

request with the LAFCO Executive Officer. Any local agency or county making such a request shall reimburse the Commission for the actual and direct costs incurred by the Commission. The Commission may waive such reimbursement if it finds that the request may be considered as part of its periodic review of spheres of influence.

15. LAFCO shall adopt, amend, or revise Sphere of Influence determinations following the procedural steps set forth in CKH Act 56000 et seq.

Page 3.10-5 The preferred WRF site is located immediately adjacent to the Morro Bay service area. However, it is not currently located within the City's sphere of influence. The 396-acre parcel that the preferred WRF site is located within was studied in LAFCO's Morro Bay Sphere of Influence (SOI) Update and Municipal Service Review (MSR) in 2017. The study identified two roughly 15-acre portions of the 396-acre parcel considered viable locations for a future WRF site. LAFCO recommended the SOI should exclude the larger, 396-acre parcel with exception of a future public lot area for the WRF site. LAFCO further recommended, if the City selected the site and builds a treatment facility, a public lot could be created that is owned by the City and requested to be added to the SOI and annexed at that time. ~~then~~ LAFCO would support the City's selection and would process an SOI and annexation proposal at that time, in an expedited manner (San Luis Obispo LAFCO, 2017).

Page 3.10-15

#### Environmental and Cultural Resource Policies and Programs

##### V. Morro Bay Estuary and Its Watershed

##### A. Policies, Cayucos and Rural Area

5. Where feasible, implement applicable provisions of the Comprehensive Conservation and Management Plan for Morro Bay published by the Morro Bay National Estuary Program through special programs, land use planning strategies, review of development proposals, and public education.

~~No Conflict-Partial.~~ The Comprehensive Conservation and Management Plan for Morro Bay Estuary, BMP-12, supports the upgrade of the existing MBCSD WWTP "because increasing the treatment level of the effluent could have beneficial impacts to the estuary." BMP-12 states that although Morro Bay does not directly receive effluent from the WWTP, "it is possible that the diluted treated wastewater does occasionally enter the bay through the harbor mouth." As such, increasing the treatment level of effluent discharged through the outfall could have beneficial effects to the estuary. In accordance with BMP-12, the proposed project would serve to increase the level of treatment provided to effluent discharged through the outfall.

In addition, BMP-12 includes reduction in the use of City wells adjacent to Chorro Creek. The proposed project does not modify the City's proposed operation of the Chorro Creek wells.

~~increase in treatment levels and the upgrades for recycled water distribution both of which the proposed project incorporates.~~

Additional discussion of consistency with the Comprehensive Conservation and Management Plan is discussed in Chapter 3.4 Biological Resources.



## Chapter 3.15 Tribal Cultural Resources

Page 3.15-1     At the time of European contact of the Morro Bay area (ca. 1542), the preferred and proposed project sites were occupied by two Native American groups: the Chumash and the Salinan. Since there is some disagreement about the pre-contact boundaries for each group (see Gibson, 1983b; Kroeber, 1925; Mason, 1912; Milliken 2010; and Milliken and Johnson 2005), the following discussion focuses on the post-contact period.

Page 3.15-10     ~~Castle~~ Castle, Roger, and Gary Ream. 2006. Images of America, Morro Bay.

## Appendix I: Supplement to Biological Resources Assessment

Please refer to Appendix I of this Final EIR, which includes a supplement to the BRA. The supplement includes the results of the biological reconnaissance surveys conducted for the injection wellfield areas, IPR-East and IPR-West.

The supplement to the BRA in Appendix I includes a map that shows CRLF critical habitat.

# Appendix I

## **Biological Resources Assessment Supplement**







Kevin Merk Associates, LLC | P.O. Box 318, San Luis Obispo, CA 93406 | 805-748-5837

June 21, 2018

Mr. Rob Livick  
Public Works Director  
595 Harbor Street  
Morro Bay, CA 93406

**Subject: Supplemental Biological Resources Report for the Morro Bay Water Reclamation Facility Project, Injection Well Sites, San Luis Obispo County, California**

Dear Mr. Livick:

Kevin Merk Associates, LLC (KMA) is providing this letter to supplement our April 2017 Biological Resources Assessment prepared for the project to support the environmental review process. The supplemental report characterizes existing conditions and biological resources present in the two proposed injection well sites and pipeline right of way not covered in the 2017 report. Please refer to the attached Habitat Map included as Figure 3E for site location information and the photo plate for further detail regarding existing conditions. In addition, we are providing supplemental special status species information to help respond to comments from the State Water Resources Control Board raised in a letter to you dated May 16, 2018. The following details the methods and results of the supplemental investigation.

## **METHODS**

Consistent with the methods used for preparation of the 2017 report, the supplemental analysis included a review of available background information such as historic photographs and previous biological studies conducted in the region. We also reviewed the Biological Resources section of the Draft Environmental Impact Report (ESA, 2018; DEIR) and the above referenced letter from the State Water Resources Control Board.

As part of the background information review, the California Natural Diversity Database (CNDDB, June 2018) maintained by the California Department of Fish and Wildlife was queried to determine if any new special status species observations were reported in the study area since the 2017 analysis occurred. This search used the same five-mile study area buffer to identify special status species and plant communities with potential to occur in the immediate vicinity of the project site. To address questions raised by the State Water Board, California red-legged frog (*Rana draytonii*) occurrence and critical habitat data shown on Figure 6, the CNDDB Wildlife Occurrence Map, included in the 2017 report were plotted on a separate stand alone map and included with this supplement as Figure 6A (see attached).

The Natural Resources Conservation Service (NRCS) Web Soil Survey was also reviewed again to assess the soil mapping units present within the supplemental study area (U.S. Department of

Agriculture 2018) and aid with the special status plants and animals analysis. The U. S. Fish and Wildlife Service's online National Wetland Inventory, Information, Planning and Consultation system (IPaC), and Critical Habitat Mappers (<http://www.fws.gov/wetlands/Data/Mapper.html>; <https://www.fws.gov/ipac/>; <http://criticalhabitat.fws.gov/crithab/>) were also reviewed to evaluate the extent of documented wetlands, federal listed species and designated critical habitat defined in the region. The online list of endangered and threatened marine (and anadromous) species under NOAA Fisheries (or NMFS) jurisdiction located at <http://www.nmfs.noaa.gov/pr/species/esa/listed.htm> was also reviewed to confirm the analysis adequately identified all special status species with potential to occur in the study area and be affected by the project.

Consistent with the 2017 report, special status species are those plants and animals listed, proposed for listing, or candidates for listing as Threatened or Endangered by the U.S. Fish and Wildlife Service (USFWS) under the federal Endangered Species Act (FESA); those listed or proposed for listing as Rare, Threatened, or Endangered by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act (CESA); animals designated as "Species of Special Concern," "Fully Protected," or "Watch List" by the CDFW; and plants occurring on California Rare Plant Rank lists 1, 2, 3 and 4 developed by the CDFW working in concert with the California Native Plant Society (CNPS). The specific code definitions are as follows:

- *1A = Plants presumed extinct in California;*
- *1B.1 = Rare or endangered in California and elsewhere; seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat);*
- *1B.2 = Rare or endangered in California and elsewhere; fairly endangered in California (20-80% occurrences threatened);*
- *1B.3 = Rare or endangered in California and elsewhere, not very endangered in California (<20% of occurrences threatened or no current threats known);*
- *2 = Rare, threatened or endangered in California, but more common elsewhere;*
- *3 = Plants needing more information (most are species that are taxonomically unresolved; some species on this list meet the definitions of rarity under CNPS and CESA); and*
- *4.2 = Plants of limited distribution (watch list), fairly endangered in California (20-80% occurrences threatened).*
- *4.3 = Plants of limited distribution (watch list), not very endangered in California.*

In addition, sensitive natural communities are those listed in the CNDDDB.

KMA biologists conducted field work to assess existing conditions and plant community distribution in the supplemental study area on May 14 and June 6, 2018. Weather was generally foggy in the morning and clearing later in the day. Winds were light (<5mph) to moderate (5-10mph) out of the west. Temperatures were approximately 60 to 64 degrees Fahrenheit.

The injection well sites were primarily accessed on foot, except in existing developed areas (i.e., the mobile home park) where the sites were driven. Vantage points were used to overcome site access restrictions since portions of the injection well areas are on private property, including the restricted access Morro Bay Power Plant. In restricted access locations, aerial imagery and

vegetation signatures were used to delineate the habitat types included on the attached Figure 3E. Vegetation classification generally followed Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (1986) and was cross-referenced with *A Manual of California Vegetation, Second Edition* (Sawyer et al., 2009) for consistency. Plant taxonomy followed the *Jepson Manual, Second Edition* (Baldwin et al., 2012).

The evaluation of special status plants and wildlife and identification of habitat that could support these species was based on our field observations, knowledge of the particular species biology, and review of documented records included in the CNDDDB. Definitive surveys for the presence or absence of the wildlife species that may be present were not conducted. Wildlife species generally require specific survey protocols with extensive field survey time to be conducted only at certain times of the year. Definitive surveys for special status plants to determine the presence or absence of rare plants were conducted with the exception of portions of the Morro Bay Power Plant with restricted access.

## **RESULTS**

The 2018 supplemental biological resources assessment found site conditions to be generally consistent with observations made during surveys of the original study area developed for the South Bay Boulevard Site and described in our 2017 report. No new habitat types from those described in the 2017 report were identified in the injection well areas or east Main Street pipeline segment. Please refer to the 2017 report for a detailed characterization of the habitat types observed in the study area and mapped on the attached Figure 3E. Background literature and CNDDDB review did not identify any new special status species beyond those described in the 2017 report.

Figure 3E was created to illustrate habitat types within the study area, and Figure 4A shows the NRCS soils data. Two additional soil map units were identified in the east injection well area, and include Salinas silty clay loam, 2-9% slopes and Corducci-typic Xerofluvents 0-5% slopes occasionally flooded. Figure 6A highlights the extent of federal listed critical habitat for the California red-legged frog, as well as documented occurrences of the species in the region. Photos of notable features were taken, and a photo plate is also included as an attachment to this report. Lists of special status plants and wildlife were obtained from the USFWS IPaC system, NOAA Fisheries website, and CNPS Inventory and are included as attachments. Below provides further detail of the biological resources observed within the supplemental study area.

### Injection Well Areas

The east and west injection well areas are adjacent to and in close proximity to previously surveyed portions of the South Bay Boulevard Site study area. This includes the east and west pipeline alignments described and illustrated in the 2017 report. The attached Figure 3E should be used in concert with maps provided in that report (i.e., Figures 3A-D), and has been labeled Figure 3E accordingly. The map illustrates the extent of annual grassland, riparian scrub, ornamental, and coastal scrub habitats present in this part of the project site. Also included are developed or ruderal/disturbed areas associated with the existing urban development including the Morro Bay Power Plant, City of Morro Bay's maintenance yard, and mobile home parks. Please refer to the 2017 Biological Resources Assessment for a more detailed characterization of these habitat types

and a representative list of plant species that were observed in the study area.

Soils in the west injection well site are associated with coastal dunes (Dune Land) and Morro Creek (Psammets and fluvents occasionally flooded), which were previously identified in the 2017 report. As stated above, two new soil map units were identified in the east injection well area and are located in the agricultural area and along the drainage features (i.e., Morro Creek and Little Morro Creek).

Both injection well areas include riparian scrub, riverine and pockets of wetland habitat along Morro Creek and Little Morro Creek. Both drainage features are disturbed from homeless encampments and the presence of non-native invasive species such as Cape ivy (*Delairea odorata*). Consistent with the conclusions in the 2017 report, these drainage features and their associated riparian scrub, riverine and wetland habitats would be subject to regulatory jurisdiction of the U.S. Army Corps of Engineers, Regional Water Quality Control Board and CDFW. Ample room exists in the disturbed areas of the injection well sites including the mapped annual grassland and coastal scrub habitats to avoid impacting jurisdictional areas.

#### East Main Street Pipeline Right of Way

An additional segment of pipeline leading to the east injection well area was inspected for this study. Please refer to Figure 3E in comparison with Figure 3A in the 2017 report. The pipeline is proposed to follow Main Street in a northerly direction from the limits of the 2017 survey area and deliver treated water to the east injection well. It turns east on Errol Street and terminates at the east injection well area in the vicinity of the Silver City Mobile Home Park. Only ruderal/disturbed, annual grassland and ornamental habitats were observed in this area.

The pipeline, if constructed in this area, would go under Morro Creek using directional drilling technology and would not impact the creek's bed or banks or its associated riparian, riverine or wetland habitats. Since it is already developed, no potential habitat was observed for special status species with the exception of nesting birds in ornamental trees consistent with the findings of the 2017 report.

#### **Special Status Biological Resources**

The 2017 Biological Resources Assessment reviewed numerous special status plants and animals documented by the CNDDDB in the vicinity of the project area. Even with the enlarged survey area created to cover the injection wells and east Main Street pipeline segment, no new special status species were identified beyond those described in the 2017 report. As stated in the methods section above, for this biological resources supplement report, we queried not only the CNDDDB, but also searched the USFWS IPaC system, the CNPS's Inventory of Rare and Endangered Plants, and NOAA Fisheries list of covered species. Please refer to the attached lists.

The CNDDDB query did not identify any new special status species from those included and analyzed in the 2017 report. The IPaC list generated species throughout San Luis Obispo County, and the results were not specific to the coastal Morro Bay region. NOAA Fisheries has jurisdiction over federal listed marine and anadromous species, and review of their list of endangered and threatened marine species under NMFS' jurisdiction identified no new species beyond south-

central coast steelhead trout (*Oncorhynchus mykiss irideus*) and tidewater goby (*Eucyclogobius newberryi*) as having potential to occur within the defined study area. The 2017 biological investigation identified these two species as present in Morro Creek and adequately analyzed project-related activities and confirmed the use of the proposed directional drilling technology would avoid impacts to the creek where the species could potentially occur.

Review of the USFWS's IPaC system identified additional FESA-listed species not included in the 2017 report's special status species because these additional species are known from inland areas of San Luis Obispo County, and are not expected to occur in the project vicinity. The project site is in coastal San Luis Obispo County, which is outside the known range of these inland species. The supplemental analysis concluded the 2017 report identified all special status species, including state and federal listed species and special status species under the California Environmental Quality Act that could have the potential to occur in the project area.

#### Special Status Plants

No new special status plants were identified as potentially occurring on the project site in the supplemental analysis. As stated above, the IPaC review identified species that are not known to occur in coastal habitats in the Morro Bay area. Based on the lack of suitable habitat and range restrictions (i.e., they are not known to occur along the San Luis Obispo County coast) the following plant species identified in the IPaC are not expected to occur in the project area or be affected by project related activities:

- California jewelflower (*Caulanthus californicus*; federal endangered, state endangered) is known from inland San Luis Obispo County and along the southern San Joaquin Valley. No valley grassland, shadscale scrub or pinyon-juniper woodland habitats are present in the project area capable of supporting this species.
- Spreading navarretia (*Navarretia fossalis*; federal threatened, not listed by state of CA) is known from vernal pool occurrences in inland, northern San Luis County (Paso Robles region) and further south in Riverside and San Diego Counties. No vernal pools capable of supporting this species are present in the project area.

Review of the CNPS Inventory identified an additional species, Pismo clarkia (*Clarkia speciosa* ssp. *immaculata*; federal endangered and state rare), as occurring in the region. This is a highly endemic species that is only known to occur in southern San Luis Obispo County. Specifically, Pismo clarkia is known from the Arroyo Grande and Pismo Beach area. It occurs on sandy soils in grassland habitat, typically along the margins or ecotone with oak woodland or coastal scrub habitats. The project site is outside the known range of this species, and no recorded occurrences of Pismo clarkia have been documented in the Morro Bay area. Therefore, based on the lack of suitable habitat, known range restrictions for this species, and direct searches for rare plants during the spring and summer bloom periods during 2017 and 2018 surveys, Pismo clarkia is not expected to occur in the project area or be affected by the proposed project.

#### Special Status Wildlife

No new special status wildlife were identified as potentially occurring on the project site in the supplemental analysis. On a similar note to the special status plant discussion above, the IPaC



system identified inland species that have not been recorded along the San Luis Obispo County coast. Therefore, the following species included in the IPaC list are not expected to occur in the project area or be affected by the proposed project based on the lack of suitable habitat and well-documented range restrictions:

- Giant kangaroo rat (*Dipodomys ingens*; federal endangered, state endangered);
- San Joaquin kit fox (*Vulpes macrotis mutica*; federal endangered, state endangered);
- Least Bell's vireo (*Vireo bellii pusillus*; federal endangered, state endangered);
- Southwest willow flycatcher (*Empidonax traillii extimus*; federal endangered, state endangered);
- Blunt nose leopard lizard (*Gambelia silus*; federal endangered, state endangered and fully protected);
- California tiger salamander (*Ambystoma californiense*; federal threatened, state threatened); and
- Kern primrose sphinx moth (*Euproserpinus euterpe*; federal threatened, not listed by state of CA).

The 2017 biological resources analysis and the Biological Resources section of the DEIR identifies all special status wildlife with potential to occur onsite. Further, these documents identify all potential project related impacts to these species and proposes adequate mitigation to avoid impacts or reduce project related impacts to a less than significant level.

## **Conclusion**

The Biological Resources Supplement Report analyzed an enlarged study area not previously included in the 2017 Biological Resources Assessment prepared for the South Bay Boulevard project site. This included east and west injection well areas and a small segment of pipeline right of way along Main Street and Errol Street leading to the east injection well site. No new habitat types, special status plants or wildlife beyond those described in the 2017 report were observed in the enlarged study area. As a result, no new potential impacts to common or special status biological resources were identified in the supplemental analysis. While large areas were identified for the east and west injection well sites, ample room exists in previously disturbed areas to construct injection wells and avoid impacts to special status biological resources within the study area. The potentially significant impacts identified in the 2017 report and associated mitigation measures are deemed adequate to reduce project related impacts to a less than significant level pursuant to the California Environmental Quality Act.

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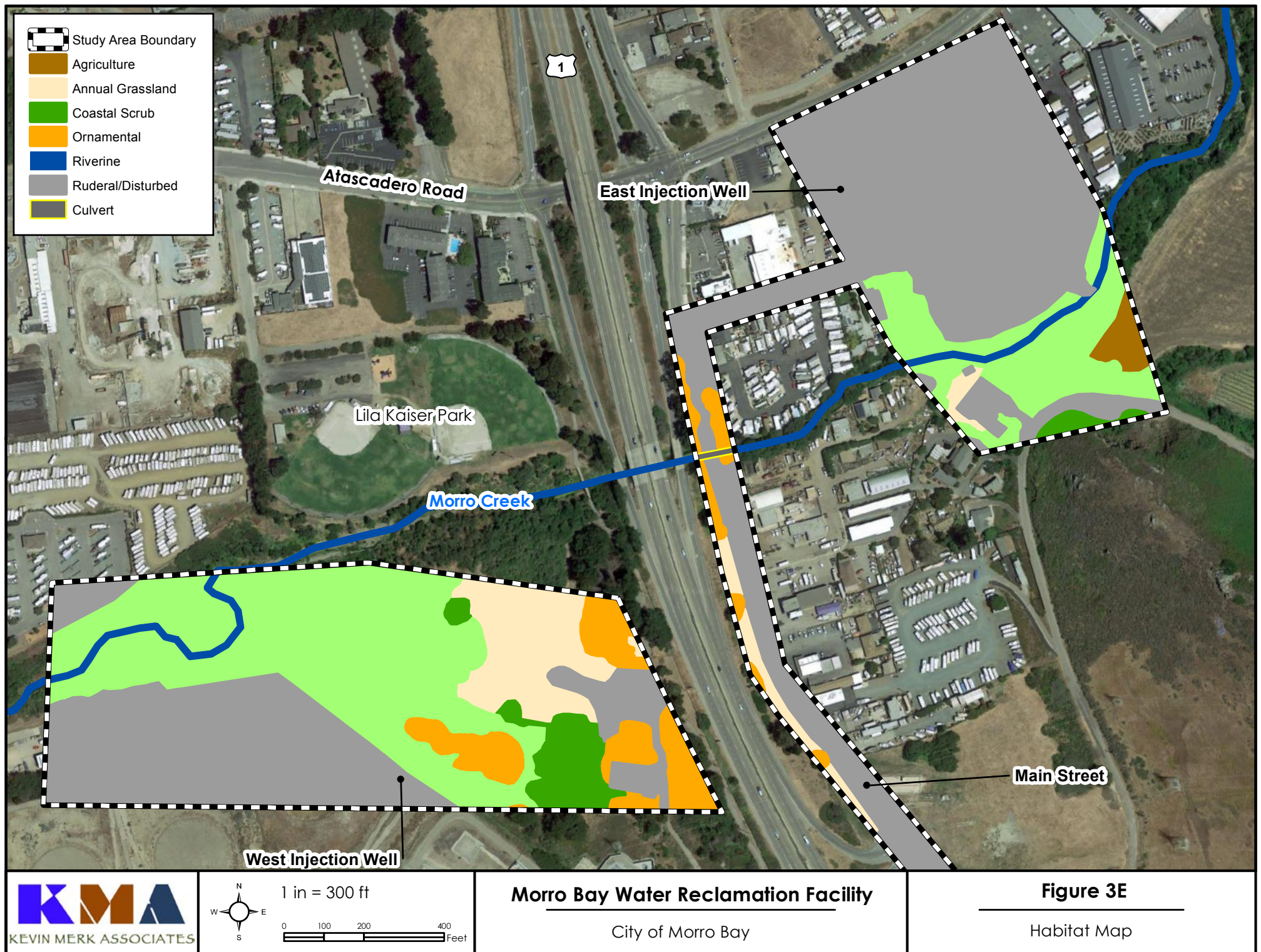


Thank you for the opportunity to provide environmental consulting services for this project. I trust that the above information is sufficient for your reporting requirements at this time. If you have any questions regarding the information contained herein, please contact me at the phone number listed above or via email at [kmerk@kevinmerkassociates.com](mailto:kmerk@kevinmerkassociates.com).

Sincerely,  
**KEVIN MERK ASSOCIATES, LLC**

Kevin B. Merk  
Principal Biologist

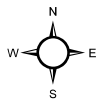
*Attachments: Figure 3E – Habitat Map  
Figure 4A – Soils Map  
Figure 6A – CNDDB CRLF Occurrence Map  
Photo Plate  
IPaC List  
CNPS Inventory Query  
NOAA Fisheries List*



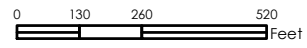




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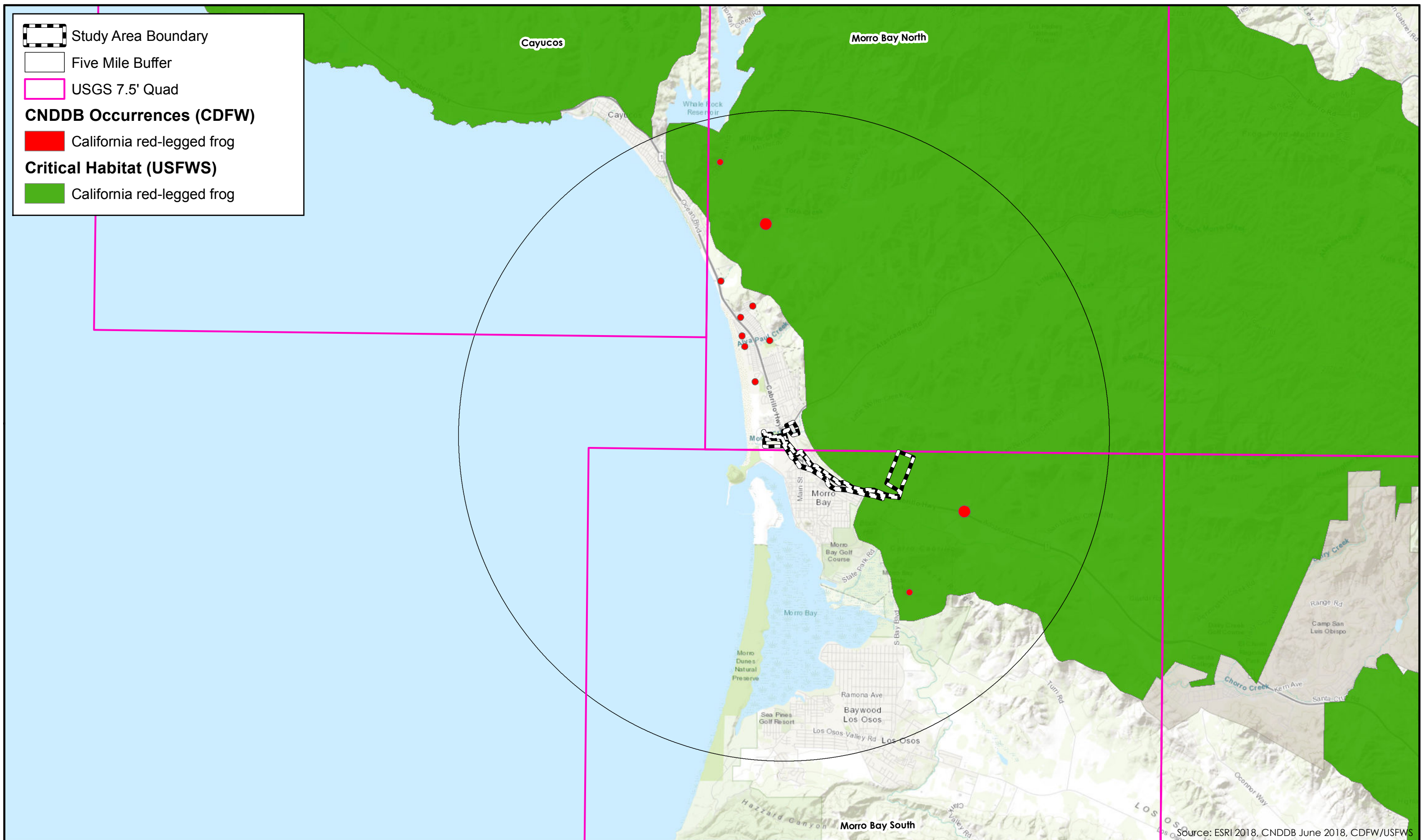
**Morro Bay Water Reclamation Facility**

City of Morro Bay

**Figure 4A**

Soil Map







**Photo Plate**

**Photo 1.** Southerly view of grassland, ornamental, coastal scrub and riparian scrub habitats in the western injection well area. Grassland is disturbed and dominated by non-native species.



**Photo 2.** Northerly view of western injection well area showing annual grassland, riparian scrub and ornamental habitats. Numerous non-native weeds were present in this area.





**Photo 3.** Westerly view of Morro Creek in the study area showing riverine and riparian scrub habitats. No large pools capable of supporting species such as CRLF were observed in this area.



**Photo 4.** Easterly view of iceplant and scattered shrubs in ruderal/disturbed areas adjacent to the City's maintenance yard in the western portion of the study area that could support MSS.





**Photo 5.** Westerly view of Morro Creek near confluence with Pacific Ocean showing disturbed banks with willows and weedy vegetation. Lagoon area could support various species of fish.



**Photo 6.** View of Little Morro Creek Road and rock outcroppings with coastal scrub habitat in the eastern injection well area.





**Photo 7.** Northerly view of riparian scrub and agricultural field in the eastern injection well area. Riparian habitat was dominated by non-native invasive species such as Cape ivy.



**Photo 8.** Overview of riparian scrub along the drainage features and agricultural area in the eastern injection well area. Urban developed areas are present just north out of view.

# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

## Location

San Luis Obispo County, California



## Local office

Ventura Fish And Wildlife Office

☎ (805) 644-1766

📠 (805) 644-3958

2493 Portola Road, Suite B  
Ventura, CA 93003-7726

## Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

- 1. Species listed under the **Endangered Species Act** are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
- 2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

## Mammals

NAME	STATUS
<b>Giant Kangaroo Rat</b> <i>Dipodomys ingens</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/6051">https://ecos.fws.gov/ecp/species/6051</a>	Endangered
<b>Morro Bay Kangaroo Rat</b> <i>Dipodomys heermanni morroensis</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/6367">https://ecos.fws.gov/ecp/species/6367</a>	Endangered
<b>San Joaquin Kit Fox</b> <i>Vulpes macrotis mutica</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/2873">https://ecos.fws.gov/ecp/species/2873</a>	Endangered
<b>Southern Sea Otter</b> <i>Enhydra lutris nereis</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/8560">https://ecos.fws.gov/ecp/species/8560</a>	Threatened Marine mammal

## Birds

NAME	STATUS
<b>California Clapper Rail</b> <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/4240">https://ecos.fws.gov/ecp/species/4240</a>	Endangered
<b>California Condor</b> <i>Gymnogyps californianus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/8193">https://ecos.fws.gov/ecp/species/8193</a>	Endangered
<b>California Least Tern</b> <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/8104">https://ecos.fws.gov/ecp/species/8104</a>	Endangered
<b>Least Bell's Vireo</b> <i>Vireo bellii pusillus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/5945">https://ecos.fws.gov/ecp/species/5945</a>	Endangered
<b>Marbled Murrelet</b> <i>Brachyramphus marmoratus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/4467">https://ecos.fws.gov/ecp/species/4467</a>	Threatened
<b>Southwestern Willow Flycatcher</b> <i>Empidonax traillii extimus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/6749">https://ecos.fws.gov/ecp/species/6749</a>	Endangered
<b>Western Snowy Plover</b> <i>Charadrius alexandrinus nivosus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/8035">https://ecos.fws.gov/ecp/species/8035</a>	Threatened

## Reptiles

NAME	STATUS
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Blunt-nosed Leopard Lizard	<i>Gambelia silus</i>	Endangered
No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/625">https://ecos.fws.gov/ecp/species/625</a>		

## Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat. <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/2076">https://ecos.fws.gov/ecp/species/2076</a>	Threatened

## Fishes

NAME	STATUS
<b>Tidewater Goby</b> <i>Eucyclogobius newberryi</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/57">https://ecos.fws.gov/ecp/species/57</a>	<b>Endangered</b>

## Snails

NAME	STATUS
Morro Shoulderband (=banded Dune) Snail <i>Helminthoglypta walkeriana</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/2309">https://ecos.fws.gov/ecp/species/2309</a>	Endangered

## Insects

NAME	STATUS
Kern Primrose Sphinx Moth <i>Euproserpinus euterpe</i>	Threatened
There is <b>proposed</b> critical habitat for this species. The location of the critical habitat is not available. <a href="https://ecos.fws.gov/ecp/species/7881">https://ecos.fws.gov/ecp/species/7881</a>	

## Crustaceans

NAME	STATUS
<b>Vernal Pool Fairy Shrimp</b> <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	<b>Threatened</b>

## Flowering Plants

NAME	STATUS
<b>California Jewelflower</b> <i>Caulanthus californicus</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/4599">https://ecos.fws.gov/ecp/species/4599</a>	Endangered
<b>California Seablite</b> <i>Suaeda californica</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/6310">https://ecos.fws.gov/ecp/species/6310</a>	Endangered
<b>Chorro Creek Bog Thistle</b> <i>Cirsium fontinale</i> var. <i>obispoense</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/5991">https://ecos.fws.gov/ecp/species/5991</a>	Endangered
<b>Indian Knob Mountainbalm</b> <i>Eriodictyon altissimum</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/1261">https://ecos.fws.gov/ecp/species/1261</a>	Endangered

Marsh Sandwort <i>Arenaria paludicola</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/2229">https://ecos.fws.gov/ecp/species/2229</a>	Endangered
Morro Manzanita <i>Arctostaphylos morroensis</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/2934">https://ecos.fws.gov/ecp/species/2934</a>	Threatened
Salt Marsh Bird's-beak <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/6447">https://ecos.fws.gov/ecp/species/6447</a>	Endangered
Spreading Navarretia <i>Navarretia fossalis</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/1334">https://ecos.fws.gov/ecp/species/1334</a>	Threatened

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
California Red-legged Frog <i>Rana draytonii</i> <a href="https://ecos.fws.gov/ecp/species/2891#crithab">https://ecos.fws.gov/ecp/species/2891#crithab</a>	Final

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD
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<b>Allen's Hummingbird</b> <i>Selasphorus sasin</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9637">https://ecos.fws.gov/ecp/species/9637</a>	Breeds Feb 1 to Jul 15
<b>Bald Eagle</b> <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a>	Breeds Jan 1 to Aug 31
<b>Black Oystercatcher</b> <i>Haematopus bachmani</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9591">https://ecos.fws.gov/ecp/species/9591</a>	Breeds Apr 15 to Oct 31
<b>Black Skimmer</b> <i>Rynchops niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/5234">https://ecos.fws.gov/ecp/species/5234</a>	Breeds May 20 to Sep 15
<b>Black Turnstone</b> <i>Arenaria melanocephala</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
<b>Burrowing Owl</b> <i>Athene cunicularia</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/9737">https://ecos.fws.gov/ecp/species/9737</a>	Breeds Mar 15 to Aug 31
<b>California Thrasher</b> <i>Toxostoma redivivum</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
<b>Clark's Grebe</b> <i>Aechmophorus clarkii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Dec 31
<b>Common Yellowthroat</b> <i>Geothlypis trichas sinuosa</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/2084">https://ecos.fws.gov/ecp/species/2084</a>	Breeds May 20 to Jul 31
<b>Costa's Hummingbird</b> <i>Calypte costae</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/9470">https://ecos.fws.gov/ecp/species/9470</a>	Breeds Jan 15 to Jun 10
<b>Golden Eagle</b> <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1680">https://ecos.fws.gov/ecp/species/1680</a>	Breeds Jan 1 to Aug 31
<b>Lawrence's Goldfinch</b> <i>Carduelis lawrencei</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9464">https://ecos.fws.gov/ecp/species/9464</a>	Breeds Mar 20 to Sep 20
<b>Long-billed Curlew</b> <i>Numenius americanus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/5511">https://ecos.fws.gov/ecp/species/5511</a>	Breeds elsewhere
<b>Marbled Godwit</b> <i>Limosa fedoa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9481">https://ecos.fws.gov/ecp/species/9481</a>	Breeds elsewhere

<b>Mountain Plover</b> <i>Charadrius montanus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/3638">https://ecos.fws.gov/ecp/species/3638</a>	Breeds elsewhere
<b>Nuttall's Woodpecker</b> <i>Picoides nuttallii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/9410">https://ecos.fws.gov/ecp/species/9410</a>	Breeds Apr 1 to Jul 20
<b>Oak Titmouse</b> <i>Baeolophus inornatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9656">https://ecos.fws.gov/ecp/species/9656</a>	Breeds Mar 15 to Jul 15
<b>Rufous Hummingbird</b> <i>selasphorus rufus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/8002">https://ecos.fws.gov/ecp/species/8002</a>	Breeds elsewhere
<b>Short-billed Dowitcher</b> <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9480">https://ecos.fws.gov/ecp/species/9480</a>	Breeds elsewhere
<b>Song Sparrow</b> <i>Melospiza melodia</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
<b>Spotted Towhee</b> <i>Pipilo maculatus clementae</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/4243">https://ecos.fws.gov/ecp/species/4243</a>	Breeds Apr 15 to Jul 20
<b>Tricolored Blackbird</b> <i>Agelaius tricolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/3910">https://ecos.fws.gov/ecp/species/3910</a>	Breeds Mar 15 to Aug 10
<b>Whimbrel</b> <i>Numenius phaeopus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9483">https://ecos.fws.gov/ecp/species/9483</a>	Breeds elsewhere
<b>Willet</b> <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
<b>Wrentit</b> <i>Chamaea fasciata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10
<b>Yellow-billed Magpie</b> <i>Pica nuttalli</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9726">https://ecos.fws.gov/ecp/species/9726</a>	Breeds Apr 1 to Jul 31

## Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.





USA)												
<b>Golden Eagle</b> Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)												
<b>Lawrence's Goldfinch</b> BCC Rangwide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<b>Long-billed Curlew</b> BCC Rangwide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
<b>Marbled Godwit</b> BCC Rangwide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
<b>Mountain Plover</b> BCC Rangwide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
<b>Nuttall's Woodpecker</b> BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)												
<b>Oak Titmouse</b> BCC Rangwide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
<b>Rufous Hummingbird</b> BCC Rangwide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
<b>Short-billed Dowitcher</b> BCC Rangwide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
<b>Song Sparrow</b> BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)												
<b>Spotted Towhee</b> BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)												
<b>Tricolored Blackbird</b> BCC Rangwide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
<b>Whimbrel</b> BCC Rangwide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
<b>Willet</b> BCC Rangwide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<b>Wrentit</b> BCC Rangwide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
<b>Yellow-billed Magpie</b> BCC Rangwide (CON) (This is a												

**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the migratory birds potentially occurring in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [E-bird Explore Data Tool](#).

**What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

**How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

**What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

**Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

**What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

**Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might

be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## Marine mammals

Marine mammals are protected under the [Marine Mammal Protection Act](#). Some are also protected under the Endangered Species Act<sup>1</sup> and the Convention on International Trade in Endangered Species of Wild Fauna and Flora<sup>2</sup>.

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries<sup>3</sup> [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the [Marine Mammals](#) page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take (to harass, hunt, capture, kill, or attempt to harass, hunt, capture or kill) of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

1. The [Endangered Species Act](#) (ESA) of 1973.
2. The [Convention on International Trade in Endangered Species of Wild Fauna and Flora](#) (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following marine mammals under the responsibility of the U.S. Fish and Wildlife Service are potentially affected by activities in this location:

NAME

Southern Sea Otter *Enhydra lutris nereis*  
<https://ecos.fws.gov/ecp/species/8560>

## Facilities

### Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

## Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1A](#)

FRESHWATER FORESTED/SHRUB WETLAND

[PFO/SSC](#)

[PSSC](#)

[PFOA](#)

[PSSAx](#)

[PSSB](#)

FRESHWATER POND

[PUSAh](#)

RIVERINE

[R3UBH](#)

[R4SBAx](#)

[R4SBA](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

#### **Data limitations**

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

#### **Data exclusions**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

#### **Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

## Plant List

## Inventory of Rare and Endangered Plants

5 matches found. [Click on scientific name for details](#)

### Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B, 4], FESA is one of [Endangered, Threatened, Candidate], CESA is one of [Endangered, Threatened, Rare], Found in San Luis Obispo County, Found in Quads 3512047 3512037 and 3512048;

[Modify Search Criteria](#)
[Export to Excel](#)
[Modify Columns](#)
[Modify Sort](#)
[Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
<a href="#">Arenaria paludicola</a>	marsh sandwort	Caryophyllaceae	perennial stoloniferous herb	May-Aug	1B.1	S1	G1
<a href="#">Chloropyron maritimum ssp. maritimum</a>	salt marsh bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct(Nov)	1B.2	S1	G4?T1
<a href="#">Cirsium fontinale var. obispoense</a>	San Luis Obispo fountain thistle	Asteraceae	perennial herb	Feb-Jul(Aug-Sep)	1B.2	S2	G2T2
<a href="#">Clarkia speciosa ssp. immaculata</a>	Pismo clarkia	Onagraceae	annual herb	May-Jul	1B.1	S1	G4T1
<a href="#">Eriodictyon altissimum</a>	Indian Knob mountainbalm	Namaceae	perennial evergreen shrub	Mar-Jun	1B.1	S1	G1

### Suggested Citation

California Native Plant Society, Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 04 June 2018].

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### Contributors

[The Calflora Database](#)  
[The California Lichen Society](#)  
[California Natural Diversity Database](#)  
[The Jepson Flora Project](#)  
[The Consortium of California Herbaria](#)  
[CalPhotos](#)

### Questions and Comments

[rareplants@cnps.org](mailto:rareplants@cnps.org)



**NOAA FISHERIES**  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION



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## Endangered and Threatened Marine Species under NMFS' Jurisdiction

Approximately 2,300 species are listed as **endangered or threatened** under the ESA. Of these species, about 675 are foreign species, found only in areas outside of the U.S. and our waters.

We have jurisdiction over **161 endangered and threatened marine species**, including **65 foreign species**. We work with **U.S. Fish and Wildlife Service (USFWS)** to manage ESA-listed species. Generally, we manage marine species, while USFWS manages land and freshwater species.

- **Marine Mammals**
- **Sea Turtles & Other Marine Reptiles**
- **Fish (Marine and Anadromous)**
- **Marine Invertebrates and Plants**

### Marine Mammals (33 listed "species")

Manatees and sea otters are also listed under the ESA, but fall under the jurisdiction of the U.S. Fish and Wildlife Service.

(E = "endangered"; T = "threatened"; F = "foreign"; n/a = not applicable)



ESA Fact Sheet

» [How does the ESA define "species"?](#)

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Species	Year Listed	Status	Critical Habitat*	Recovery Plan
<b>Cetaceans</b>				
<b>dolphin, Chinese River / baiji</b> ( <i>Lipotes vexillifer</i> )	1989	E (F)	n/a	n/a
<b>dolphin, Hector's</b> (2 listed subspecies) ( <i>Cephalorhynchus hectori</i> )				
◦ Maui ( <i>Cephalorhynchus hectori maui</i> )	2017	E (F)	n/a	no
◦ South Island ( <i>Cephalorhynchus hectori hectori</i> )	2017	T (F)	n/a	no
<b>dolphin, Indus River</b> ( <i>Platanista minor</i> )	1991	E (F)	n/a	n/a
<b>porpoise, Gulf of California harbor / vaquita</b> ( <i>Phocoena sinus</i> )	1985	E (F)	n/a	n/a
<b>whale, beluga</b> (1 listed DPS) ( <i>Delphinapterus leucas</i> )				
◦ Cook Inlet	2008	E	final	final
<b>whale, blue</b> ( <i>Balaenoptera musculus</i> )	1970	E	n/a	final
<b>whale, bowhead</b> ( <i>Balaena mysticetus</i> )	1970	E	n/a	n/a*
<b>whale, false killer</b> (1 listed DPS) ( <i>Pseudorca crassidens</i> )				
◦ Main Hawaiian Islands Insular	2012	E	no	in process
<b>whale, fin</b> ( <i>Balaenoptera physalus</i> )	1970	E	n/a	final
<b>whale, gray</b> (1 listed DPS) ( <i>Eschrichtius robustus</i> )				
◦ Western North Pacific	1970	E (F)	n/a	n/a
<b>whale, humpback</b> (5 DPSs) ( <i>Megaptera novaeangliae</i> ) » original listing - 1970				final+

◦ Arabian Sea	2016	E (F)	n/a	
◦ Cape Verde Islands/Northwest Africa	2016	E (F)	n/a	
◦ Central America	2016	E	no	
◦ Mexico	2016	T	no	
◦ Western North Pacific	2016	E	no	
<b>whale, killer</b> (1 listed DPS) ( <i>Orcinus orca</i> )				
◦ Southern Resident	2005	E	<b>final</b>	<b>final</b>
<b>whale, North Atlantic right</b> ( <i>Eubalaena glacialis</i> )	2008	E	<b>final</b>	<b>final</b>
original listing as "northern right whale" -	1970	E		
<b>whale, North Pacific right</b> ( <i>Eubalaena japonica</i> )	2008	E	<b>final</b>	<b>final</b>
original listing as "northern right whale" -	1970	E		
<b>whale, sei</b> ( <i>Balaenoptera borealis</i> )	1970	E	n/a	<b>final</b>
<b>whale, Southern right</b> ( <i>Eubalaena australis</i> )	1970	E (F)	n/a	n/a
<b>whale, sperm</b> ( <i>Physeter macrocephalus</i> )	1970	E	n/a	<b>final</b>
<b>Pinnipeds</b>				
<b>sea lion, Steller</b> (1 listed DPS) ( <i>Eumetopias jubatus</i> )				
◦ Western	1997	E	<b>final</b>	<b>final</b>
original listing -	1990	T		
<b>seal, bearded</b> (2 listed DPSs) ( <i>Erignathus barbatus</i> )				
◦ Beringia	2012	T	no	no
◦ Okhotsk	2012	T (F)	n/a	no
<b>seal, Guadalupe fur</b> ( <i>Arctocephalus townsendi</i> )	1985	T	n/a	n/a
<b>seal, Hawaiian monk</b> ( <i>Neomonachus schauinslandi</i> )	1976	E	<b>final</b>	<b>final</b>
<b>seal, ringed</b> (4 listed subspecies) ( <i>Phoca hispida</i> )				
◦ Baltic ( <i>Phoca hispida botnica</i> )	2012	T (F)	n/a	no
◦ Ladoga ( <i>Phoca hispida ladogensis</i> )	2012	E (F)	n/a	no
◦ Okhotsk ( <i>Phoca hispida ochotensis</i> )	2012	T (F)	n/a	no
◦ <b>Saimaa</b> ( <i>Phoca hispida saimensis</i> )	1993	E (F)	n/a	n/a
<b>seal, Mediterranean monk</b> ( <i>Monachus monachus</i> )	1970	E (F)	n/a	n/a
<b>seal, spotted</b> (1 listed DPS) ( <i>Phoca largha</i> )				
◦ Southern	2010	T (F)	n/a	n/a

## Sea Turtles & Other Marine Reptiles (26 listed "species")

(E = "endangered"; T = "threatened"; F = "foreign"; n/a = not applicable)

Species	Year Listed	Status	Critical Habitat*	Recovery Plan*
<b>Sea Turtles</b>				
<b>turtle, green</b> (11 listed DPSs) ( <i>Chelonia mydas</i> ) » original listing - 1978				
o Central North Pacific	2016	T	no	final +
o Central South Pacific	2016	E	no	final +
o Central West Pacific	2016	E	no	final +
o East Indian-West Pacific	2016	T(F)	n/a	no
o East Pacific	2016	T	no	final +
o Mediterranean	2016	E(F)	n/a	no
o North Atlantic	2016	T	final	final +
o North Indian	2016	T(F)	n/a	no
o South Atlantic	2016	T	no	final +
o Southwest Indian	2016	T(F)	n/a	no
o Southwest Pacific	2016	T(F)	n/a	no
<b>turtle, hawksbill</b> ( <i>Eretmochelys imbricata</i> )	1970	E	final	final
<b>turtle, Kemp's ridley</b> ( <i>Lepidochelys kempii</i> )	1970	E	n/a	final
<b>turtle, leatherback</b> ( <i>Dermochelys coriacea</i> )	1970	E	final	final
<b>turtle, loggerhead</b> (9 listed DPSs) ( <i>Caretta caretta</i> ) » original listing - 1978				
o Mediterranean Sea	2011	E (F)	n/a	n/a
o North Indian Ocean	2011	E (F)	n/a	n/a
o North Pacific Ocean	2011	E	no	final
o Northeast Atlantic Ocean	2011	E (F)	n/a	n/a
o Northwest Atlantic Ocean	2011	T	final	final
o South Atlantic Ocean	2011	T (F)	n/a	n/a
o South Pacific Ocean	2011	E (F)	n/a	n/a
o Southeast Indo-Pacific Ocean	2011	T (F)	n/a	n/a
o Southwest Indian Ocean	2011	T (F)	n/a	n/a
<b>turtle, olive ridley</b> (2 listed populations <sup>^</sup> ) ( <i>Lepidochelys olivacea</i> )				
o Mexico's Pacific coast breeding colonies	1978	E	n/a	final
o all other areas	1978	T	n/a	final
<b>Other Marine Reptiles</b>				
<b>sea snake, dusky</b> ( <i>Aipysurus fuscus</i> )	2015	E (F)	n/a	no

<sup>^</sup> These populations were listed before the 1978 ESA amendments that restricted population listings to "distinct population segments of vertebrate species."

\* Recovery plan written prior to the identification of DPSs



## Fish (Marine & Anadromous) (74 listed "species")

(E = "endangered"; T = "threatened"; F = "foreign"; XN = "nonessential experimental population"; n/a = not applicable)

Species	Year Listed	Status	Critical Habitat*	Recovery Plan
<b>angelshark, Argentine</b> ( <i>Squatina argentina</i> )	2017	E(F)	n/a	no
<b>angelshark, common</b> ( <i>Squatina squatina</i> )	2016	E(F)	n/a	no
<b>angelshark, sawback</b> ( <i>Squatina aculeata</i> )	2016	E(F)	n/a	no
<b>angelshark, smoothback</b> ( <i>Squatina oculata</i> )	2016	E(F)	n/a	no
<b>angelshark, spiny</b> ( <i>Squatina guggenheim</i> )	2017	E(F)	n/a	no
<b>bocaccio</b> (1 listed DPS) ( <i>Sebastes paucispinis</i> )				
◦ Puget Sound/ Georgia Basin	2010	E	<b>final</b>	no
<b>cardinalfish, Banggai</b> ( <i>Pteropogon kauderni</i> )	2016	T(F)	n/a	no
<b>coelacanth, African</b> (1 listed DPS) ( <i>Latimeria chalumnae</i> )				
◦ Tanzanian	2016	T(F)	n/a	no
<b>eulachon</b> (1 listed DPS) ( <i>Thaleichthys pacificus</i> )				
◦ Southern DPS	2010	T	<b>final</b>	<b>final</b>
<b>grouper, gulf</b> ( <i>Mycteroperca jordani</i> )	2016	E	<b>no</b>	no
<b>grouper, island</b> ( <i>Mycteroperca fusca</i> )	2016	T(F)	n/a	no
<b>grouper, Nassau</b> ( <i>Epinephelus striatus</i> )	2016	T	no	no
<b>guitarfish, blackchin</b> ( <i>Rhinobatos cemiculus</i> )	2017	T(F)	n/a	no
<b>guitarfish, Brazilian</b> ( <i>Rhinobatos horkelii</i> )	2017	E(F)	n/a	no
<b>guitarfish, common</b> ( <i>Rhinobatos, rhinobatos</i> )	2017	T(F)	n/a	no
<b>ray, giant manta</b> ( <i>Manta birostris</i> )	2018	T	n/a	no
<b>rockfish, yelloweye</b> (1 listed DPS) ( <i>Sebastes ruberrimus</i> )				
◦ Puget Sound/ Georgia Basin	2010	T	<b>final</b>	no
<b>salmon, Atlantic</b> (1 listed DPS) ( <i>Salmo salar</i> )				
◦ Gulf of Maine  original listing -	2009 (expanded)  2000	E	<b>final</b>	<b>draft</b>
<b>salmon, Chinook</b> (9 listed ESUs & 2 XNs) ( <i>Oncorhynchus tshawytscha</i> )				
◦ California coastal	1999**	T	<b>final</b>	<b>draft</b>
◦ Central Valley spring-run	1999**	T	<b>final</b>	<b>final</b>
◦ Central Valley spring-run in the San Joaquin River, CA	2013	XN	n/a	-

o Lower Columbia River	1999**	T	final	final
o Puget Sound	1999**	T	final	final
o Sacramento River winter-run	1994**	E	final	final
o Snake River fall-run	1992**	T	final	draft
o Snake River spring/ summer-run	1992**	T	final	in process
o Upper Columbia River spring-run	1999**	E	final	final
o Upper Columbia River spring-run in the Okanogan River subbasin, WA	2014	XN	n/a	-
o Upper Willamette River	1999**	T	final	final
<b>salmon, chum</b> (2 listed ESUs) ( <i>Oncorhynchus keta</i> )				
o Columbia River	1999**	T	final	final
o Hood Canal summer-run	1999**	T	final	final
<b>salmon, coho</b> (4 listed ESUs) ( <i>Oncorhynchus kisutch</i> )				
o Central California coast <i>original listing -</i>	2005** 1996**	E T	final	final
o Lower Columbia River	2005**	T	final	final
o Oregon coast	2008	T	final	draft
o Southern Oregon & Northern California coasts (SONCC)	1997**	T	final	final
<b>salmon, sockeye</b> (2 listed ESUs) ( <i>Oncorhynchus nerka</i> )				
o Ozette Lake	1999**	T	final	final
o Snake River	1991**	E	final	final
<b>sawfish, dwarf</b> ( <i>Pristis clavata</i> )	2014	E (F)	n/a	no
<b>sawfish, green</b> ( <i>Pristis zijsron</i> )	2014	E (F)	n/a	no
<b>sawfish, largetooth</b> ( <i>Pristis pristis</i> ) (formerly <i>P. perotteti</i> , <i>P. pristis</i> , and <i>P. microdon</i> )	2014	E	no	no
<b>sawfish, narrow</b> ( <i>Anoxypristis cuspidata</i> )	2014	E (F)	n/a	no
<b>sawfish, smalltooth</b> (2 listed DPSs) ( <i>Pristis pectinata</i> )				
o U.S. portion of range	2003	E	final	final
o Non-U.S. portion of range	2014	E (F)	n/a	no
<b>shark, daggernose</b> ( <i>Isogomphodon oxyrinchus</i> )	2017	E(F)	n/a	no
<b>shark, oceanic whitetip</b> ( <i>Carcharhinus longimanus</i> )	2018	T	no	no
<b>shark, narrownose smoothhound</b> ( <i>Mustelus schmitti</i> )	2017	T(F)	n/a	no
<b>shark, scalloped hammerhead</b> (4 listed DPSs) ( <i>Sphyrna lewini</i> )				
o Central & Southwest Atlantic	2014	T	no	no
o Eastern Atlantic	2014	E (F)	n/a	no
o Eastern Pacific	2014	E	no	no
o Indo-West Pacific	2014	T	no	no
<b>shark, striped smoothhound</b> ( <i>Mustelus fasciatus</i> )	2017	E(F)	n/a	no

<b>steelhead</b> (11 listed DPSs & 1 XN) ( <i>Oncorhynchus mykiss</i> )				
o California Central Valley	1998**	T	final	final
o Central California coast	1997**	T	final	draft
o Lower Columbia River	1998**	T	final	final
o Middle Columbia River	1999**	T	final	final
o Middle Columbia River	2013	XN	n/a	
o Northern California	2000**	T	final	draft
o Puget Sound	2007	T	final	no
o Snake River Basin	1997**	T	final	in process
o South-Central California coast	1997**	T	final	final
o Southern California	1997**	E	final	final
o Upper Columbia River	2009+	T	final	final
original listing - change in status - court reinstated status -	1997** 2006** 2007+	E T E		
+ reinstated to endangered status per U.S. District Court decision in June 2007; <b>reclassified to threatened</b> [pdf] per U.S. District Court order in June 2009				
o Upper Willamette River	1999**	T	final	final
<b>sturgeon, Adriatic</b> ( <i>Acipenser naccarii</i> )	2014	E (F)	n/a	no
<b>sturgeon, Atlantic</b> (Atlantic subspecies; 5 listed DPSs) ( <i>Acipenser oxyrinchus oxyrinchus</i> )				
o Carolina	2012	E	final	no
o Chesapeake Bay	2012	E	final	no
o Gulf of Maine	2012	T	final	no
o New York Bight	2012	E	final	no
o South Atlantic	2012	E	final	no
<b>sturgeon, Atlantic</b> (Gulf subspecies) ( <i>Acipenser oxyrinchus desotoi</i> )	1991	T	final	final
<b>sturgeon, Chinese</b> ( <i>Acipenser sinensis</i> )	2014	E (F)	n/a	no
<b>sturgeon, European</b> ( <i>Acipenser sturio</i> )	2014	E (F)	n/a	no
<b>sturgeon, green</b> (1 listed DPS) ( <i>Acipenser medirostris</i> )				
o Southern DPS	2006	T	final	in process
<b>sturgeon, Kaluga</b> ( <i>Huso dauricus</i> )	2014	E (F)	n/a	no
<b>sturgeon, Sakhalin</b> ( <i>Acipenser mikadoi</i> )	2014	E (F)	n/a	no
<b>sturgeon, shortnose</b> ( <i>Acipenser brevirostrum</i> )	1967	E	n/a	final
<b>totoaba</b> ( <i>Totoaba macdonaldi</i> )	1979	E (F)	n/a	n/a

\*\*All Pacific salmonid listings were revisited in 2005, 2006, and 2016. Only the salmonids whose status changed as a result of the review will show the revised date; for all others, only the original listing date is shown. For more information on the listing history, please click on the link for each ESU/DPS.

## Marine Invertebrates (27 listed "species")

(E = "endangered"; T = "threatened"; F = "foreign"; n/a = not applicable)

Species	Year Listed	Status	Critical Habitat*	Recovery Plan
<b>Abalone</b>				
<b>abalone, black</b> ( <i>Haliotis cracherodii</i> )	2009	E	<b>final</b>	no
<b>abalone, white</b> ( <i>Haliotis sorenseni</i> )	2001	E	<b>not prudent</b> [pdf]	<b>final</b>
<b>Corals</b>				
<b>coral, [no common name]</b> ( <i>Acropora globiceps</i> )	2014	T	no	no
<b>coral, [no common name]</b> ( <i>Acropora jacquelineae</i> )	2014	T	no	no
<b>coral, [no common name]</b> ( <i>Acropora lokani</i> )	2014	T (F)	n/a	no
<b>coral, [no common name]</b> ( <i>Acropora pharaonis</i> )	2014	T (F)	n/a	no
<b>coral, [no common name]</b> ( <i>Acropora retusa</i> )	2014	T	no	no
<b>coral, [no common name]</b> ( <i>Acropora rudis</i> )	2014	T (F)	n/a	no
<b>coral, [no common name]</b> ( <i>Acropora speciosa</i> )	2014	T	no	no
<b>coral, [no common name]</b> ( <i>Acropora tenella</i> )	2014	T (F)	n/a	no
<b>coral, [no common name]</b> ( <i>Acropora spinosa</i> )	2014	T (F)	n/a	no
<b>coral, [no common name]</b> ( <i>Cantharellus noumeae</i> )	2015	E (F)	n/a	no
<b>coral, [no common name]</b> ( <i>Euphyllia paradivisa</i> )	2014	T	no	no
<b>coral, [no common name]</b> ( <i>Isopora crateriformis</i> )	2014	T	no	no
<b>coral, [no common name]</b> ( <i>Montipora australiensis</i> )	2014	T (F)	n/a	no
<b>coral, [no common name]</b> ( <i>Pavona diffuens</i> )	2014	T (F)	no	no
<b>coral, [no common name]</b> ( <i>Porites napopora</i> )	2014	T (F)	n/a	no
<b>coral, [no common name]</b> ( <i>Seriatopora aculeata</i> )	2014	T	no	no
<b>coral, [no common name]</b> ( <i>Siderastrea glynni</i> )	2015	E (F)	n/a	no
<b>coral, [no common name]</b> ( <i>Tubastraea floreana</i> )	2015	E (F)	n/a	no
<b>coral, boulder star</b> ( <i>Orbicella franksi</i> )	2014	T	no	no
<b>coral, elkhorn</b> ( <i>Acropora palmata</i> )	2006	T	<b>final</b>	<b>final</b>
<b>coral, lobed star</b> ( <i>Orbicella annularis</i> )	2014	T	no	no
<b>coral, mountainous star</b> ( <i>Orbicella faveolata</i> )	2014	T	no	no
<b>coral, pillar</b> ( <i>Dendrogyra cylindrus</i> )	2014	T	no	no
<b>coral, rough cactus</b> ( <i>Mycetophyllia ferox</i> )	2014	T	no	no
<b>coral, staghorn</b> ( <i>Acropora cervicornis</i> )	2006	T	<b>final</b>	<b>final</b>

## Marine Plants (1 listed "species")

(E = "endangered"; T = "threatened"; F = "foreign"; n/a = not applicable)

Species	Year Listed	Status	Critical Habitat*	Recovery Plan*
<b>Johnson's seagrass</b> ( <i>Halophila johnsonii</i> )	1999	T	final	final

\* **NOTE:** Critical habitat cannot be designated in foreign waters; critical habitat is also not required for species listed prior to the 1978 ESA amendments that added critical habitat provisions. Recovery plans for sea turtles are developed and implemented by NMFS and USFWS; the plans have been written separately for turtles in the Atlantic and Pacific oceans (and East Pacific for the green turtle) rather than for each listed species. Bowhead whales are exempt from recovery planning.

### Endangered and Threatened Species Under NMFS' Jurisdiction:

- **All Endangered and Threatened Species under NMFS Jurisdiction**
  - » **Marine Mammals**
  - » **Sea Turtles & Other Marine Reptiles**
  - » **Fish (Marine & Anadromous)**
  - » **Marine Invertebrates & Plants**

### Additional Species:

- **Species Petitioned for Listing under the ESA** (awaiting 90-day findings)
- **Candidates for ESA Listing**
- **Species Proposed for ESA Listing**
- **Species with "Not Warranted" 12-month findings** (we reviewed the status, but determined that listing was not warranted)
- **Delisted Species and Species Under Review or Proposed for Delisting**

Updated: January 29, 2018

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## Appendix E

# NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM NO. CA0047881 (DECEMBER 2017)





## Central Coast Regional Water Quality Control Board

**ORDER NO. R3-2017-0050**

**NPDES NO. CA0047881**

### **WASTE DISCHARGE REQUIREMENTS FOR THE MORRO BAY AND CAYUCOS WASTEWATER TREATMENT PLANT DISCHARGE TO THE PACIFIC OCEAN**

The following Discharger is subject to waste discharge requirements as set forth in this Order:

**Table 1. Discharger Information**

<b>Discharger</b>	City of Morro Bay and Cayucos Sanitary District
<b>Name of Facility</b>	City of Morro Bay/Cayucos Sanitary Wastewater Treatment Plant
<b>Facility Address</b>	160 Atascadero Road
	Morro Bay, California, 93442
	San Luis Obispo

**Table 2. Discharge Location**

<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude</b>	<b>Discharge Point Longitude</b>	<b>Receiving Water</b>
001	Municipal Wastewater	35°, 23', 11" N	120°, 52', 29" W	Pacific Ocean

**Table 3. Administrative Information**

This Order was adopted by the Central Coast Water Board on:	December 7, 2017
This Order shall become effective on:	March 1, 2018
This Order shall expire on:	February 28, 2023
The Discharger shall file a Report of Waste Discharge as an application for reissuance of waste discharge requirements in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	September 1, 2022
The U.S. Environmental Protection Agency (U.S. EPA) and the Central Coast Water Board have classified this discharge as follows:	Major

IT IS HEREBY ORDERED, that Order No. R3-2008-0065 is superseded upon the effective date of this Order and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this amended Order.

John M. Robertson, Executive Officer

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## I. FINDINGS

The California Regional Water Quality Control Board, Central Coast Region (hereinafter Central Coast Water Board) finds:

- A. Legal Authorities.** This Order serves as waste discharge requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (U.S. EPA) and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters.
- B. Background and Rationale for Requirements.** The Central Coast Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes findings for this Order. Attachments A through E are also incorporated into this Order.
- C. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections III.B, III.C, and IV.B are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- D. Notification of Interested Parties.** The Central Coast Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet of this Order.
- E. Consideration of Public Comment.** The Central Coast Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

THEREFORE, IT IS HEREBY ORDERED, that Order No. R3-2008-0065 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Central Coast Water Board from taking enforcement action for past violations of the previous Order. If any part of this Order is subject to a temporary stay of enforcement, unless otherwise specified, the Discharger shall comply with the analogous portions of the previous Order, which shall remain in effect for all purposes during the pendency of the stay.

## II. DISCHARGE PROHIBITIONS

- A.** Discharge of treated wastewater to the Pacific Ocean at a location other than 35° 23' 11" N latitude and 120° 52' 29" W longitude is prohibited.
- B.** The discharge of any radiological, chemical, or biological warfare agent or high level radioactive waste to the Ocean is prohibited.

- C.** The discharge of municipal or industrial waste sludge to the Pacific Ocean is prohibited. The discharge of sludge digester supernatant, without further treatment, directly to the Ocean or to a waste stream that discharges to the Ocean is prohibited.
- D.** The overflow of bypass or wastewater from the Discharger's collection, treatment, or disposal facilities and the subsequent discharge of untreated or partially treated wastewater, except as provided for in Attachment D, Standard Provision I.G.a (Bypass), is prohibited.
- E.** Bypass of the treatment facility and discharge of any wastes not meeting the discharge specifications of this Order and permit are prohibited.
- F.** The discharge of materials and substances in the wastewater that results in any of the following is prohibited:
  - 1. Float or become floatable upon discharge.
  - 2. May form sediments which degrade benthic communities or other aquatic life.
  - 3. Accumulate to toxic levels in marine waters, sediments, or biota.
  - 4. Decrease the natural light to benthic communities and other marine life.
  - 5. Result in aesthetically undesirable discoloration of the ocean surface.
- G.** The discharge of chlorine or any other toxic substance used for disinfection and cleanup of sewage overflows to any surface water body is prohibited. This prohibition does not apply to the chlorine in the potable water used for final wash down and cleanup of overflows.

### III. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

#### A. Effluent Limitations – Discharge Point No. 001

##### 1. Final Effluent Limitations – Discharge Point No. 001

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001 with compliance measured at Monitoring Location EFF-001 as described in the attached MRP:

**Table 4. Effluent Limitations**

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> ) <sup>[1]</sup>	mg/L	30	45	--
	lbs/day <sup>[2]</sup>	515	773	--
Total Suspended Solids (TSS) <sup>[1]</sup>	mg/L	30	45	--
	lbs/day <sup>[2]</sup>	515	773	--
Oil and Grease	mg/L	25	40	75
	lbs/day <sup>[2]</sup>	430	687	1,289
Settleable Solids	ml/L	1.0	1.5	3.0
pH	standard units	6.0 – 9.0 at all times		

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Turbidity	NTU	75	100	225

<sup>[1]</sup> The average monthly percent removal for BOD<sub>5</sub> and TSS shall not be less than 85 percent.

<sup>[2]</sup> Mass based effluent limitations were calculated using the following formula:  
lbs/day = pollutant concentration (mg/L) \* Design flow (2.06 MGD) \* conversion factor (8.34)

**Table 5. Effluent Limitations, Protection of Marine Aquatic Life**

Parameter	Units	Effluent Limitation		
		6-Month Median <sup>[1]</sup>	Maximum Daily <sup>[2]</sup>	Instantaneous Maximum <sup>[3]</sup>
Arsenic, Total Recoverable	µg/L	670	3,890	10,300
	lbs/day	12	67	177
Cadmium, Total Recoverable	µg/L	130	540	1,340
	lbs/day	2.2	9.3	23
Chromium (VI) , Total Recoverable	µg/L	270	1,070	2,680
	lbs/day	4.64	18	46
Mercury, Total Recoverable	µg/L	5.29	21.4	53.5
	lbs/day	0.091	0.37	0.92
Nickel, Total Recoverable	µg/L	670	2,680	6,700
	lbs/day	12	46	115
Silver, Total Recoverable	µg/L	70	350	920
	lbs/day	1.2	6.01	16
Total Chlorine Residual	µg/L	268	1,072	8,040
	lbs/day	4.6	18	138
Acute Toxicity	TUa	--	4.3	--
Chronic Toxicity	TUc	--	134	--
Phenolic Compounds (non-chlorinated)	µg/L	4,020	16,100	40,200
	lbs/day	69	277	691
Phenolic Compounds (chlorinated)	µg/L	130	540	1,340
	lbs/day	2.2	9.3	23
Endosulfan <sup>[4]</sup>	µg/L	1.21	2.41	3.62
	lbs/day	0.021	0.041	0.062
Endrin	µg/L	0.27	0.54	0.80
	lbs/day	0.0046	0.0093	0.014
HCH <sup>[5]</sup>	µg/L	0.54	1.07	1.61
	lbs/day	0.0093	0.018	0.028
Radioactivity		<sup>[6]</sup>		

Parameter	Units	Effluent Limitation		
		6-Month Median <sup>[1]</sup>	Maximum Daily <sup>[2]</sup>	Instantaneous Maximum <sup>[3]</sup>

- <sup>[1]</sup> The six-month median shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered equal to zero for days on which no discharge occurred. The six-month median limit on daily mass emissions shall be determined using the six-month medial effluent concentration  $C_e$  and the observed flow rate,  $Q$ , in million gallons per day (MGD).
- <sup>[2]</sup> The daily maximum shall apply to flow weighted 24-hour composite samples. The daily maximum mass emission shall be determined using the daily maximum effluent concentration limit as  $C_e$  and the observed flow rate,  $Q$ , in MGD.
- <sup>[3]</sup> The instantaneous maximum shall apply to grab sample determinations.
- <sup>[4]</sup> Endosulfan shall mean the sum of endosulfan-alpha and -beta and endosulfan sulfate.
- <sup>[5]</sup> HCH shall mean the sum of the alpha, beta, gamma (Lindane) and delta isomers of hexachlorocyclohexane.
- <sup>[6]</sup> Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, section 30253 of the California Code of Regulations.

**Table 6. Effluent Limitations – Protection of Human Health – Non-Carcinogens**

Parameter	Units	Effluent Limitation
		30-day Average
Acrolein	µg/L	29,500
	lbs/day	507
Antimony	µg/L	160,800
	lbs/day	2,763
Bis(2-chloroethoxy) methane	µg/L	590
	lbs/day	10
Bis(2-chloroisopropyl) ether	µg/L	160,800
	lbs/day	2,763
Chlorobenzene	µg/L	76,400
	lbs/day	1,313
Chromium (III) <sup>[1]</sup>	µg/L	25,500,000
	lbs/day	438,100
Di-n-butyl phthalate	µg/L	469,000
	lbs/day	8,058
Dichlorobenzenes <sup>[2]</sup>	µg/L	683,000
	lbs/day	11,734
Diethyl phthalate	µg/L	4,420,000
	lbs/day	75,937
Dimethyl phthalate	µg/L	109,900,000
	lbs/day	1,888,126
4,6-dinitro-2-methylphenol	µg/L	29,500
	lbs/day	507
2,4-dinitrophenol	µg/L	540
	lbs/day	9.3
Ethylbenzene	µg/L	549,000
	lbs/day	9,432
Fluoranthene	µg/L	2,000

Parameter	Units	Effluent Limitation
		30-day Average
Hexachlorocyclopentadiene	lbs/day	34
	µg/L	7,800
	lbs/day	134
Nitrobenzene	µg/L	660
	lbs/day	11
Thallium	µg/L	270
	lbs/day	4.64
Toluene	µg/L	11,400,000
	lbs/day	195,857
Tributyltin	µg/L	0.188
	lbs/day	0.0032
1,1,1-trichloroethane	µg/L	72,400,000
	lbs/day	1,243,860

<sup>[1]</sup> Discharger may at its option meet this objective as a total chromium objective.

<sup>[2]</sup> Sum of 1,2- and 1,3-dichlorobenzene.

**Table 7. Effluent Limitations – Protection of Human Health – Carcinogens**

Parameter	Units	Effluent Limitation
		30-day Average
Acrylonitrile	µg/L	13.4
	lbs/day	0.23
Aldrin	µg/L	0.00295
	lbs/day	$5.07 \times 10^{-5}$
Benzene	µg/L	791
	lbs/day	14
Benzidine	µg/L	0.00925
	lbs/day	0.00016
Beryllium	µg/L	4.42
	lbs/day	0.076
Bis(2-chloroethyl) ether	µg/L	6.03
	lbs/day	0.10
Bis(2-ethylhexyl) phthalate	µg/L	469
	lbs/day	8.06
Carbon tetrachloride	µg/L	121
	lbs/day	2.08
Chlordane <sup>[1]</sup>	µg/L	0.00308
	lbs/day	$5.3 \times 10^{-5}$
Chlorodibromomethane	µg/L	1,152
	lbs/day	20
Chloroform	µg/L	17,400
	lbs/day	299
DDT <sup>[2]</sup>	µg/L	0.0228
	lbs/day	0.00039



Parameter	Units	Effluent Limitation
		30-day Average
1,4-dichlorobenzene	µg/L	2,410
	lbs/day	41
3,3-dichlorobenzidine	µg/L	1.09
	lbs/day	0.019
1,2-dichloroethane	µg/L	3,750
	lbs/day	64
1,1-dichloroethylene	µg/L	120
	lbs/day	2.06
Dichlorobromomethane	µg/L	830
	lbs/day	14
Dichloromethane	µg/L	60,300
	lbs/day	1,036
1,3-dichloropropene	µg/L	1,190
	lbs/day	20
Dieldrin	µg/L	0.00536
	lbs/day	$9.21 \times 10^{-5}$
2,4-dinitrotoluene	µg/L	348
	lbs/day	6.0
1,2-diphenylhydrazine	µg/L	21.4
	lbs/day	0.37
Halomethanes <sup>[3]</sup>	µg/L	17,400
	lbs/day	299
Heptachlor	µg/L	0.0067
	lbs/day	$1.15 \times 10^{-4}$
Heptachlor epoxide	µg/L	0.00268
	lbs/day	$4.6 \times 10^{-5}$
Hexachlorobenzene	µg/L	0.0281
	lbs/day	0.00048
Hexachlorobutadiene	µg/L	1,880
	lbs/day	32
Hexachloroethane	µg/L	335
	lbs/day	5.8
Isophorone	µg/L	98,000
	lbs/day	1,684
N-nitrosodimethylamine	µg/L	978
	lbs/day	17
N-nitrosodi-n-propylamine	µg/L	50.9
	lbs/day	0.87
N-nitrosodiphenylamine	µg/L	335
	lbs/day	5.8
PAHs <sup>[4]</sup>	µg/L	1.18
	lbs/day	0.020
PCBs <sup>[5]</sup>	µg/L	0.00255

Parameter	Units	Effluent Limitation
		30-day Average
1,1,2,2-tetrachloroethane	lbs/day	$4.38 \times 10^{-5}$
	µg/L	310
Tetrachloroethylene	lbs/day	5.3
	µg/L	268
Toxaphene	lbs/day	4.6
	µg/L	0.0281
Trichloroethylene	lbs/day	0.00048
	µg/L	3,620
1,1,2-trichloroethane	lbs/day	62
	µg/L	1,260
2,4,6-trichlorophenol	lbs/day	22
	µg/L	39
Vinyl chloride	lbs/day	0.67
	µg/L	4,820
	lbs/day	83

- [1] Sum of chlorodane-alpha, chlorodane-gamma, chlorodene-alpha, chlorodene-gamma, nonachlor-alpha, nonachlor gamma, and oxychlorodane.
- [2] Sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD, and 2,4'-DDD.
- [3] Sum of bromoform, bromoethane (methyl bromide), chloromethane (methyl chloride), chlorodibromomethane, and dichlorobromomethane.
- [4] Sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,1,2-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[a,h]anthracene, fluorine, ideno[1,2,3-cd]pyrene, phenanthrene, and pyrene.
- [5] Sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

**2. Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent.

**3. Dry Weather Flow.** Effluent peak seasonal dry weather flow shall not exceed a monthly average of 2.36 million gallons per day.

**4. Bacteria**

**a. Total Coliform**

- i. The total coliform concentrations shall not exceed a 30-day geometric mean of 23 MPN/100 mL.
- ii. No total coliform single sample shall exceed 2,400 MPN/100 mL.

**B. Land Discharge Specifications – Not Applicable**

**C. Recycling Specifications – Not Applicable**

**IV. RECEIVING WATER LIMITATIONS**

**A. Surface Water Limitation**

Receiving water limitations are based on water quality objectives contained in the Ocean Plan and Basin Plan and are a required part of this Order. The discharge shall not cause the following in the Pacific Ocean:

**1. Bacterial Characteristics**

- a.** At all areas where shellfish may be harvested for human consumption, as determined by the Regional Board, the following bacterial objectives shall be maintained throughout the water column.
  - i.** The median total coliform density shall not exceed 70 per 100 mL, and not more than 10 percent of the samples shall exceed 230 per 100 mL.
- b.** Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the Regional Board (i.e., waters designated REC-1), but including all kelp beds, the following bacterial objectives shall be maintained throughout the water column.
  - i.** 30-day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each site:
    - (a) Total coliform density shall not exceed 1,000 per 100 ml;
    - (b) Fecal coliform density shall not exceed 200 per 100 ml; and
    - (c) Enterococcus density shall not exceed 35 per 100 ml.
  - ii.** Single Sample Maximum:
    - (a) Total coliform density shall not exceed 10,000 per 100 ml;
    - (b) Fecal coliform density shall not exceed 400 per 100 ml;
    - (c) Enterococcus density shall not exceed 104 per 100 ml; and
    - (d) Total coliform density shall not exceed 1,000 per 100 ml when the fecal coliform to total coliform ratio exceeds 0.1.

**2. Physical Characteristics**

- a.** Floating particulates and grease and oil shall not be visible on the ocean surface.
- b.** The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.
- c.** Natural light shall not be significantly reduced at any point outside the zone of initial dilution as the result of the discharge of waste.
- d.** The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.

- e. Temperature of the receiving water shall not be altered to adversely affect beneficial uses, as set forth in the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California.

### **3. Chemical Characteristics**

- a. The dissolved oxygen concentration shall not, at any time, be depressed more than 10 percent from that which occurs naturally, or fall below 5.0 mg/L, as the result of the discharge of oxygen demanding waste materials. The mean annual dissolved oxygen concentration shall not be less than 7.0 mg/L.
- b. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally, and shall be within the range of 7.0 to 8.5 at all times.
- c. The dissolved sulfide concentrations of waters in and near sediments shall not be significantly increased above that present under natural conditions.
- d. The concentrations of substances set forth in Table 1 of the Ocean Plan shall not be increased in marine sediments to that which would degrade indigenous biota.
- e. The concentration of organic materials in marine sediments shall not be increased to that which would degrade marine life.
- f. Nutrient materials shall not cause objectionable aquatic growth or degrade indigenous biota.

### **4. Biological Characteristics**

- a. Marine communities, including vertebrate, and plant species, shall not be degraded.
- b. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.
- c. The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

### **5. Radioactivity**

- a. Discharge of radioactive waste shall not degrade marine life.
- b. Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

### **6. General Standards**

- a. The discharge shall not cause a violation of any applicable WQO or standard for receiving waters adopted by the Central Coast Water Board or State Water Board, as required by the CWA and regulations adopted thereunder.

- b. Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.
- c. Waste effluents shall be discharged in a manner that provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.

**B. Groundwater Limitations – Not Applicable**

**V. PROVISIONS**

**A. Standard Provisions**

- 1. **Federal Standard Provisions.** The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
- 2. **Central Coast Water Board Standard Provisions.** The Discharger shall comply with the Central Coast Water Board Standard Provisions included in Attachment D of this Order.

**B. Monitoring and Reporting Program (MRP) Requirements**

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order. All monitoring shall be conducted according to 40 C.F.R. 136, *Guidelines Establishing Test Procedures for Analysis of Pollutants*.

**C. Special Provisions**

**1. Reopener Provisions**

- a. This Order may be reopened and modified in accordance with NPDES regulations at 40 C.F.R. 122 and 124, as necessary, to include additional conditions or limitations based on newly available information or to implement any U.S. EPA approved, new, State WQO.
- b. This Order may be reopened for modification to include an effluent limitation if monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above a California Ocean Plan (Ocean Plan) Table 1 water quality objective.

**2. Special Studies, Technical Reports and Additional Monitoring Requirements**

**a. Toxicity Reduction Requirements**

As indicated in section V.C of the MRP, when chronic toxicity is detected in the effluent above the applicable effluent limitations, the Discharger shall resample immediately, retest, and report the results to the Executive Officer, who will determine whether to initiate an enforcement action, require a Toxicity Reduction Evaluation (TRE) in accordance with the Discharger's TRE Workplan, or implement other measures.

A TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first step of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases – characterization, identification, and confirmation using aquatic organism's toxicity tests. The TRE shall include all reasonable steps to identify the source of toxicity. The Discharger shall take all reasonable steps to reduce toxicity to the required level once the source of toxicity is identified.

The Discharger shall maintain a TRE Workplan, which describes steps that the Discharger intends to follow in the event that a toxicity effluent limitation established by this Order is exceeded in the discharge. The workplan shall be prepared in accordance with current technical guidance and reference material, including:

- i. *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants (EPA/833/B-99-022).*
- ii. *Toxicity Identification Evaluation, Phase I (EPA/600/6-91/005F).*
- iii. *Methods for Aquatic Toxicity Identification Evaluations, Phase II (EPA/600/R-92/080).*
- iv. *Methods for Aquatic Toxicity Identification Evaluations, Phase III (EPA/600/R-92/081).*

At a minimum, the TRE Workplan shall include:

- i. Actions that will be taken to investigate/identify the causes/sources of toxicity,
- ii. Actions that will be evaluated to mitigate the impact of the discharge, to correct the non-compliance, and/or to prevent the recurrence of chronic toxicity (this list of action steps may be expanded, if a TRE is undertaken), and
- iii. A schedule under which these actions will be implemented.

When monitoring measures chronic toxicity above the toxicity trigger of 134 TUc established by this Order, the Discharger shall resample immediately, and retest for chronic toxicity. Results of an initial failed test and results of subsequent monitoring shall be reported to the Executive Officer as soon as possible following receipt of monitoring results, not to exceed 15 days from the conclusion of each test. The Executive Officer will determine whether to initiate enforcement action, whether to require the Discharger to implement a TRE, or to implement other measures. When the Executive Officer requires the Discharger to conduct a TRE, the TRE shall be conducted giving due consideration to guidance provided by the U.S. EPA's Toxicity Reduction Evaluation Procedures, Phases 1, 2, and 3 (EPA document Nos. EPA 600/R-91/003, 600/6/91/005F, and 600/R-92/080, and 600/R-92/081, respectively). A TRE, if necessary, shall be conducted in accordance with the following schedule.

**Table 8. Toxicity Reduction Evaluation Schedule**

Action Step	When Required
Take all reasonable measures necessary to immediately reduce toxicity, where the source is known.	Within 24 hours of identification of noncompliance.
Initiate the TRE in accordance to the Workplan.	Within 7 days of notification by the Executive Officer.
Conduct the TRE following the procedures in the Workplan.	Within the period specified in the Workplan (not to exceed one year, without an approved Workplan).
Submit the results of the TRE, including summary of findings, required corrective action, and all results and data.	Within 60 days of completion of the TRE.
Implement corrective actions to meet Permit limits and conditions.	To be determined by the Executive Officer.

**b. Receiving Water Monitoring for Bacteria**

If effluent limitations for total coliform bacteria are exceeded in consecutive monitoring events, the Discharger shall conduct near shore and surf zone monitoring for bacteria in accordance with section VIII.A of the Monitoring and Reporting Program. Results of the increased monitoring for bacteria shall be summarized and submitted in a report to the Executive Officer.

**3. Best Management Practices and Pollution Prevention**

**a. Pollution Prevention Program**

The Discharger shall continue to implement a pollution prevention program (approved by the Central Coast Water Board) to prevent the introduction of incompatible pollutants into the Facility. At a minimum, the program shall include:

- i. Inventory all chemicals used for the operation and maintenance of the treatment plant that may enter the discharge and classify each according to its potential to cause toxicity to be present in the effluent. If toxicity data is not available for the chemicals used at the plant, and toxicity is found to be present in the effluent, the Discharger should conduct toxicity tests for the individual chemicals that potentially contribute to toxicity.
- ii. Develop and implement a public educational program targeted at residential and commercial sources of toxic pollutants emphasizing the need to properly manage and minimize the disposal (i.e., source reduction) of potentially harmful pollutants (oil, antifreeze, herbicides, paints, solvents, etc.).
- iii. Develop and implement program(s) which provide convenient means for people to properly dispose of (and/or recycle) oil, antifreeze, pesticides, herbicides, paints, solvents, and other potentially harmful chemicals.
- iv. Develop and implement waste minimization measures to reduce or eliminate incompatible pollutants discharged to the treatment plant. Waste minimization measures must address all significant controllable sources of pollutants including residential, industrial, and commercial sources.

- v. On an annual basis, to be submitted with the annual report specified in the MRP, the Discharger shall submit a status report to U.S. EPA and Central Coast Water Board detailing efforts of compliance with regard to the Pollution Prevention Program specified herein.
- vi. In order to provide adequate legal authority for the Discharger to protect its Facility and to evaluate sources of industrial discharges, the Discharger must perform the following activities:
  - (a) Develop and implement a sewer use ordinance to provide the legal authorities described in 40 C.F.R. 403.8(f)(1).
  - (b) Update annually (and summarized in the annual report) industrial waste survey as described in 40 C.F.R. 403.8(f)(2)(i)-(ii).
  - (c) Update annually (and summarized in the annual report) potential impacts of industrial discharges, identified in section V.C.3.a.ii above, upon the POTW. The report must address the need for regulation of industrial discharges to implement the objectives of the pollution prevention program.
  - (d) If, in the evaluation of section V.C.3.a.i and section V.C.3.a.ii, above, the Executive Officer determines that a formal pretreatment program is necessary to adequately meet program objectives, then the Discharger shall develop such a program in accordance with 40 C.F.R. 403.9.
  - (e) The Discharger shall comply, and ensure affected indirect Dischargers comply, with the Reporting Requirements of the Standard Provisions.

**b. Pollutant Minimization Program (PMP)**

**i. Pollutant Minimization Program Goal**

The goal of the PMP is to reduce all potential sources of a pollutant through pollutant minimization (control) strategies, including pollution prevention measures, in order to maintain the effluent concentration at or below the effluent limitation.

Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The completion and implementation of a PMP, required in accordance with CA Water Code section 13263.3(d) will fulfill the PMP requirements in this section.

**ii. Determining the Need for a PMP**

- (a) The Discharger shall develop and conduct a PMP if all of the following conditions are true:
  - (1) The calculated effluent limitation is less than the reported Minimum Level (ML);



- (2) The concentration of the pollutant is reported as DNQ; and,
  - (3) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation. Such evidence may include: health advisories for fish consumption; presence of whole effluent toxicity; results of benthic or aquatic organism tissue sampling; sample results from analytical methods more sensitive than methods included in the permit; and the concentration of the pollutant is reported as DNQ and the effluent limitation is less than the MDL.
- (b) Alternatively, the Discharger must develop and conduct a PMP if all of the following conditions are true:
- (1) The calculated effluent limitation is less than the Method Detection Limit (MDL);
  - (2) The concentration of the pollutant is reported as ND; and,
  - (3) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation. Such evidence may include: health advisories for fish consumption; presence of whole effluent toxicity; results of benthic or aquatic organism tissue sampling; sample results from analytical methods more sensitive than methods included in the permit; and the concentration of the pollutant is reported as DNQ and the effluent limitation is less than the MDL.

iii. Elements of a PMP

The Regional Board may consider cost-effectiveness when establishing the requirements of a PMP. The program shall include actions and submittals acceptable to the Central Coast Water Board including, but not limited to, the following:

- (a) An annual review and semi-annual monitoring of potential sources of the reportable pollutant, which may include fish tissue monitoring and other bio-uptake sampling;
- (b) Quarterly monitoring for the reportable pollutant in the influent to the wastewater treatment system;
- (c) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable pollutant in the effluent at or below the calculated effluent limitation;
- (d) Implementation of appropriate cost-effective control measures for the pollutant, consistent with the control strategy; and,
- (e) An annual status report that shall be sent to the Executive Officer that includes:
  - (1) All PMP monitoring results for the previous year;

- (2) A list of potential sources of the reportable pollutant;
- (3) A summary of all action taken in accordance with the control strategy;  
and,
- (4) A description of actions to be taken in the following year.

**4. Construction, Operation and Maintenance Specifications**

- a. The Facility shall be operated as specified under Standard Provision D of Attachment D.

**5. Special Provisions for Municipal Facilities (POTWs Only)**

**a. Biosolids Management**

- i. The handling, management, and disposal of sludge and solids derived from wastewater treatment must comply with applicable provisions of U.S. EPA regulations at 40 C.F.R. 257, 258, 501, and 503, including all monitoring, record keeping, and reporting requirements.
- ii. Sludge and wastewater solids must be disposed of in a municipal solid waste landfill, reused by land application, or disposed of in a sludge-only landfill in accordance with 40 C.F.R. 258 and 503 and Title 23, Chapter 15 of the CCR. If the Discharger desires to dispose of solids and/or sludge in a different manner, a request for permit modification must be submitted to the U.S. EPA and to the Central Coast Water Board at least 180 days prior to beginning the alternative means of disposal.
- iii. Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 C.F.R. Part 258 pertaining to providing information to the public. In the annual self-monitoring report, the Discharger shall include the amount of sludge placed in the landfill as well as the landfill to which it was sent.
- iv. All requirements of 40 C.F.R. Part 503 and 23 CCR Chapter 15 are enforceable whether or not the requirements of those regulations are stated in an NPDES permit or any other permit issued to the Discharger.
- v. The Discharger shall take all reasonable steps to prevent and minimize any sludge use or disposal in violation of this Order that has a likelihood of adversely affecting human health or the environment.
- vi. Solids and sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, and shall not result in ground water contamination.
- vii. The solids and sludge treatment and storage site shall have adequate facilities to divert surface water runoff from adjacent areas to protect the boundaries of the site from erosion, and to prevent drainage from the treatment and storage site. Adequate protection is defined as protection, at the minimum, from a 100-year storm and protection from the highest possible tidal stage that may occur.

- viii. The discharge of sewage sludge and solids shall not cause waste material to be in position where it is, or can be, conveyed from the treatment and storage sites and deposited in waters of the State.
- ix. The Discharger shall submit an annual report to the U.S. EPA and the Central Coast Water Board containing monitoring results and pathogen and vector attraction reduction requirements, as specified by 40 C.F.R. Part 503. The Discharger shall also report the quantity of sludge removed from the Facility and the disposal method. This self-monitoring report shall be submitted by February 19 of each year and report for the period of the previous calendar year.

## 6. Other Special Provisions

- a. **Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (State Water Board Order No. 2006-0003-DWQ).** This General Permit, adopted on May 2, 2006, is applicable to all "federal and State agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publically owned treatment facility in the State of California." The purpose of the General Permit is to promote the proper and efficient management, operation, and maintenance of sanitary sewer systems and to minimize the occurrences and impacts of sanitary sewer overflows. The Dischargers enrolled separately under the General WDR. The City of Morro Bay received enrollment status on January 8, 2007, and Cayucos Sanitary District received enrollment status on January 9, 2007.
- b. **Loss of Disinfection.** As soon as possible after learning of a significant loss of disinfection, the Discharger shall notify the California Department of Public Health's Preharvest Shellfish Protection and Marine Biotoxin Monitoring Program (510-412-4638), the San Luis Obispo Public Health Services (805-781-5553), the Central Coast Water Board (805-549-3147), and any shellfish leaseholders with active shellfish growing operations in the area of the discharge, as set forth in a list to be obtained from DHS, and regularly updated. The Discharger shall determine at its discretion if a loss of disinfection has occurred, and provide notification by fax within four hours of an occurrence during weekday hours of 6:00 AM to 5:00 PM. Notification shall be given by 10:00 AM on the following business day, if a loss of disinfection has occurred, the Discharger shall also conduct monitoring for bacteria in the receiving water in accordance with section VIII.A of the MRP.

## VI. COMPLIANCE DETERMINATION

### A. General

Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Central Coast and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).

## **B. Multiple Sample Data**

When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple samples analyses and the data set contains one or more reported determinations of “Detected, but Not Quantified” (“DNQ”, or “Not Detected” (ND), the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

## **C. Average Monthly Effluent Limitation (AMEL)**

If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for that month only. If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

## **D. Average Weekly Effluent Limitation (AWEL)**

If the average of daily discharges over a calendar week exceeds the AWEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

## **E. Maximum Daily Effluent Limitation (MDEL)**

If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

## ATTACHMENT A – DEFINITIONS

### Acute Toxicity

- a. Acute Toxicity (TUa)  
Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{96\text{-hr LC } 50\%}$$

- b. Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Ocean Plan Appendix III. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log (100 - S)}{1.7}$$

where:

S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

### Areas of Special Biological Significance (ASBS)

Those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.

### Average Monthly Effluent Limitation (AMEL)

The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

### Average Weekly Effluent Limitation (AWEL)

The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

### Chlordane

Shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

### **Chronic Toxicity**

This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a. **Chronic Toxicity (TUc)**

Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

b. **No Observed Effect Level (NOEL)**

The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Ocean Plan Appendix II.

### **Daily Discharge**

Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

### **DDT**

Shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

### **Degrade**

Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

### **Detected, but Not Quantified (DNQ)**

Sample results that are less than the reported Minimum Level, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

### **Dichlorobenzenes**

Shall mean the sum of 1,2- and 1,3-dichlorobenzene.

### **Downstream Ocean Waters**

Waters downstream with respect to ocean currents.

**Dredged Material**

Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as "spoil."

**Enclosed Bays**

Indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

**Endosulfan**

The sum of endosulfan-alpha and -beta and endosulfan sulfate.

**Estuaries and Coastal Lagoons** are waters at the mouths of streams that serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

**Halomethanes** shall mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

**HCH** shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

**Initial Dilution**

The process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Board, whichever results in the lower estimate for initial dilution.

**Instantaneous Maximum Effluent Limitation**

The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

**Instantaneous Minimum Effluent Limitation**

The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

**Kelp Beds**

For purposes of the bacteriological standards of the Ocean Plan, are significant aggregations of marine algae of the genera Macrocystis and Nereocystis. Kelp beds include the total foliage canopy of Macrocystis and Nereocystis plants throughout the water column.

**Mariculture**

The culture of plants and animals in marine waters independent of any pollution source.

**Material**

(a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the Ocean Plan relating to waste disposal, dredging and the disposal of dredged material and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.

**Maximum Daily Effluent Limitation (MDEL)**

The highest allowable daily discharge of a pollutant.

**Method Detection Limit (MDL)**

The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 C.F.R. part 136, Attachment B.

**Minimum Level (ML)**

The concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

**Natural Light**

Reduction of natural light may be determined by the Central Coast Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Central Coast Water Board.

**Not Detected (ND)**

Those sample results less than the laboratory's MDL.

**Ocean Waters**

The territorial marine waters of the state as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the state could affect the quality of the waters of the state, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

**PAHs (polynuclear aromatic hydrocarbons)**

The sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.



**PCBs (polychlorinated biphenyls)**

The sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

**Pollutant Minimization Program (PMP)**

PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of Ocean Plan Table 1 pollutants through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Central Coast Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

**Reported Minimum Level**

The reported ML (also known as the Reporting Level or RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order, including an additional factor if applicable as discussed herein. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Central Coast Water Board either from Appendix II of the Ocean Plan in accordance with section III.C.5.a. of the Ocean Plan or established in accordance with section III.C.5.b. of the Ocean Plan. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the reported ML.

**Shellfish**

Organisms identified by the California Department of Health Services as shellfish for public health purposes (i.e., mussels, clams and oysters).

**Significant Difference**

Defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

**Six-Month Median Effluent Limitation**

The highest allowable moving median of all daily discharges for any 180-day period.

**State Water Quality Protection Areas (SWQPAs)**

Non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolution Nos. 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

### TCDD Equivalents

The sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

Isomer Group	Toxicity Equivalence Factor
	1.0
2,3,7,8-tetra CDD	
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

### Toxicity Reduction Evaluation (TRE)

A study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

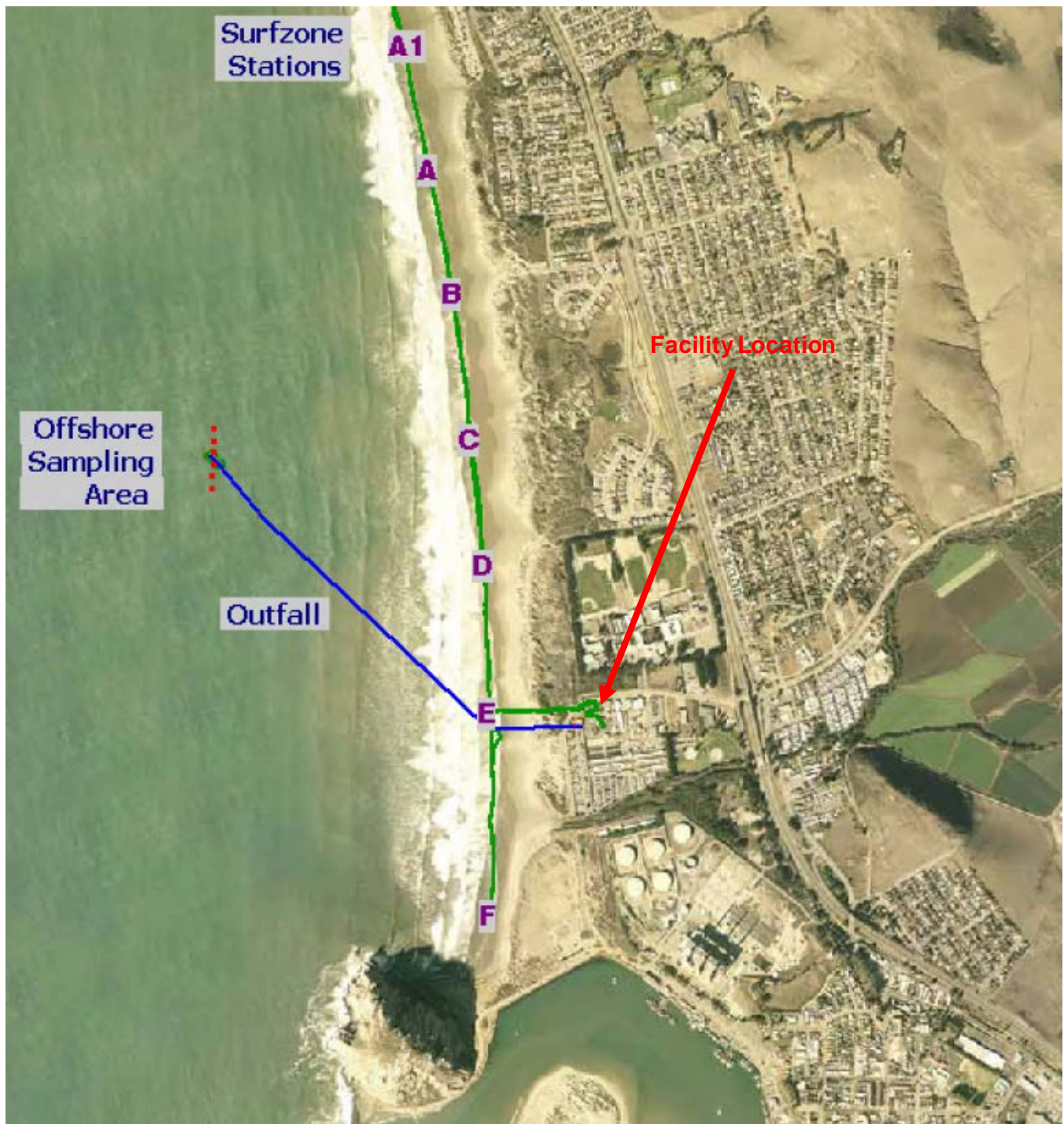
### Waste

As used in the Ocean Plan, waste includes a Discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

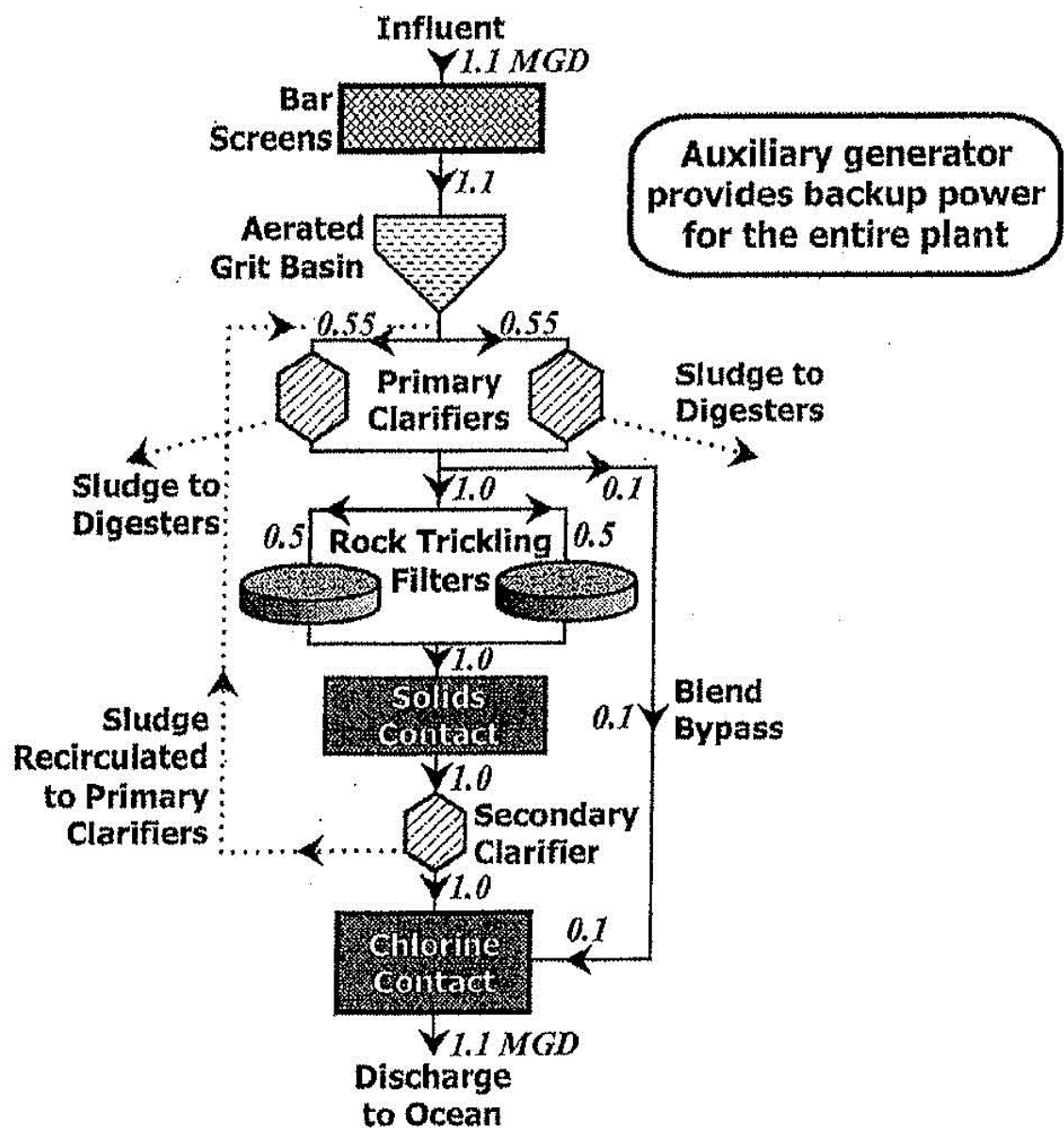
### Water Recycling

The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

**ATTACHMENT B – MAP**



ATTACHMENT C – FLOW SCHEMATIC



## **ATTACHMENT D – STANDARD PROVISIONS**

### **I. STANDARD PROVISIONS – PERMIT COMPLIANCE**

#### **A. Duty to Comply**

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

#### **B. Need to Halt or Reduce Activity Not a Defense**

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

#### **C. Duty to Mitigate**

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

#### **D. Proper Operation and Maintenance**

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

#### **E. Property Rights**

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

## **F. Inspection and Entry**

The Discharger shall allow the Central Coast Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 122.41(i)(4).)

## **G. Bypass**

1. Definitions
  - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
  - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Central Coast Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
  - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
  - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering

judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

- c. The Discharger submitted notice to the Central Coast Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
- 4. The Central Coast Water Board may approve an anticipated bypass, after considering its adverse effects, if the Central Coast Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
- 5. Notice
  - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)
  - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

#### **H. Upset**

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

- 1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)
- 2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):
  - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
  - b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
  - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

- d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)
- 3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

## **II. STANDARD PROVISIONS – PERMIT ACTION**

### **A. General**

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

### **B. Duty to Reapply**

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

### **C. Transfers**

This Order is not transferable to any person except after notice to the Central Coast Water Board. The Central Coast Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); § 122.61.)

## **III. STANDARD PROVISIONS – MONITORING**

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)
- B. Monitoring results must be conducted according to test procedures under 40 C.F.R. part 136 or, in the case of sludge use or disposal, approved under 40 C.F.R. part 136 unless otherwise specified in 40 C.F.R. part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

## **IV. STANDARD PROVISIONS – RECORDS**

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Central Coast Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)



**B. Records of monitoring information shall include:**

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

**C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):**

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

**V. STANDARD PROVISIONS – REPORTING**

**A. Duty to Provide Information**

The Discharger shall furnish to the Central Coast Water Board State Water Board, or U.S. EPA within a reasonable time, any information which the Central Coast Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Central Coast Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

**B. Signatory and Certification Requirements**

1. All applications, reports, or information submitted to the Central Coast Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. § 122.22(a)(3).)
3. All reports required by this Order and other information requested by the Central Coast Water Board, State Water Board, or U.S. EPA shall be signed by a person described in

Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
  - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and
  - c. The written authorization is submitted to the Central Coast Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Central Coast Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)
  5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 C.F.R. § 122.22(d).)

### **C. Monitoring Reports**

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Central Coast Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Central Coast Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

#### **D. Compliance Schedules**

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

#### **E. Twenty-Four Hour Reporting**

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
  - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
  - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
3. The Central Coast Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

#### **F. Planned Changes**

The Discharger shall give notice to the Central Coast Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. § 122.41(l)(1)(iii).)

**G. Anticipated Noncompliance**

The Discharger shall give advance notice to the Central Coast Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 C.F.R. § 122.41(l)(2).)

**H. Other Noncompliance**

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

**I. Other Information**

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Central Coast Water Board, State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

**VI. STANDARD PROVISIONS – ENFORCEMENT**

The Central Coast Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

**VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS**

**A. Publicly Owned Treatment Works (POTWs)**

All POTWs shall provide adequate notice to the Central Coast Water Board of the following (40 C.F.R. § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. § 122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

**VIII. CENTRAL COAST WATER BOARD STANDARD PROVISIONS**

**A. Central Coast Standard Provision – Prohibitions**

1. Introduction of “incompatible wastes” to the treatment system is prohibited.

2. Discharge of high-level radiological waste and of radiological, chemical, and biological warfare agents is prohibited.
3. Discharge of “toxic pollutants” in violation of effluent standards and prohibitions established under section 307(a) of the Clean Water Act (CWA) is prohibited.
4. Discharge of sludge, sludge digester or thickener supernatant, and sludge drying bed leachate to drainageways, surface waters, or the ocean is prohibited.
5. Introduction of pollutants into the collection, treatment, or disposal system by and “indirect discharger” that:
  3. Inhibit or disrupt the treatment process, system operation, or the eventual use or disposal of sludge; or,
  4. Flow through the system to the receiving water untreated; and,
  5. Cause or “significantly contribute” to a violation of any requirement of this Order, is prohibited.
6. Introduction of “pollutant free” wastewater to the collection, treatment, and disposal system in amounts that threaten compliance with this order is prohibited.

**B. Central Coast Standard Provision – Provisions**

1. Collection, treatment, and discharge of waste shall not create a nuisance or pollution, as defined by California Water Code (CWC) 13050.
2. All facilities used for transport or treatment of wastes shall be adequately protected from inundation and washout as the result of a 100-year frequency flood.
3. Operation of collection, treatment, and disposal systems shall be in a manner that precludes public contact with wastewater.
4. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed in a manner approved by the Executive Officer.
5. Publicly owned wastewater treatment plans shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23 of the California Administrative Code.
6. After notice and opportunity for a hearing, this order may be terminated for cause, including, but not limited to:
  - a. Violation of any term or condition contained in this order;
  - b. Obtaining this order by misrepresentation, or by failure to disclose fully all relevant facts;
  - c. A change in any condition or endangerment to human health or environment that requires a temporary or permanent reduction or elimination of the authorized discharge; and,



13. Production and use of reclaimed water is subject to the approval of the Central Coast Board. Production and use of reclaimed water shall be in conformance with reclamation criteria established in Chapter 3, Title 22, of the California Administrative Code and Chapter 7, Division 7, of the CWC. An engineering report pursuant to section 60323, Title 22, of the California Administrative Code is required and a waiver or water reclamation requirements from the Central Coast Board is required before reclaimed water is supplied for any use, or to any user, not specifically identified and approved either in this Order or another order issued by this Board.

**C. Central Coast Standard Provisions – General Monitoring Requirements**

1. If results of monitoring a pollutant appear to violate effluent limitations based on a weekly, monthly, 30-day, or six-month period, but compliance or non-compliance cannot be validated because sampling is too infrequent, the frequency of sampling shall be increased to validate the test within the next monitoring period. The increased frequency shall be maintained until the Executive Officer agrees the original monitoring frequency may be resumed.

For example, if copper is monitored annually and results exceed the six-month median numerical effluent limitation in the permit, monitoring of copper must be increased to a frequency of at least once every two months (Central Coast Standard Provisions – Definitions I.G.13.). If suspended solids are monitored weekly and results exceed the weekly average numerical limit in the permit, monitoring of suspended solids must be increased to at least four (4) samples every week (Central Coast Standard Provisions – Definitions I.G.14.).

2. Water quality analyses performed in order to monitor compliance with this permit shall be by a laboratory certified by the State Department of Health Services (DHS) for the constituent(s) being analyzed. Bioassay(s) performed in order to monitor compliance with this permit shall be in accord with guidelines approved by the State Water Resources Control Board (State Water Board) and the State Department of Fish and Game. If the laboratory used or proposed for use by the discharger is not certified by the DHS or, where appropriate, the Department of Fish and Game due to restrictions in the State's laboratory certification program, the discharger shall be considered in compliance with this provision provided:
  - a. Data results remain consistent with results of samples analyzed by the Central Coast Water Board;
  - b. A quality assurance program is used at the laboratory, including a manual containing steps followed in this program that is available for inspections by the staff of the Central Coast Water Board; and,
  - c. Certification is pursued in good faith and obtained as soon as possible after the program is reinstated.
3. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Samples shall be taken during periods of peak loading conditions.

4. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

**D. Central Coast Standard Provisions – General Reporting Requirements**

1. Reports of marine monitoring surveys conducted to meet receiving water monitoring requirements of the Monitoring and Reporting Program shall include at least the following information:
  - a. A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction, swell or wave action, time of sampling, tide height, etc.).
  - b. A description of sampling stations, including differences unique to each station (e.g., station location, grain size, rocks, shell litter, calcareous worm tubes, evident life, etc.).
  - c. A description of the sampling procedures and preservation sequence used in the survey.
  - d. A description of the exact method used for laboratory analysis. In general, analysis shall be conducted according to Central Coast Standard Provisions – C.1 above, and Federal Standard Provision – Monitoring III.B. However, variations in procedure are acceptable to accommodate the special requirements of sediment analysis. All such variations must be reported with the test results.
  - e. A brief discussion of the results of the survey. The discussion shall compare data from the control station with data from the outfall stations. All tabulations and computations shall be explained.
2. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule shall be submitted within 14 days following each scheduled date unless otherwise specified within the permit. If reporting noncompliance, the report shall include a description of the reason, a description and schedule of tasks necessary to achieve compliance, and an estimated date for achieving full compliance. A second report shall be submitted within 14 days of full compliance.
3. The “Discharger” shall file a report of waste discharge or secure a waiver from the Executive Officer at least 180 days before making any material change or proposed change in the character, location, or plume of the discharge.
4. Within 120 days after the discharger discovers, or is notified by the Central Coast Water Board, that monthly average daily flow will or may reach design capacity of waste treatment and/or disposal facilities within four (4) years, the discharger shall file a written report with the Central Coast Water Board. The report shall include:
  - a. the best estimate of when the monthly average daily dry weather flow rate will equal or exceed design capacity; and,



- b.** a schedule for studies, design, and other steps needed to provide additional capacity for waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units.

In addition to complying with Federal Standard Provision – Reporting V.B., the required technical report shall be prepared with public participation and reviewed, approved and jointly submitted by all planning and building departments having jurisdiction in the area served by the waste collection, treatment, or disposal facilities.

- 5.** All “Dischargers” shall submit reports electronically to the:

California Regional Water Quality Control Board  
Central Coast Region  
centralcoast@waterboards.ca.gov  
895 Aerovista Place, Suite 101  
San Luis Obispo, CA 93401-7906

In addition, "Dischargers" with designated major discharges shall submit a copy of each document to:

Regional Administrator  
U.S. EPA, Region 9  
Attention: CWA Standards and Permits Office (WTR-5)  
75 Hawthorne Street  
San Francisco, California 94105

- 6.** Transfer of control or ownership of a waste discharge facility must be preceded by a notice to the Central Coast Water Board at least 30 days in advance of the proposed transfer date. The notice must include a written agreement between the existing “Discharger” and proposed “Discharger” containing specific date for transfer of responsibility, coverage, and liability between them. Whether a permit may be transferred without modification or revocation and reissuance is at the discretion of the Board. If permit modification or revocation and reissuance is necessary, transfer may be delayed 180 days after the Central Coast Water Board's receipt of a complete permit application. Please also see Federal Standard Provision – Permit Action II.C.
- 7.** Except for data determined to be confidential under CWA §308 (excludes effluent data and permit applications), all reports prepared in accordance with this permit shall be available for public inspection at the office of the Central Coast Water Board or Regional Administrator of U.S. EPA. Please also see Federal Standard Provision – Records IV.C.
- 8.** By April 1 of each year, the discharger shall submit an annual report to the Central Coast Water Board. The report shall contain the following:
  - a.** Both tabular and graphical summaries of the monitoring data obtained during the previous year.
  - 6.** A discussion of the previous year’s compliance record and corrective actions taken, or which may be needed, to bring the discharger into full compliance.
  - 7.** An evaluation of wastewater flows with projected flow rate increases over time and the estimated date when flows will reach facility capacity.

8. A discussion of operator certification and a list of current operating personnel and their grades of certification.
9. The date of the facility's Operation and Maintenance Manual (including contingency plans as described in Provision B.9), the date the manual was last reviewed, and whether the manual is complete and valid for the current facility.
10. A discussion of the laboratories used by the discharger to monitor compliance with effluent limits and a summary of performance relative to section C, General Monitoring Requirements.
11. If the facility treats industrial or domestic wastewater and there is no provision for periodic sludge monitoring in the Monitoring and Reporting Program, the report shall include a summary of sludge quantities, analyses of its chemical and moisture content, and its ultimate destination.
12. If appropriate, the report shall also evaluate the effectiveness of the local source control or pretreatment program using the State Water Resources Control Board's "Guidelines for Determining the Effectiveness of Local Pretreatment Program."

**E. Central Coast Standard Provisions – General Pretreatment Provisions**

1. Discharge of pollutants by "indirect dischargers" in specific industrial sub-categories (appendix C, 40 C.F.R. Part 403), where categorical pretreatment standards have been established, or are to be established, (according to 40 C.F.R. Chapter 1, Subchapter N), shall comply with the appropriate pretreatment standards:
  - a. By the date specified therein;
13. Within three (3) years of the effective date specified therein, but in no case later than July 1, 1984; or,
14. If a new indirect discharger, upon commencement of discharge

**F. Central Coast Standard Provision – Enforcement**

1. Any person failing to file a report of waste discharge or other report as required by this permit shall be subject to a civil penalty not to exceed \$5,000 per day.
2. Upon reduction, loss, or failure of the treatment facility, the "Discharger" shall, to the extent necessary to maintain compliance with this permit, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided.

**G. Central Coast Standard Provisions – Definitions (Not otherwise included in Attachment A to this Order)**

1. A "composite sample" is a combination of no fewer than eight (8) individual samples obtained at equal time intervals (usually hourly) over the specified sampling (composite) period. The volume of each individual sample is proportional to the flow rate at the time of sampling. The period shall be specified in the Monitoring and Reporting Program ordered by the Executive Officer.

2. "Daily Maximum" limit means the maximum acceptable concentration or mass emission rate of a pollutant measured during a calendar day or during any 24-hour period reasonably representative of the calendar day for purposes of sampling. It is normally compared with results based on "composite samples" except for ammonia, total chlorine, phenolic compounds, and toxicity concentration. For all exceptions, comparisons will be made with results from a "grab sample".
3. "Discharger", as used herein, means, as appropriate: (1) the Discharger, (2) the local sewerage entity (when the collection system is not owned and operated by the Discharger), or (3) "indirect discharger" (where "Discharger" appears in the same paragraph as "indirect discharger", it refers to the discharger.)
4. "Duly Authorized Representative" is one where:
  - a. the authorization is made in writing by a person described in the signatory paragraph of Federal Standard Provision V.B.;
5. the authorization specifies either an individual or the occupant of a position having either responsibility for the overall operation of the regulated facility, such as the plant manager, or overall responsibility for environmental matters of the company; and,
6. the written authorization was submitted to the Central Coast Water Board.
7. A "grab sample" is defined as any individual sample collected in less than 15 minutes. "Grab samples" shall be collected during peak loading conditions, which may or may not be during hydraulic peaks. It is used primarily in determining compliance with the daily maximum limits identified in Central Coast Standard Provision – Provision G.2. and instantaneous maximum limits.
8. "Hazardous substance" means any substance designated under 40 C.F.R. Part 116 pursuant to section 311 of the Clean Water Act.
9. "Incompatible wastes" are:
  - a. Wastes which create a fire or explosion hazard in the treatment works;
10. Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0 unless the works is specifically designed to accommodate such wastes;
11. Solid or viscous wastes in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation of treatment works;
12. Any waste, including oxygen demanding pollutants (BOD, etc), released in such volume or strength as to cause inhibition or disruption in the treatment works and subsequent treatment process upset and loss of treatment efficiency; and,
13. Heat in amounts that inhibit or disrupt biological activity in the treatment works or that raise influent temperatures above 40°C (104°F) unless the treatment works is designed to accommodate such heat.

14. "Indirect Discharger" means a non-domestic discharger introducing pollutants into a publicly owned treatment and disposal system.
15. "Log Mean" is the geometric mean. Used for determining compliance of fecal or total coliform populations, it is calculated with the following equation:

$$\text{Log Mean} = (C_1 \times C_2 \times \dots \times C_n)^{1/n},$$

in which "n" is the number of days samples were analyzed during the period and any "C" is the concentration of bacteria (MPN/100 ml) found on each day of sampling. "n" should be five or more.

16. "Mass emission rate" is a daily rate defined by the following equations:

mass emission rate (lbs/day) =  $8.34 \times Q \times C$ ; and,

mass emission rate (kg/day) =  $3.79 \times Q \times C$ ,

where "C" (in mg/L) is the measured daily constituent concentration or the average of measured daily constituent concentrations and "Q" (in MGD) is the measured daily flowrate or the average of measured daily flow rates over the period of interest.

17. The "Maximum Allowable Mass Emission Rate," whether for a month, week, day, or six-month period, is a daily rate determined with the formulas in paragraph G.10, above, using the effluent concentration limit specified in the permit for the period and the average of measured daily flows (up to the allowable flow) over the period.
18. "Maximum Allowable Six-Month Median Mass Emission Rate" is a daily rate determined with the formulas in Central Coast Standard Provision – Provision G.10, above, using the "six-month Median" effluent limit specified in the permit, and the average of measured daily flows (up to the allowable flow) over a 180-day period.
19. "Median" is the value below which half the samples (ranked progressively by increasing value) fall. It may be considered the middle value, or the average of two middle values.
20. "Monthly Average" (or "Weekly Average", as the case may be) is the arithmetic mean of daily concentrations or of daily mass emission rates over the specified 30-day (or 7-day) period.

$$\text{Average} = (X_1 + X_2 + \dots + X_n) / n$$

in which "n" is the number of days samples were analyzed during the period and "X" is either the constituent concentration (mg/l) or mass emission rate (kg/day or lbs/day) for each sampled day. "n" should be four or greater.

21. "Municipality" means a city, town, borough, county, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial waste, or other waste.
22. "Overflow" means the intentional or unintentional diversion of flow from the collection and transport systems, including pumping facilities.

23. "Pollutant-free wastewater" means inflow and infiltration, stormwaters, and cooling waters and condensates which are essentially free of pollutants.
24. "Primary Industry Category" means any industry category listed in 40 C.F.R. Part 122, Appendix A.
25. "Removal Efficiency" is the ratio of pollutants removed by the treatment unit to pollutants entering the treatment unit. Removal efficiencies of a treatment plant shall be determined using "Monthly averages" of pollutant concentrations (C, in mg/l) of influent and effluent samples collected about the same time and the following equation (or its equivalent):

$$C_{\text{Effluent}} \text{ Removal Efficiency (\%)} = 100 \times (1 - C_{\text{Effluent}} / C_{\text{Influent}})$$

26. "Severe property damage" means substantial physical damage to property, damage to treatment facilities which causes them to become inoperable, or substantial and permanent loss to natural resources which can reasonably be expected to occur in the absence of a "bypass". It does not mean economic loss caused by delays in production.
27. "Sludge" means the solids, residues, and precipitates separated from, or created in, wastewater by the unit processes of a treatment system.
28. To "significantly contribute" to a permit violation means an "indirect discharger" must:
- a. Discharge a daily pollutant loading in excess of that allowed by contract with the "Discharger" or by Federal, State, or Local law;
15. Discharge wastewater which substantially differs in nature or constituents from its average discharge;
16. Discharge pollutants, either alone or in conjunction with discharges from other sources, which results in a permit violation or prevents sewage sludge use or disposal; or
17. Discharge pollutants, either alone or in conjunction with pollutants from other sources that increase the magnitude or duration of permit violations.
29. "Toxic Pollutant" means any pollutant listed as toxic under section 307 (a) (1) of the Clean Water Act or under 40 C.F.R. Part 122, Appendix D. Violation of maximum daily discharge limitations are subject to 24-hour reporting (Federal Standard Provisions V.E.).
30. "Zone of Initial Dilution" means the region surrounding or adjacent to the end of an outfall pipe or diffuser ports whose boundaries are defined through calculation of a plume model verified by the State Water Board

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## **ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)**

The Code of Federal Regulations (40 C.F.R. § 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Central Coast Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and California regulations.

### **I. GENERAL MONITORING PROVISIONS**

#### **A. Laboratory Certification**

Laboratories analyzing monitoring samples shall be certified by the Department of Public Health (DPH), in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

- B.** Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall now be changed without notification to and approval of the Central Coast Water Board.

- C.** Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than  $\pm 10$  percent from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration, and operation of acceptable flow measurement devices can be obtained from the following references.

1. *A Guide to Methods and Standards for the Measurement of Water Flow*, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 96 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD Catalog No. C13.10:421.)
2. *Water Measurement Manual*, U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington D.C. 20402. Order by Catalog No. 172.19/2:W29/2, Stock No. S/N 24003-0027.)
3. *Flow Measurement in Open Channels and Closed Conduits*, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Services (NTIS) Springfield, VA 22050. Order by NTIS No. PB-273 535/5ST.)
4. *NPDES Compliance Sampling Manual*, U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. (Available from the General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, CO 80225.)

- D.** All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.
- E.** Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this MRP.
- F.** Unless otherwise specified by this MRP, all monitoring shall be conducted according to test procedures established at 40 C.F.R. 136, Guidelines Establishing Test Procedures for Analysis of Pollutants. All analyses shall be conducted using the lowest practical quantitation limit achievable using the specified methodology. Where effluent limitations are set below the lowest achievable quantitation limits, pollutants not detected at the lowest practical quantitation limits will be considered in compliance with effluent limitations. Analysis for toxic pollutants specified in Table 1 of the California Ocean Plan shall be conducted in accordance with procedures described in the California Ocean Plan and restated in this MRP.

- G.** Monitoring and sampling periods are defined as follows unless otherwise specified in this MRP:

**Daily:** Midnight through 11:59 PM, or any 24-hour period that reasonably represents a calendar day for purposes of sampling.

**Weekly:** Sunday through Saturday (Note: For weekly monitoring and sampling periods that start in one monthly reporting period but end in the next, the Discharger may report the weekly data in the monthly monitoring report containing the last day of the weekly period.)

**Monthly:** 1<sup>st</sup> day of calendar month through last day of calendar month.

**Annually:** January 1<sup>st</sup> through December 31<sup>st</sup>

## II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

**Table E-1. Monitoring Station Locations**

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
--	INF-001 (formally M-INF)	Influent wastewater prior to treatment and following all significant input of wastewater to the treatment system, and upstream of Facility return flows.
001	EFF-001 (formally M-001)	Location where representative sample of effluent, to be discharged through the ocean outfall, can be collected after treatment. Latitude: 35° 22' 47" N Longitude: 120° 51' 40" W
--	RSW-001 (formally RW-1)	Upcoast Midfield Latitude: 35° 23' 15" N Longitude: 120° 52' 30" W
--	RSW-002 (formally RW-2)	Upcoast Nearfield Latitude: 35° 23' 14" N Longitude: 120° 52' 30" W



Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
--	RSW-003 (formally RW-3)	Upcoast ZID Latitude: 35° 23' 13" N Longitude: 120° 52' 30" W
--	RSW-004 (formally RW-4)	Downcoast ZID Latitude: 35° 23' 19" N Longitude: 120° 52' 30" W
--	RSW-005 (formally RW-5)	Downcoast Nearfield Latitude: 35° 23' 10" N Longitude: 120° 52' 30" W
--	RSW-006 (formally RW-6)	Downcoast Midfield Latitude: 35° 23' 9" N Longitude: 120° 52' 30" W
--	SRF-A1 (formally SZ-A1)	Upcoast Reference Latitude: 35° 23' 58" N Longitude: 120° 52' 07" W
--	SRF-A (formally SZ-A)	Upcoast Midfield Latitude: 35° 23' 45" N Longitude: 120° 52' 07" W
--	SRF-B (formally SZ-B)	Upcoast Nearfield Latitude: 35° 23' 31" N Longitude: 120° 52' 00" W
--	SRF-C (formally SZ-C)	Onshore of Diffuser Latitude: 35° 23' 15" N Longitude: 120° 51' 57" W
--	SRF-D (formally SZ-D)	Downcoast Nearfield Latitude: 35° 23' 02" N Longitude: 120° 51' 55" W
--	SRF-E (formally SZ-E)	Downcoast Midfield Latitude: 35° 22' 46" N Longitude: 120° 51' 54" W
--	SRF-F (formally SZ-F)	Downcoast Reference Latitude: 35° 22' 24" N Longitude: 120° 51' 53" W
--	SRF-G (formally SZ-G)	Morro Creek immediately before flowing to the ocean.
--	B-002	Upcoast Reference Latitude: 35° 23' 17" N Longitude: 120° 52' 30" W
--	B-003	Downcoast Nearfield Latitude: 35° 23' 14" N Longitude: 120° 52' 30" W
--	B-004	Upcoast ZID Latitude: 35° 23' 13" N Longitude: 120° 52' 30" W
--	B-005	Downcoast ZID Latitude: 35° 23' 11" N Longitude: 120° 52' 30" W
--	B-006	Downcoast Nearfield Latitude: 35° 23' 10" N Longitude: 120° 52' 30" W
--	B-007	Downcoast Reference Latitude: 35° 23' 7" N Longitude: 120° 52' 30" W

The north latitude and west longitude information in Table E-1 are approximate for administrative purposes.

### III. INFLUENT MONITORING REQUIREMENTS

#### A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the Facility at INF-001 as follows:

**Table E-2. Influent Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Daily Flow	MG	Metered	Daily
Maximum Daily Flow	MGD	Metered	Daily
Mean Daily Flow	MGD	Calculated	Monthly
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	C-24 <sup>[1]</sup>	Weekly
Total Suspended Solids (TSS)	mg/L	C-24 <sup>[1]</sup>	Weekly

**Footnotes to Table E-2:**

**Units:**

mg/L = milligrams per liter

C-24 = 24 hour composite

- <sup>[1]</sup> Composite samples may be taken by a proportional sampling devise approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed one hour.

2. Effluent flow metering shall be reported in place of influent flow metering when the flume is surcharged. Monitoring reports shall indicate the dates and times for which the influent flow meter was surcharged and effluent flow is being reported in place of influent flow.

#### IV. EFFLUENT MONITORING REQUIREMENTS

##### A. Monitoring Location EFF-001

1. The Discharger shall monitor effluent at Monitoring Location EFF-001, as follows.

**Table E-3. Effluent Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Chlorine Residual	µg/L	Grab	1/Day
Chlorine Usage	lbs/day	Recorded	1/Day
Total Coliform	MPN	Grab	5/Week <sup>[1]</sup>
Temperature	°C	Grab	5/Week
Turbidity	NTU	Grab	5/Week
BOD <sub>5</sub>	mg/L	C-24	1/Week
TSS	mg/L	C-24	1/Week
pH	standard units	Grab	1/Week
Settleable Solids	mL/L	Grab	1/Week
Oil and Grease	mg/L	Grab	1/Week
Chronic Toxicity	TUc	C-24	1/Year
Ammonia (as N)	mg/L	Grab	1/Year
Nitrate (as N)	mg/L	Grab	1/Year
Urea (as N)	mg/L	Grab	1/Year
Orthophosphate (as P)	mg/L	Grab	1/Year
Dissolved Silica (SiO <sub>2</sub> )	mg/L	Grab	1/Year

Parameter	Units	Sample Type	Minimum Sampling Frequency
<b>Protection of Marine Aquatic Life</b>			
Arsenic, Total Recoverable	µg/L	C-24	1/Year
Cadmium, Total Recoverable	µg/L	C-24	1/Year
Chromium (VI) , Total Recoverable	µg/L	C-24	1/Year
Copper, Total Recoverable	µg/L	C-24	1/Year
Lead, Total Recoverable	µg/L	C-24	1/Year
Mercury, Total Recoverable	µg/L	C-24	1/Year
Nickel, Total Recoverable	µg/L	C-24	1/Year
Selenium, Total Recoverable	µg/L	C-24	1/Year
Silver, Total Recoverable	µg/L	C-24	1/Year
Zinc, Total Recoverable	µg/L	C-24	1/Year
Cyanide, Total	µg/L	C-24	1/Permit
Phenolic Compounds (non-chlorinated)	µg/L	Grab	1/Permit
Phenolic Compounds (chlorinated)	µg/L	Grab	1/Permit
Endosulfan <sup>[2]</sup>	µg/L	C-24	1/Permit
Endrin	µg/L	C-24	1/Permit
HCH <sup>[3]</sup>	µg/L	C-24	1/Permit
Radionuclide	pCi/L	C-24	1/Permit
<b>Protection of Human Health – Noncarcinogens</b>			
Acrolein	µg/L	C-24	1/Permit
Antimony	µg/L	C-24	1/Permit
Bis(2-chloroethoxy)methane	µg/L	C-24	1/Permit
Bis(2-chloroisopropyl)ether	µg/L	C-24	1/Permit
Chlorobenzene	µg/L	C-24	1/Permit
Chromium (III)	µg/L	C-24	1/Permit
Di-n-butyl phthalate	µg/L	C-24	1/Permit
Dichlorobenzenes <sup>[4]</sup>	µg/L	C-24	1/Permit
Diethyl phthalate	µg/L	C-24	1/Permit
Dimethyl phthalate	µg/L	C-24	1/Permit
4,6-dinitro-2-methylphenol	µg/L	C-24	1/Permit
2,4-dinitrophenol	µg/L	C-24	1/Permit
Ethylbenzene	µg/L	C-24	1/Permit
Fluoranthene	µg/L	C-24	1/Permit
Hexachlorocyclopentadiene	µg/L	C-24	1/Permit
Isophorone	µg/L	C-24	1/Permit
Nitrobenzene	µg/L	C-24	1/Permit
Thallium	µg/L	C-24	1/Permit
Toluene	µg/L	C-24	1/Permit
Tributyltin	µg/L	C-24	1/Permit
1,1,1-trichloroethane	µg/L	C-24	1/Permit
1,1,2-trichloroethane	µg/L	C-24	1/Permit

Parameter	Units	Sample Type	Minimum Sampling Frequency
<b><i>Protection of Human Health – Carcinogens</i></b>			
Acrylonitrile	µg/L	C-24	1/Permit
Aldrin	µg/L	C-24	1/Permit
Benzene	µg/L	C-24	1/Permit
Benzidine	µg/L	C-24	1/Permit
Beryllium	µg/L	C-24	1/Permit
Bis(2-chloroethyl)ether	µg/L	C-24	1/Permit
Bis(2-ethylhexyl)phthalate	µg/L	C-24	1/Permit
Carbon tetrachloride	µg/L	C-24	1/Permit
Chlordane <sup>[5]</sup>	µg/L	C-24	1/Permit
Chlorodibromomethane	µg/L	C-24	1/Permit
Chloroform	µg/L	C-24	1/Permit
DDT <sup>[6]</sup>	µg/L	C-24	1/Permit
1,4-dichlorobenzene	µg/L	C-24	1/Permit
3,3-dichlorobenzidine	µg/L	C-24	1/Permit
1,2-dichloroethane	µg/L	C-24	1/Permit
1,1-dichloroethylene	µg/L	C-24	1/Permit
Dichlorobromomethane	µg/L	C-24	1/Permit
Dichloromethane	µg/L	C-24	1/Permit
1,3-dichloropropene	µg/L	C-24	1/Permit
Dieldrin	µg/L	C-24	1/Permit
2,4-dinitrotoluene	µg/L	C-24	1/Permit
1,2-diphenylhydrazine	µg/L	C-24	1/Permit
Halomethanes <sup>[7]</sup>	µg/L	C-24	1/Permit
Heptachlor	µg/L	C-24	1/Permit
Heptachlor epoxide	µg/L	C-24	1/Permit
Hexachlorobenzene	µg/L	C-24	1/Permit
Hexachlorobutadiene	µg/L	C-24	1/Permit
Hexachloroethane	µg/L	C-24	1/Permit
N-nitrosodimethylamine	µg/L	C-24	1/Permit
N-nitrosodi-N-propylamine	µg/L	C-24	1/Permit
N-nitrosodiphenylamine	µg/L	C-24	1/Permit
PAHs <sup>[8]</sup>	µg/L	C-24	1/Permit
PCBs <sup>[9]</sup>	µg/L	C-24	1/Permit
TCDD Equivalents <sup>[10]</sup>	µg/L	C-24	1/Permit
1,1,2,2-tetrachloroethane	µg/L	C-24	1/Permit
Tetrachloroethylene	µg/L	C-24	1/Permit
Toxaphene	µg/L	C-24	1/Permit

<sup>[1]</sup> If effluent limitations are exceeded for total coliform, the Discharger shall monitor as specified in section VIII.A.1 of this MRP.

<sup>[2]</sup> Endosulfan shall mean the sum of endosulfan-alpha and -beta and endosulfan sulfate.

<sup>[3]</sup> HCH shall mean the sum of alpha, beta, gamma (Lindane) and delta isomers of hexachlorocyclohexane.

<sup>[4]</sup> Dichlorobenzenes shall mean the sum of 1,2- and 1,3-dichlorobenzene.

- [5] Chlorodane shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordane-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.
- [6] DDT shall mean the sum of 4,4'DDT; 2,4'DDT; 4,4"DDE; 4,4"DDD; and 2,4'DDD.
- [7] Halomethanes shall mean the sum of bromoform, bromomethane and chloromethane.
- [8] PAHs shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,1,2-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[a,h]anthracene, fluorine, ideno[1,2,3-cd]pyrene, phenanthrene, and pyrene.
- [9] Sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.
- [10] TCDD equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown below:

Isomer Group	Toxicity Equivalent Factor	Isomer Group	Toxicity Equivalent Factor
2,3,7,8-tetra CDD	1.0	1,2,3,7,8-penta CDF	0.05
2,3,7,8-penta CDD	0.5	2,3,4,7,8-penta CDF	0.5
2,3,7,8-hexa CDDs	0.1	2,3,7,8-hexa CDFs	0.1
2,3,7,8-hepta CDD	0.01	2,3,7,8-hepta CDFs	0.01
octa CDD	0.001	octa CDF	0.001
2,3,7,8-tetra CDF	0.1	--	--

## B. Mass Emission Goals

- The Discharger shall report the mass emission rates for all constituents that have mass emission effluent goals listed below, and the flow used to calculate the mass emission rates for each constituent. Annual mass emissions will be compared to performance based mass emission goals. For compounds with detectable concentrations, exceedances of performance-based mass emission goals shall be considered indicative of a statistically significant increase in loading and will trigger an antidegradation analysis prior to any future permit renewals.

**Table E-4. Mass Emission Goals**

Constituent	Value	Units
<b><i>Protection of Marine Life</i></b>		
Arsenic, Total Recoverable	17	kg/yr
Cadmium, Total Recoverable	88	kg/yr
Chromium, Total Recoverable	93	kg/yr
Copper, Total Recoverable	690	kg/yr
Lead, Total Recoverable	465	kg/yr
Mercury, Total Recoverable	1.4	kg/yr
Nickel, Total Recoverable	142	kg/yr
Selenium, Total Recoverable	65	kg/yr
Silver, Total Recoverable	28	kg/yr
Zinc, Total Recoverable	244	kg/yr
Cyanide, Total	71	kg/yr
Endosulfan <sup>[1]</sup>	3	kg/yr
Endrin	1	kg/yr

Constituent	Value	Units
HCH <sup>[2]</sup>	228	kg/yr
<b><i>Protection of Human Health - Noncarcinogens</i></b>		
Acrolein	--	--
Antimony	285	kg/yr
Bis(2-chloroethoxy) methane	142	kg/yr
Bis(2-chloroisopropyl) ether	--	--
Chlorobenzene	--	--
Chromium III	--	--
Di-n-butyl phthalate	142	kg/yr
Dichlorobenzene <sup>[3]</sup>	5.7	kg/yr
1,1-dichloroethene	3	kg/yr
Diethyl phthalate	191	kg/yr
Dimethyl phthalate	142	kg/yr
1-methyl-4,6-dinitrophenol	142	kg/yr
2,4-dinitrophenol	342	kg/yr
Ethylbenzene	3	kg/yr
Fluoranthene	142	kg/yr
Hexachlorocyclopentadiene	--	--
Isophorone	142	kg/yr
Nitrobenzene	142	kg/yr
Thallium	285	kg/yr
Toluene	4	kg/yr
1,1,2,2-tetrachloroethane	3	kg/yr
1,1,1-trichloroethane	3	kg/yr
1,1,2-trichloroethane	3	kg/yr
<b><i>Protection of Human Health - Carcinogens</i></b>		
Acrylonitrile	--	--
Aldrin	0.01	kg/yr
Benzene	12	kg/yr
Benzidine	0.03	kg/yr
Beryllium	28	kg/yr
Bis(2-chloroethyl) ether	17	kg/yr
Bis(2-ethylhexyl) phthalate	320	kg/yr
Carbon tetrachloride	3	kg/yr
Chlordane <sup>[4]</sup>	8.8	kg/yr
Chloroform	5	kg/yr
DDT <sup>[5]</sup>	60	kg/yr
1,4-dichlorobenzene	57	kg/yr
3,3'-dichlorobenzidene	3.1	kg/yr
1,2-dichloroethane	3	kg/yr
Dichloromethane	--	--
1,3-dichloropropene	--	--
Dieldrin	0.02	kg/yr
2,4-dinitrotoluene	142	kg/yr

Constituent	Value	Units
1,2-diphenylhydrazine	60	kg/yr
Halomethanes <sup>[6]</sup>	25	kg/yr
Heptachlor	0.27	kg/yr
Hexachlorobenzene	0.08	kg/yr
Hexachlorobutadiene	142	kg/yr
Hexachloroethane	142	kg/yr
N-nitrosodimethylamine	342	kg/yr
N-nitrosodiphenylamine	142	kg/yr
PAHs <sup>[7]</sup>	3.4	kg/yr
PCBs <sup>[8]</sup>	7.3	g/yr
Dibenzofuran	57	kg/yr
TCDD Equivalents <sup>[9]</sup>	1.48	mg/yr
Tetrachloroethene	4	kg/yr
Toxaphene	0.08	kg/yr
Trichloroethene	3	kg/yr
2,4,6-trichlorophenol	114	kg/yr
Vinyl chloride	3	kg/yr

- [1] Endosulfan shall mean the sum of endosulfan-alpha and -beta and endosulfan sulfate.
- [2] HCH shall mean the sum of alpha, beta, gamma (Lindane) and delta isomers of hexachlorocyclohexane.
- [3] Dichlorobenzenes shall mean the sum of 1,2- and 1,3-dichlorobenzene.
- [4] Chlordane shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.
- [5] DDT shall mean the sum of 4,4'DDT; 2,4'DDT; 4,4"DDE; 4,4"DDD; and 2,4'DDD.
- [6] Halomethanes shall mean the sum of bromoform, bromomethane and chloromethane.
- [7] PAHs shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,1,2-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[a,h]anthracene, fluorine, ideno[1,2,3-cd]pyrene, phenanthrene, and pyrene.
- [8] Sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.
- [9] TCDD equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown below:

Isomer Group	Toxicity Equivalent Factor	Isomer Group	Toxicity Equivalent Factor
2,3,7,8-tetra CDD	1.0	1,2,3,7,8-penta CDF	0.05
2,3,7,8-penta CDD	0.5	2,3,4,7,8-penta CDF	0.5
2,3,7,8-hexa CDDs	0.1	2,3,7,8-hexa CDFs	0.1
2,3,7,8-hepta CDD	0.01	2,3,7,8-hepta CDFs	0.01
octa CDD	0.001	octa CDF	0.001
2,3,7,8-tetra CDF	0.1	--	--

## V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

### A. Whole Effluent Chronic Toxicity – Monitoring Location EFF-001

The presence of chronic toxicity shall be estimated as specified in *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*, EPA-821/600/R-95/136; *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, EPA-600-4-01-003; *Procedures Manual for Conducting Toxicity Tests developed by the Marine Bioassay Project*, SWRCB 1996, 96-1WQ; and/or *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, EPA/600/4-87-028 or subsequent editions.

Chronic toxicity measures a sublethal effect (e.g., reduced growth or reproduction) to experimental test organisms exposed to an effluent compared to that of the control organisms.

Chronic Toxicity (TUc) = 100/NOEL

The no observed effect level (NOEL) is the maximum tested concentration in a medium which does not cause known adverse effects upon chronic exposure in the species in question (i.e., the highest effluent concentration to which organisms are exposed in a chronic test that causes no observable adverse effects on the test organism; e.g., the highest concentration of a toxicant to which the values for the observed responses are not statistically significantly different from the controls). Examples of chronic toxicity include, but are not limited to, measurements of toxicant effects on reproduction, growth, and sublethal effects that can include behavioral, physiological, and biochemical effects.

In accordance with the 2015 Ocean Plan, Appendix III, *Standard Monitoring Procedures*, the Discharger shall use the critical life stage toxicity tests specified in the table below to measure TUc. Other species or protocols will be added to the list after the State Water Board review and approval.

A minimum of three test species with approved test protocols shall be used to measure compliance with the toxicity objective. If possible, the test species shall include a fish, an invertebrate, and an aquatic plant. After a screening period of no fewer than three sampling events, monitoring can be reduced to the most sensitive species. Dilution and control water should be obtained from an unaffected area of the receiving waters. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with the test results.

**Table E-6. Approved Tests – Chronic Toxicity**

Species	Effect	Tier	Reference
Giant Kelp, <i>Macrocystis pyrifera</i>	Percent germination; germ tube length	1	a, c
Red abalone, <i>Haliotis rufesens</i>	Abnormal shell development	1	a, c
Oyster, <i>Crassostrea gigas</i> ; Mussels, <i>Mytilus spp.</i>	Abnormal shell development; percent survival	1	a, c
Urchin, <i>Strongylocentrotus purpuratus</i> ; Sand dollar, <i>Dendraster excentricus</i>	Percent normal development; percent fertilization	1	a, c
Shrimp, <i>Holmesimysis costata</i>	Percent survival; growth	1	a, c
Shrimp, <i>Mysidopsis bahia</i>	Percent survival; growth; fecundity	2	b, d
Topsmelt, <i>Atherinops affinis</i>	Larval growth rate; percent survival	1	a, c
Silversides, <i>Menidia beryllina</i>	Larval growth rate; percent survival	2	b, d



- [1] First tier methods are preferred for compliance monitoring. If first tier organisms are not available, the Discharger can use a second tier test method following approval by the Regional Water Board.
- [2] Protocol References:
- Chapman, G.A., D.L. Denton, and J.M. Lazochak. 1995. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to west coast marine and estuarine organisms. U.S. EPA Report No. EPA/600/R-95/136.
  - Klemm, D.J., G.E. Morrison, T.J. Norberg-King, W.J. Pelier, and M.A. Heber. 1994. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to marine and estuarine organisms. U.S. EPA Report No. EPA-600-4-91-003.
  - SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marin Bioassay Project. 96-1WQ.
  - Weber, C.I., W.B. Horning, I.I., D.J. Klemm, T.W. Neihsel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler (eds). 1988. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-87/028. National Information Service, Springfield, VA.

Dilution and control waters shall be obtained from an area of the receiving waters, typically upstream, which is unaffected by the discharge. Standard dilution water can be used, if the receiving water itself exhibits toxicity or if approved by the Central Coast Water Board. If the dilution water used in testing is different from the water in which the test organisms were cultured, a second control sample using culture water shall be tested.

If the effluent to be discharged to a marine or estuarine system (e.g., salinity values in excess of 1,000 mg/L) originates from a freshwater supply, salinity of the effluent must be increased with dry ocean salts (e.g., FORTY FATHOMS®) to match salinity of the receiving water. This modified effluent shall then be tested using marine species.

## **B. Accelerated Monitoring Requirements**

- When chronic toxicity is detected in the effluent above an effluent limitation established by this Order, and the testing meets all test acceptability criteria, the Discharger shall resample immediately and confirm the effluent toxicity. If the retest results in toxicity greater than the applicable effluent limitation, the Discharger shall initiate accelerated monitoring.
- Accelerated monitoring frequency consists of performing six toxicity tests (one per week) in a six-week period following the first failed test result (test results exceed effluent limitation or toxicity trigger), or as otherwise instructed by the Executive Officer. Test results shall be submitted to the Central Coast Water Board within 15 days of the conclusion of each test.
- Unless otherwise specified by the Executive Officer, if the implementation of the generic Toxicity Reduction Evaluation (TRE) work plan indicates the source of the exceedance of the toxicity trigger (for instance, a temporary plan upset), then only one additional test is necessary. If an exceedance of the toxicity effluent limitation or toxicity trigger is detected in this test, the Discharger shall continue with accelerated monitoring requirements or implement the Toxicity Identification and Toxicity Reduction Evaluations.
- Unless otherwise specified by the Executive Officer, if none of the six accelerated tests indicates exceedances of the toxicity effluent limitation or toxicity trigger, then the Discharger may return to the normal bioassay testing frequency.

## **C. Conducting Toxicity Identification Evaluations (TIE) and Toxicity Reduction Evaluations (TRE)**

1. A TRE shall be implemented by the Discharger as specified by the Executive Officer. A TIE may be required as part of the TRE.
2. The TIE shall be conducted to identify and evaluate toxicity in accordance with procedures recommended by the United States Environmental Protection Agency (U.S. EPA) which include the following:
  - a. Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, (U.S. EPA, 1992a);
  - b. Methods for Aquatic Toxicity Identification Evaluations: Phase 1 Toxicity Characterization Procedures, Second Edition (U.S. EPA, 1991a);
  - c. Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Sampling Exhibiting Acute and Chronic Toxicity (U.S. EPA, 1993a); and
  - d. Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity (U.S. EPA, 1993b).
3. As part of the TIE investigation, the Discharger shall be required to implement its TRE work plan. The Discharger shall take all reasonable steps to control toxicity once the source of the toxicity is identified. A failure to conduct required toxicity tests or a TRE within a designated period may result in the establishment of numerical effluent limitations for chronic toxicity in a permit or appropriate enforcement action. Recommended guidance in conducting a TRE includes the following:
  - a. *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*, August 1999, EPA/833B-99/002; and
  - b. *Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program* dated May 27, 2001, U.S. EPA Office of Wastewater Management, Office of Regulatory Enforcement.

#### **D. Toxicity Reporting**

1. The Discharger shall include a full report of toxicity test results with the regular monthly monitoring report and include the following information.
  - a. Toxicity test results,
  - b. Dates of sample collection and initiation of each toxicity test, and
  - c. And/or toxicity discharge limitations (or value).
2. Toxicity test results shall be reported according to the appropriate guidance – *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, U.S. EPA Office of Water, PA821-R-02-012 (2002) or the latest edition, or EPA-821-R-02-012 (2002) or subsequent editions.
3. If the initial investigation TRE workplan is used to determine that additional (accelerated) toxicity testing is unnecessary, these results shall be submitted with the monitoring report for the month in which investigations conducted under the TRE workplan occurred.

4. Within 14 days of receipt of a chronic toxicity test result which exceeds 134 TUc, the Discharger shall provide written notification to the Executive Officer of:
  - a. Findings of the TRE of other investigation to identify the cause(s) of toxicity,
  - b. Actions the Discharger has taken/will take to mitigate the impact of the discharge and to prevent the recurrence of toxicity. When corrective actions, including TRE, have not been completed, a schedule under which corrective actions will be implemented, or the reason for not taking corrective action, if no action has been taken.

When corrective actions, including a TRE, have not been completed, a schedule under which corrective actions will be implemented, or the reason for not taking corrective action, if no action has been taken, will be completed.

## VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

## VII. RECYCLING MONITORING REQUIREMENTS

If reclaimed water is used, the Discharger shall comply with applicable State and local monitoring requirements regarding the production and use of reclaimed wastewater, including requirements established by the DGS at title 22, sections 60301 – 60357 of the CCR, Water Recycling Criteria.

## VIII. RECEIVING WATER MONITORING REQUIREMENTS

### A. Surf Zone Monitoring – Monitoring Locations SRF-A1 through SRF-G, and RSW-003 and RSW-004

1. If the total coliform limitations specified in section III.A.4 of the Order are exceeded, the Discharger shall monitor for total and fecal coliform and enterococcus bacteria in the receiving water at all surf zone monitoring locations, and at one station directly up coast (RSW-003) and one station directly down coast (RSW-004) of the point of discharge. The Discharger shall monitor these stations daily for a minimum of 7 days at indicated in Table E-7. A report summarizing the results of monitoring, and comparing the results to the Ocean Plan water quality objectives for bacteria shall be submitted to the Executive Officer with the next monitoring report to be submitted to the Central Coast Water Board.
2. In the event of a malfunction of the Discharger's wastewater treatment facility's disinfection process that results in a potential or actual discharge or inadequately disinfected effluent into the receiving water, the Discharger shall monitor receiving water for bacteria as indicated in Table E-7, and provide notice in accordance with requirements established by section V.C.6.b of the Order.

**Table E-7. Bacteria Monitoring Schedule**

Parameter	Units	Minimum Sampling Frequency
Total Coliform	MPN/100 mL	1/Day for 7 days <sup>[1][2]</sup>
Fecal Coliform	MPN/100 mL	1/Day for 7 days <sup>[1][2]</sup>
Enterococcus	MPN/100 mL	1/Day for 7 days <sup>[1][2]</sup>
Standard Observations	--	1/Day for 7 days <sup>[2][3]</sup>

- [1] For all bacterial analyses, sample dilutions shall be performed so the range of values extends from 2 to 16,000 MPN/100 mL. The detection methods used for each analysis shall be reported with the results of the analysis. Detection methods used for total and fecal coliform shall be those presented in the most recent edition of *Standard Methods for the Examination of Water and Wastewater* or any improved method determined by the Central Coast Water Board (and approved by U.S. EPA) to be appropriate. Detection methods used for enterococcus shall be those presented in U.S. EPA publication EPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water by Membrane Filter Procedure*, or an improved method determined by the Central Coast Water Board (and approved by U.S. EPA) to be appropriate.
- [2] If a single sample exceeds any of the single sample maximum receiving water limitations established in section IV.A.1.b.ii of the Order, repeat sampling at that location shall be conducted to determine the extent and persistence of the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued until the sample result is less than the single sample maximum receiving water limitation or until the source of the high bacterial densities has been identified and positively determined to not be caused or contributed to be discharge of effluent by the Facility. When repeat sampling is required because of an exceedance of any one single sample maximum, values from all samples collected during that 30-day period will be used to determine compliance with the 30-day geometric mean receiving water limitations in section IV.A.1.a.i of the Order.
- [3] Standard observations shall include observation of wind direction and speed, weather (e.g., cloudy, sunny, rainy), the quantity of rainfall precipitated over the previous 7 day period, sea conditions, longshore currents (e.g., directions), and tidal conditions (e.g., high, slack, or low tide). Observations of water discoloration, floating oil and grease, turbidity, odor, materials of sew age origin in the water or on the beach, and temperature (°C) shall be recorded and reported.

## IX. BENTHIC MONITORING

### A. Benthic Sediment Monitoring – Monitoring Locations B-002 through B-007

Sediment monitoring shall be conducted once per permit term, in October 2018. Three grab samples shall be collected using a 0.1 m<sup>2</sup> Van Veen grab sampler at each benthic monitoring station. A composite of these three samples should be analyzed as follows:

**Table E-8. Benthic Sediment Monitoring**

Parameter	Units	Minimum Frequency of Sampling/Analysis
Sediment particle size	Phi size (% volume)	Once during permit term (October 2018)
Organic Matter	Volatile solids or TOC (mg/kg)	Once during permit term (October 2018)
Biochemical Oxygen Demand	mg/L	Once during permit term (October 2018)
Total Kjeldahl Nitrogen	mg/L	Once during permit term (October 2018)
Oil and Grease	mg/L	Once during permit term (October 2018)
Aluminum	µg/kg	Once during permit term (October 2018)
Iron	µg/kg	Once during permit term (October 2018)
Arsenic	µg/kg	Once during permit term (October 2018)
Cadmium	µg/kg	Once during permit term (October 2018)
Total Chromium	µg/kg	Once during permit term (October 2018)
Copper	µg/kg	Once during permit term (October 2018)
Lead	µg/kg	Once during permit term (October 2018)
Mercury	µg/kg	Once during permit term (October 2018)
Nickel	µg/kg	Once during permit term (October 2018)
Silber	µg/kg	Once during permit term (October 2018)
Zinc	µg/kg	Once during permit term (October 2018)
Nonchlorinated Phenolics	µg/kg	Once during permit term (October 2018)
Chlorinated Phenolics	µg/kg	Once during permit term (October 2018)
Aldrin	µg/kg	Once during permit term (October 2018)
Diieldrin	µg/kg	Once during permit term (October 2018)

Parameter	Units	Minimum Frequency of Sampling/Analysis
Chlordane	µg/kg	Once during permit term (October 2018)
DDT, DDE, DDD	µg/kg	Once during permit term (October 2018)
Endrin	µg/kg	Once during permit term (October 2018)
PAHs	µg/kg	Once during permit term (October 2018)
PCBs	µg/kg	Once during permit term (October 2018)
Toxaphene	µg/kg	Once during permit term (October 2018)

When processing samples for analysis, macrofauna and large remnants greater than 0.25 inches (0.64 cm) should be removed, taking care to avoid contamination.

Sediment samples shall be analyzed according to *Quality Assurance and Quality Control (QA/QC) for 301(h) Monitoring Programs: Guidance on Field and Laboratory Methods* (EPA 430/9-86-004, 1987) and *Analytical Methods for U.S. EPA Priority Pollutants and 301(h) Pesticides in Estuarine and Marine Sediments* (EPA 503-6-90-004, 1986).

All sediment chemistry results shall be reported in the raw form and expressed on a dry weight basis. For all non-detect results, parameter detection limits shall be reported. Dry weight concentration target detection levels are indicated for National Oceanic and Atmospheric Administration (NOAA) National Status and Trends Program analyses.

Benthic monitoring results shall be included in the report with a complete discussion of benthic sediment survey results and potential influence of the discharge on sediment conditions in the study area. The discussion should be based on graphical, tabular, and/or appropriate statistical analyses of spatial and temporal patterns observed for raw sediment parameters. The report should also present an analysis of natural variation in sediment conditions, etc., which could influence the validity of study results. The Discharger's sediment results may also be compared with the results of other applicable studies, numerical protective levels, etc., as appropriate.

Survey results shall be compared to pre-discharge and/or historical data using appropriate statistical methods.

## **B. Benthic Community Monitoring**

Benthic infaunal organisms shall be monitored once per permit term in October 2018 at the benthic monitoring stations described in section II, Monitoring Locations, above. Benthic infaunal monitoring shall assess the temporal and spatial status of local benthic communities in relation to the outfall. Sampling shall be conducted as follows:

1. **Collection:** Five replicate samples shall be collected at each station using a 0.1 m<sup>2</sup> Van Veen grab sampler.
2. For benthic infauna analyses, each replicate sample shall be passed through a 1 mm screen, and the organisms retained and preserved as appropriate for subsequent identification. It is recommended that sample preservation, sample processing, and data analyses be conducted according to *Quality Assurance and Quality Control (QA/QC) for 301(h) Monitoring Programs: Guidance on Field and Laboratory Methods* (EPA 430/9-86-004, 1987).
3. Benthic infauna from each replicate sample shall be counted and identified to the lowest possible taxon. For each replicate sample, number of individuals, number of species,

and number of individuals per species, and within each major taxonomic group (polychaetes, molluscs, crustaceans, echinoderms, and all other macroinvertebrates) shall be recorded.

4. The benthic sampling report shall include a complete discussion of benthic infaunal survey results and (possible) influence of the outfall on benthic infauna communities in the study area. The discussion should be based on graphical, tabular, and/or appropriate statistical analyses of spatial and temporal patterns. Temporal trends in the number of individuals, number of species, number of individuals per species, and community structure indices, species richness (S), Margalef index (d), Shannon-Wiener index (H'), Brillouin index (h), Simpson's Index (SI), Swartz's dominance, and Infaunal Trophic Index (IT) shall be reported. The report should also present an analysis of natural community variation including the effects of different sediment conditions, oceanic seasons, and water temperatures, etc., that could influence the validity of study results. Survey results shall be compared to pre-discharge and/or historical data using appropriate statistical methods.

## X. BIOSOLIDS MONITORING

- A. The following information shall be submitted with the Annual Report required by Standard Provision C.16. Adequate detail should be included to characterize biosolids in accordance with 40 C.F.R. 503.
  1. A representative sample of residual solids (biosolids) shall be obtained from the last point in the handling process (i.e., in the drying beds just prior to removal). All constituents shall be analyzed annually for total concentrations for comparison with total threshold limit concentration (TTLC) criteria. The Waste Extraction Test shall be performed on any constituent when the total concentration of the waste exceeds ten times the STLC limit for that substance. Twelve (12) discrete representative samples shall be collected at separate locations in the biosolids ready for disposal. These 12 samples shall be composited to form one (1) sample for constituent analysis. For accumulated, previously untested biosolids, the Discharger shall develop a representative sampling plan including number and location of sampling points, and collect representative samples. The analysis shall test for the metals required in 40 C.F.R. 503.16 (for land application) or 503.26 (for surface disposal), using the methods in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (EPA Publication SW-846, all applicable editions and updates), as required in 503.8(b)(4), at the minimum frequencies established therein, provided in the table below.

**Table E-9. Amount of Biosolids and Frequency for Analysis**

Amount <sup>[1]</sup> (dry metric tons/365 day period)	Frequency <sup>[2]</sup>
Greater than zero, but less than 290	1/Year.
Equal to or greater than 290 but less than 1,500	1/Quarter (four times per year)
Equal to or greater than 1,500 but less than 15,000	1/60 days (six times per year)
Greater than 15,000	1/Month (twelve times per year)

<sup>[1]</sup> For land application, either the amount of bulk biosolids applied to the land or the amount prepared for sale or give-away in a bag or other container for application to the land (dry weight basis). If the Discharger's biosolids are directly land applied without further treatment by another preparer, biosolids shall also be tested for organic-N, ammonium-N, and nitrate-N at the frequencies required. For surface disposal, the amount of biosolids placed on an active sludge unit (dry weight basis).

<sup>[2]</sup> Test results shall be expressed in mg pollutants per kg biosolids on a 100% dry weight basis.

Biosolids shall be analyzed annually for the constituents in the following table.

**Table E-10. Biosolids Monitoring Requirements**

Constituent	Units	Type of Sample	Sampling/Analysis Frequency
Quantity Removed	Tons or yds <sup>3</sup>	Measured	Continual
Pathogen Density	--	--	Per 40 C.F.R. 503
Location Reuse/Disposal	General Public or Specific Site	--	--
Moisture Content	%	Grab	1/Year
pH	standard units	Grab	1/Year
Total Kjeldahl Nitrogen	mg/kg (dry) <sup>1</sup>	Grab	1/Year
Ammonia (N)	mg/kg	Grab	1/Year
Nitrate (N)	mg/kg	Grab	1/Year
Total Phosphorus	mg/kg	Grab	1/Year
Oil and Grease	mg/kg	Grab	1/Year
Arsenic	mg/kg	Grab	1/Year
Boron	mg/kg	Grab	1/Year
Cadmium	mg/kg	Grab	1/Year
Copper	mg/kg	Grab	1/Year
Chromium (Hexavalent)	mg/kg	Grab	1/Year
Lead	mg/kg	Grab	1/Year
Mercury	mg/kg	Grab	1/Year
Molybdenum	mg/kg	Grab	1/Year
Nickel	mg/kg	Grab	1/Year
Selenium	mg/kg	Grab	1/Year
Silver	mg/kg	Grab	1/Year
Zinc	mg/kg	Grab	1/Year
Priority Pollutants (excluding asbestos)	mg/kg	Grab	1/Year

<sup>[1]</sup> Total sample (including solids and any liquid portion) to be analyzed and results reported as mg/kg based on the dry weight of the sample.

2. Prior to land application, the Discharger shall demonstrate that the biosolids meet Class A or Class B pathogen reduction levels by one of the methods listed in 40 C.F.R. 503.32 (unless transferred to another preparer who demonstrates pathogen reduction).

Prior to disposal in a surface disposal site, the Discharger shall demonstrate that the biosolids meet Class B levels or shall ensure that the site is covered at the end of each operating day.

If pathogen reduction is demonstrated using a "Process to Significantly/Further Reduce Pathogens" (PFRP), the Discharger shall maintain daily records of the operating parameters to achieve this reduction.

The following applies when biosolids from the Discharger are directly land applied as Class B, without further treatment by a second preparer. If the Discharger demonstrates pathogen reduction by direct testing for fecal coliforms and/or pathogens, samples must be drawn at the frequency in Table E-7. If the Discharger demonstrates Class B pathogen reduction by testing for fecal coliform, at least seven grab samples must be drawn and analyzed during each monitoring event, and a geometric mean calculated from these seven samples. If the Discharger demonstrates Class A pathogen reduction by testing for fecal coliform and/or salmonella, plus one of the PFRP processes or testing

for enteric viruses and helminth ova at least four samples of fecal coliform or salmonella must be drawn during each monitoring event. All four samples must meet the limits specified in 40 C.F.R. 503.32(a).

3. For biosolids that are land applied or placed in a surface disposal site, the Discharger shall track and keep records of the operational parameters used to achieve Vector Attraction Reduction requirements in 40 C.F.R. 503.33(b).
4. Class 1 facilities (facilities with pretreatment programs or others designated as Class 1 by the regional administrator) and Federal facilities with greater than five MGD influent flow shall sample biosolids for pollutants listed under section 307(a) of the CWA (as required in the pretreatment section of the permit for POTWs with pretreatment programs). Class 1 facilities and Federal facilities greater than five MGD shall test dioxins/dibenzofurans using a detection limit of less than one pg/g at the times of their next priority pollutant scan if they have not done so within the past five years, and once per five years thereafter.
5. The biosolids shall be tested annually, or more frequently if necessary, to determine hazardousness. All constituents regulated under CCR Title 22, division 5, chapter 11, article 3 shall be analyzed for comparison with Total Threshold Limit Concentration (TTCL) criteria. The Waste Extraction Test shall be performed on any constituent when the total concentration of the waste exceeds ten times the Soluble Threshold Limit Concentration Limit Concentration (STLC) limit for that substance.
6. If biosolids are placed in a surface disposal site (dedicated land disposal site or monofill), a qualified groundwater scientist shall develop a groundwater monitoring program for the site, or shall certify that the placement of biosolids on the site will not contaminate an aquifer.
7. Biosolids placed in a municipal landfill shall be tested by the Paint Filter Liquids Test (EPA Methods 9095) at the frequency determined by Table E-8, or more often if necessary to demonstrate that there are no free liquids.
8. The Discharger, either directly or through contractual agreements with their biosolids management contractors, shall comply with the following notification requirements:
  - a. *Notification of non-compliance.* The Discharger shall notify EPA Region 9, the Central Coast Water Board, and the Regional Board located in the region where the biosolids are used or disposed, of any non-compliance within 24 hours if the non-compliance may seriously endanger health or the environment. For other instances of non-compliance, the Discharger shall notify EPA Region 9 and the affected Regional Water Quality Boards of any non-compliance in writing within five working days of becoming aware of the non-compliance. The Discharger shall require their biosolids management contractors to notify EPA Region 9 and the affected Regional Water Quality Boards of any non-compliance within the same time frames.
  - b. If biosolids are shipped to another State or Indian lands, the Discharger must send notice at least 60 days prior to the shipment to the permitting authorities in the receiving State or Indian land (the EPA Region Office for that area and the State/Indian authorities).



- c. *For land application (in cases where Class B biosolids are directly applied without further treatment):* Prior to reuse of any biosolids from the Discharger's facility to a new or previously unreported site, the Discharger shall notify EPA, the Central Coast Water Board, and any other affected Regional Water Quality Board. The notification shall include description of the crops or vegetation to be grown, proposed loading rates and determination of agronomic rates.

If any biosolids within a given monitoring period do not meet 40 C.F.R. 503.13 metals concentration limits, the Discharger (or its contractor) must pre-notify EPA, and determine the cumulative metals loading to that site to date, as required in 40 C.F.R. 503.12.

The Discharger shall notify the applier of all the applier's requirements under 40 C.F.R. 503, including the requirement that the applier certify that the management practices, site restrictions, and any applicable vector attraction reduction requirements have been met. The Discharger shall require the applier to certify at the end of 38 months following application of Class B biosolids that the harvesting restrictions in effect for up to 38 months have been met.

- d. *For surface disposal:* Prior to disposal to a new or previously unreported site, the Discharger shall notify EPA and the Central Coast Water Board. The notice shall include a description and a topographic map of the proposed site, depth to groundwater, whether the site is lined or unlined, site operator, site owner, and any State or local permits. The notice shall describe procedures for ensuring public access and grazing restrictions for three years following site closure. The notice shall include a groundwater monitoring plan or description of why groundwater monitoring is not required.

- 9. The Discharger shall submit an annual biosolids report to the EPA Region 9 Biosolids Coordinator and Central Coast Water Board by February 19<sup>th</sup> of each year (per U.S. EPA guidance and 40 C.F.R. 503) for the period covering the previous calendar year. This report shall include:

- a. Annual biosolids removed in dry tons and percent solids.
- b. If appropriate, a narrative description of biosolids dewatering and other treatment processes, including process parameters, including a schematic diagram showing biosolids handling facilities. For example, if drying beds are used, report depth of application and drying time. If composting is used, report the temperature achieved and duration.
- c. A description of disposal methods, including the following information as applicable related to the disposal methods used at the facility. If more than one method is used, include the percentage and tonnage of annual biosolids production disposed by each method.
  - i. For landfill disposal include: 1) the central Coast Water Board WDR numbers that regulate the landfills used, 2) the present classifications of the landfills used, 3) the results of any groundwater monitoring, 4) certifications of management practices, and 5) the names and locations of the facilities receiving biosolids.

- ii. For land application include: 1) the location of the site(s), 2) the Central Coast Water Board's WDR numbers that regulate the site(s), 3) the application rate in lbs/acre/year (specify wet or dry), 4) certifications of management practices and site restrictions, and 5) subsequent uses of the land.
- iii. For offsite application by a licensed hauler and composter include: 1) the name, address and U.S. EPA license number of the hauler and composter.
- d. Copies of analytical data required by other agencies (i.e., U.S. EPA or County Health Department) and licensed disposal facilities (i.e., landfill, land application, or composting facility) for the previous year.
- e. Descriptions of pathogen reduction methods and vector attraction reduction methods. Including supporting time and temperature data, and certifications, as required in 40 C.F.R. 503.17 and 503.27.
- f. Names, mailing address, and street addresses of persons who received biosolids for storage, further treatment, disposal in a municipal waste landfill, or for other use or disposal methods not covered above, and amounts delivered to each.
- g. For all biosolids used or disposed at the Discharger's facility, the site and management practice information and certification required in 40 C.F.R. 503.17 and 503.27.
- h. For all biosolids temporarily stored, the information required in 40 C.F.R. 503.20 is required to demonstrate temporary storage.
- i. Reports shall be submitted to:

Regional Biosolids Coordinator  
U.S. EPA (WTR-7)  
75 Hawthorne St.  
San Francisco, CA 94105-3901

Executive Officer  
Central Coast Regional Water Quality Control Board  
895 Aerovista Place, Suite 101  
San Luis Obispo, CA 93401-7906

## **XI. OTHER MONITORING REQUIREMENTS**

### **A. Ocean Outfall and Diffuser Inspection**

The Discharger shall conduct an inspection of the outfall pipe/diffuser system annually to ensure the proper operation and structural integrity of the system. This inspection shall include general observations and photographic records of the outfall pipe/diffuser system and the surrounding ocean bottom in the vicinity of the outfall/diffuser. The inspection shall be conducted along the outfall pipe/diffuser system from landfall to its ocean terminus. A report detailing inspection results shall be submitted to the Central Coast Water Board and U.S. EPA with the annual report required in Standard Provisions C.8.

## **XII. REPORTING REQUIREMENTS**

#### A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Federal Standard Provisions and Central Coast Water Board Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

#### B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS Web site will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal. The Discharger shall use the current version of the Permittee Entry Template (PET) tool to configure data into the applicable CIWQS Data Format, and shall update that template according to this Order (e.g., add/delete parameters, revise limits, update monitoring locations, etc.). Blank versions of the latest PET tool are available at [http://www.waterboards.ca.gov/water\\_issues/program/ciwqs/chc\\_npdes.shtml](http://www.waterboards.ca.gov/water_issues/program/ciwqs/chc_npdes.shtml).
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit SMR's including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Sampling and monitoring as required by this MRP shall begin on the effective date of this Order. The Discharger shall complete all required monitoring and reporting according to the following schedule unless otherwise directed by the Executive Officer:

**Table E-11. Monitoring Periods and Reporting Schedule**

SMR Name	Permit Section for Monitoring and Sampling Data Included in Report	SMR Submittal Frequencies	SMR Due Date
NPDES Monitoring Report	MRP sections III (Influent), IV (Effluent) V (Whole Effluent Toxicity), and	Monthly	First day of second calendar month following period of sampling
NPDES Monitoring Report	MRP section IV (Effluent)	Semiannually	March 1 <sup>st</sup> and September 1 <sup>st</sup> (following January and July sampling, respectively)
NPDES Monitoring Report	MRP section IV (Effluent)	Annual	February 1 <sup>st</sup> following calendar year of sampling
NPDES Monitoring Report	MRP section VIII (Receiving Water)	Quarterly	First day of second calendar month following period of sampling
NPDES Monitoring Report	MRP section IX (Benthic)	Once per permit	February 1, 2019

SMR Name	Permit Section for Monitoring and Sampling Data Included in Report	SMR Submittal Frequencies	SMR Due Date
Biosolids Technical Report	MRP section X (Biosolids)	Annually	February 1 <sup>st</sup> following calendar year of sampling
Ocean Outfall Inspection Technical Report	MRP section XI (Ocean Outfall and Diffuser Inspection)	Annually	February 1 <sup>st</sup> following calendar year of sampling
Summary Report	Attachment D, Standard Provision, VIII.D.8	Annually	April 1st following calendar year of sampling
Effluent Bacteria	Order section V.C.2.b Special Provisions	Quarterly	First day of second calendar month following period of sampling

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable reported Minimum Level (reported ML, also known as the Reporting Level, or RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136. For each parameter identified in Table 1 of the Ocean Plan, the Discharger shall use a ML no greater than specified in Appendix II of the Ocean Plan.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shorted to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy ( $\pm$  a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
- d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. **Compliance Determination.** Compliance with effluent limitations for Ocean Plan Table 1 parameters shall be determined using sample reporting protocols defined above and

Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the Ocean Plan Table 1 parameter in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).

- 6. Multiple Sample Data.** When determining compliance with an average monthly effluent limitation (AMEL), average weekly effluent limitation (AWEL), or maximum daily effluent limitation, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
  - a.** The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
  - b.** The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.
- 7.** The Discharger shall submit SMR’s in accordance with the following requirements:
  - a.** The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
  - b.** The Discharger shall include in their CIWQS upload a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation. Uploaded reports must also include laboratory data sheets for the analytical results being presented.
  - c.** An Annual Self-Monitoring Report Summary shall be due on April 1 following each calendar year and shall include:
    - i.** All data required by this MRP for the corresponding monitoring period, including appropriate calculations to verify compliance with effluent limitations.
    - ii.** A discussion of any incident of non-compliance and corrective actions taken.

### **C. Discharge Monitoring Reports (DMRs)**

1. At any time during the term of this permit, the State or Central Coast Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of DMRs. Until such notification is given specifically for the submittal of DMR's, the Discharger shall submit DMRs in accordance with the requirements described below.
2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to one of the addresses listed below:

STANDARD MAIL	FEDEX/UPS/ OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15 <sup>th</sup> Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official U.S. EPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

#### **D. Other Reports**

1. Sanitary sewer overflows associated with the Discharger's collection system are subject to the online reporting and notifications requirements set forth in the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems Order No. 2006-0003-DWQ. The Discharger has enrolled under the statewide waste discharge requirements for sanitary sewer systems. Therefore, all prohibitions, provisions, and monitoring and reporting requirements apply to the Discharger. For any discharges of sewage to a drainage channel or surface water, the Discharger is required to notify the State Office of Emergency Services, the local health officer or directors of environmental health with jurisdiction over affected water bodies, and the Central Coast Water Board within two (2) hours after becoming aware of the discharge. Additionally, within 24-hours the Discharger shall submit to the Central Coast Water Board certification that the appropriate agencies (i.e., Office of Emergency Services and Environmental Health) have been notified of the sewage discharge to surface water bodies.

Additionally, any sanitary sewer overflows of wastewater (either partially treated or untreated) that are released at the wastewater treatment plant are subject to the same notifications requirements as mentioned above for collections systems.

2. The Discharger shall report the results of any special studies, monitoring, and reporting required by Special Provisions – VI.C. (Special Studies, Technical Reports, and Additional Monitoring) of the Order. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.

## ATTACHMENT F – FACT SHEET

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## ATTACHMENT F – FACT SHEET

As described in section I, the Central Coast Water Board incorporates this Fact Sheet as findings of the Central Coast Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

### I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

**Table F-1. Facility Information**

<b>WDID</b>	3 400103001
<b>Discharger</b>	City of Morro Bay/Cayucos Sanitary District
<b>Name of Facility</b>	The City of Morro Bay/Cayucos Sanitary District Wastewater Treatment Plant
<b>Facility Address</b>	160 Atascadero Road
	Morro Bay, CA 93442
	San Luis Obispo
<b>Facility Contact, Title and Phone</b>	Rob Livick, Public Services Director/City Engineer, (805) 772 - 6261
<b>Authorized Person to Sign and Submit Reports</b>	Rob Livick, Public Services Director/City Engineer, (805) 772 - 6261
<b>Mailing Address</b>	955 Shasta Avenue, Morro Bay, CA 93442
<b>Billing Address</b>	955 Shasta Avenue, Morro Bay, CA 93442
<b>Type of Facility</b>	POTW
<b>Major or Minor Facility</b>	Major
<b>Threat to Water Quality</b>	1
<b>Complexity</b>	B
<b>Pretreatment Program</b>	No
<b>Recycling Requirements</b>	None
<b>Facility Permitted Flow</b>	Peak seasonal dry weather flow of 2.36 million gallons per day (MGD)
<b>Facility Design Flow</b>	Annual average of 2.06 MGD, peak seasonal dry weather flow of 2.36 MGD
<b>Watershed</b>	Estero Bay
<b>Receiving Water</b>	Pacific Ocean
<b>Receiving Water Type</b>	Ocean waters

- A.** The City of Morro Bay and Cayucos Sanitary District (hereinafter Discharger) are the owners and operators of the City of Morro Bay – Cayucos Sanitary District Wastewater Treatment Plant (hereinafter Facility), a publicly owned treatment works (POTW).

For the purposes of this Order, references to the “discharger” or “permittee” in applicable

federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

- B.** The Facility discharges wastewater to the Pacific Ocean, a water of the United States. The Discharger was previously regulated by Order No. R3-2008-0065 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0047881 adopted on December 4, 2008, and expired on January 6, 2014. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211.

- C.** The Discharger filed a report of waste discharge and submitted an application for reissuance of its WDRs and NPDES permit on August 26, 2013.

## **II. FACILITY DESCRIPTION**

### **A. Description of Wastewater and Biosolids Treatment and Controls**

The Discharger owns and operates a wastewater treatment plant that provides sewerage service to the communities of the City of Morro Bay and Cayucos Sanitary District, serving approximately 12,835 people. All wastewater goes through primary treatment, including screening, grit removal, and primary sedimentation. A portion of the flow is diverted for secondary treatment process using biofilters, a solids-contact chamber, and a secondary clarifier. The secondary process also includes parallel single-stage, high-rate, trickling filters whose combined outflow goes to a solids contact channel and finally on to a secondary sedimentation tank. When flows exceed 1 MGD, secondary-treated effluent can be blended with primary treated effluent, and the blend is chlorinated and dechlorinated before discharge. This blending process will be discontinued as part of the planned new Facility, and all flows will meet at least full secondary treatment standards.

Biosolids removed by the primary clarifiers is heated in two mixed-primary digesters then transferred to a secondary digester. Stabilized sludge from the secondary digester is transferred to one of 12 sludge-drying beds. Drying times range from two to four months, and once dried, biosolids are removed from the beds and stored in a concrete containment area. Biosolids are stored in this area, usually for less than a year, until they are removed from the WWTP for composting and eventual use as a soil amendment.

### **B. Discharge Points and Receiving Waters**

Wastewater is discharged to the Pacific Ocean through a 170-foot outfall/diffuser system. The outfall is 27 inches in diameter and is 2,900 feet from shore under approximately 50 feet of water. The diffuser was modeled to achieve a minimum initial dilution of 133 to 1. The zone of initial dilution is approximately 103 feet wide and 240 feet long.

**Table F-2. Outfall Location**

<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude</b>	<b>Discharge Point Longitude</b>	<b>Receiving Water</b>
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001	Municipal Wastewater	35° 23' 11"N	120° 52' 29"W	Estero Bay, Pacific Ocean
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### C. Regulatory History

The treatment plant was originally constructed in 1954 to provide primary treatment and was upgraded in 1964 to a capacity of 1.0 MGD. In 1982, the outfall was extended further offshore to its current location. A new treatment plant was designed in 1981 to expand treatment capacity and meet full secondary treatment standards. However, financial aid from state and federal agencies and sufficient alternative funding was not available. Consequently, the treatment plant's design was modified to provide biological treatment to a portion of the influent (approximately 1 MGD), of the projected flow. In March 1983, Central Coast Water Board staff tentatively concurred that such a discharge would comply with applicable state laws, including water quality standards, and would not result in requirements for additional treatment, pollution control, or other requirements on any other point or non-point sources.

The treatment plant was upgraded from 1983 to 1985 to a peak seasonal dry weather flow of 2.36 MGD. In 1985, U.S. EPA approved a Clean Water Act section 301(h) modified NPDES permit that waived fully secondary treatment requirements for biochemical oxygen demand (5-day @ 20°C) (BOD<sub>5</sub>) and total suspended solids (TSS). The permit required 75% removal of TSS and included a 30-day average TSS effluent limit of 70 mg/L. The permit required 30% removal of BOD<sub>5</sub> and included a 30-day average BOD<sub>5</sub> effluent limit of 120 mg/L. The permit also required an extensive monitoring program.

The permit was reissued in 1992 and the second permit reissuance process began in May 1997. Multiple discussions between the Discharger, Central Coast Water Board staff, and U.S. EPA staff resulted in several revisions to the permit and monitoring program, including a slight reduction in allowed mass-emissions of BOD<sub>5</sub>, TSS, and oil and grease; expanded biosolids reporting; revised benthic sampling locations; and a revised receiving water sampling program. In July 1998, staff again determined that the discharge would comply with applicable state laws, including water quality standards, and would not result in requirements for additional treatment, pollution control, or other requirements on any other pollutant sources. U.S. EPA issued a tentative decision to grant another modification of secondary treatment requirements in September 1998. In December 1998 the Central Coast Water Board approved the NPDES permit, waiving secondary treatment requirements. On January 13, 1998, the California Coastal Commission determined the permit was consistent with the Coast Zone Management Act. U.S. EPA issued the permit on January 26, 1999, which became effective March 1, 1999.

The Facility is now one of only two remaining in California that operates under a 301(h) modified permit, the other being Point Loma in San Diego County. In anticipation of the 2004 permit reissuance process, Central Coast Water Board staff met with and sent a letter to the Discharger in January 2003 that requested that it consider upgrading the treatment plant to meet federal secondary treatment standards and forgo its 301(h) modified permit. In a March 20, 2003 response, City of Morro Bay Manager Robert Hendrix wrote:

"...we are using your correspondence as a catalyst for the formation of a long-term future policy on wastewater treatment. The [Morro Bay] City Council and [Cayucos] Sanitary District Board have selected members to serve on a subcommittee to work with your staff to consider a number of alternatives, formulate a draft policy or policies, and then return to the full legislative body in the late Spring of this year [2003] with a recommended course of action."

In mid-2003, the subcommittee commissioned a study as to whether an equalization basin could be added to improve treatment efficiency and allow the discharge to meet secondary treatment standards. The study concluded that an equalization basin would not accomplish this goal.

The Discharger submitted an application for reissuance of its Clean Water Act section 301(h) modified NPDES permit on July 7, 2003. It also requested a determination ("401 Certification") as to whether the discharge will comply with applicable state laws, including water quality standards, and will not result in requirements for additional treatment, pollution control, or other requirements on any other pollutant sources. In an August 26, 2003 letter, Central Coast Water Board staff declined to make such a determination, instead deferring to the Central Coast Water Board to make such a determination through approval or disapproval of the NPDES permit.

The existing permit expired on March 1, 2004, but continued in force until the effective date of reissuance, in accordance with 40 C.F.R. part 122.6.

In June 2004, after public opposition to the 301(h) modified permit, the Discharger commenced a process to upgrade the treatment plant to meet secondary treatment standards. The Discharger hired Carollo Engineers to assist in development of a detailed timeline to implement the upgrade. Central Coast Water Board staff and U.S. EPA chose to delay the permit reissuance process until the timeline was developed. In April 2005, Carollo Engineers presented a 15-year timeline at a public meeting of the Discharge. After considering many public comments in opposition to the 15-year timeline, the Discharger rejected the 15-year timeline and directed Carollo Engineers to return with a timeline that was as "quick as possible."

In May 2005, Carollo Engineers returned and presented a 9.5-year timeline to the Discharger. The 9.5-year timeline was based on the shortest reasonable time necessary to select an engineering consultant, coordinate between the Dischargers, develop a facility plan, obtain financing and permits, and design and construct the improvements. The 9.5-year timeline required the Discharger to achieve full compliance with secondary treatment standards by June 23, 2015. The Discharger accepted the 9.5-year timeline and formally proposed it to Central Coast Water Board staff on June 15, 2005. Central Coast Water Board staff and the Discharger drafted a tentative settlement agreement that enforces the 9.5-year timeline, and provided for one more 301(h) modified permit. This 301(h) modified permit is necessary because the timeline to achieve compliance with secondary treatment standards exceeds the five-year life of an NPDES permit.

Prior to the May 11, 2006 meeting to present the modified 301(h) waiver NPDES permit, Central Coast Water Board staff and the Discharger entered into a revised settlement agreement that expedited the conversion schedule to 8.5 years. The Central Coast Water Board had questions regarding the potential effects of continued discharges from the Facility; more specifically, whether the continued Facility discharges would affect the southern sea otter and brown pelican. As a result, the Central Coast Water Board continued the hearing to allow U.S. EPA to develop an Endangered Species Act Biological Evaluation (BE) on the potential effects. Furthermore, the BE would be required to receiving concurrence of "no likely adverse effects" pursuant to section 7 of the Federal Endangered Species Act from the United States Fish and Wildlife Service (U.S. FWS).

The U.S. EPA drafted the BE on September 6, 2007, and requested concurrence of “no likely adverse effects” on the brown pelican and southern sea otter from the U.S. FWS. The BE recognizes no likely adverse effects on the southern sea otter and brown pelican provided that the Discharger implements conservation measures, which included:

- Public outreach program to minimize the input of cat litter-box wastes into the municipal sewer systems;
- Regular monitoring of nutrient loading from the facility’s ocean outfall; and
- Facility upgrade to at least full secondary or tertiary by 2014.

The U.S. FWS formally responded to the U.S. EPA’s request for concurrence in a letter dated December 21, 2007. The U.S. FWS letter concurred with the U.S. EPA’s findings indicating that continued discharges from the Facility would not likely have adverse effects to endangered species in the area. The U.S. FWS letter stated, “[w]e concur with your determination that the proposed project is not likely to adversely affect the brown pelican or southern sea otter.” However, the U.S. FWS letter recognized that there are material gaps in current data and that additional data gathering would optimize the understanding of potential effects from the continued discharge. The U.S. FWS letter stated, “[w]e recognize that the conservation measures proposed in the Biological Evaluation for this action will assist in gathering information useful in evaluation this issue, as will independent research being conducted by a number of interested parties.”

The Discharger submitted to Central Coast Water Board staff drafts for the development and implementation of a nutrient monitoring program and a Cat Litter Public Outreach program consistent with the conservation measures as proposed by U.S. EPA. These conservation measures were incorporated into the NPDES permit. The May 11, 2006 settlement agreement was updated to revise the conversion schedule and make other revisions to reflect new factual information available since the May 11, 2006 hearing. The Dischargers presented the updated settlement agreement to their governing boards for approval on November 19, 2008. In December 2008, the Discharger executed a Settlement Agreement with the Central Coast Water Board to upgrade the existing Facility to eliminate the need for the 301(h) waiver modified permit. The Settlement Agreement stated that the Central Coast Water Board Executive Officer shall recommend that the Central Coast Water Board concur in the issuance of the 2008 301(h) modified permit and that the Discharger shall upgraded the Facility so that all effluent is treated to at least secondary levels.

The 2008 Settlement Agreement contains a conversion schedule outlining the upgrade process and includes milestones for achieving critical phases of the proposed upgrade project.

**Table F-3. 2008 Settlement Agreement Conversion Schedule**

Task	Required Date of Completion
<b>Preliminary Activities</b>	
Issuance of Request for Consulting Engineering Proposals for Facilities Master Plan	November 11, 2005
Award of Consulting Engineer Contracts	April 27, 2006
<b>Facilities Planning</b>	
Submit Final Draft Facilities Master Plan	November 30, 2007

<b>Task</b>	<b>Required Date of Completion</b>
Submit Final Facilities Master Plan	September 30, 2009
<b>Environmental Review and Permitting</b>	
Complete and Circulate Draft CEQA Document	February 27, 2009
Obtain Coastal Development Permit	May 31, 2011
<b>Financing</b>	
Complete Draft Plan for Project Design and Construction Financing	December 31, 2007
Complete Final Plan for Project Financing	June 30, 2008
Submit proof that all necessary financing has been secured, including compliance with Proposition 218	October 30, 2009
<b>Design and Construction</b>	
Initiate Design	September 30, 2010
Issue Notice to Proceed with Construction	March 29, 2012
Construction Progress Reports	Quarterly (with self monitoring reports)
Complete Construction and Commence Debugging and Startup	January 31, 2014
Achieve Full Compliance with Secondary Treatment	March 31, 2014

The 2008 Settlement Agreement further states that in the second permit cycle following the expiration of the 301(h) modified permit, that the Central Coast Water Board shall issue a NPDES permit that includes effluent limitations consistent with full secondary treatment requirements, or any more stringent requirements that are necessary or that the Discharger agrees to, and concurrently issue a 13385(j)(3) Order. The 13385(j)(3) Order shall include interim effluent limits for BOD<sub>5</sub> and suspended solids that are the same as those in the 301(h) modified permit.

The 2008 Settlement Agreement provides enforcement relief due to a “force majeure event,” defined as any event beyond the control of the Discharger, its contractors, or any entity controlled by the Discharger, including, but not limited to third-party litigation that delays the performance of any obligation under the Settlement Agreement despite the Discharger’s best efforts to fulfill the obligation. If the Executive Officer agrees that a violation of the Conversion Schedule has been caused by a force majeure event, the time for performance of an affected requirement shall be extended for a period not to exceed the actual delay in performance resulting from such circumstance.

The Discharger ultimately proposed to demolish the existing Facility and to construct a new wastewater treatment plant on the same site in the City of Morro Bay just inland of the beach. On September 20, 2010, the draft CEQA document for the project was completed and publicly noticed for comments, and on January 10, 2011, the Morro Bay City Council certified the final Environmental Impact Report and issued a Coastal Development Permit (CDP). The CDP was immediately appealed to the California Coastal Commission (CCC). On January 10, 2013, the CCC denied the CDP at a de novo hearing for construction of an upgraded wastewater treatment facility at its existing location. The denial was based on zoning inconsistency, failure to avoid coastal hazards, failure to include a sizable reclaimed water component, and the project is located within an LCP-designated sensitive view area.

On February 23, 2011, per the terms of the Settlement Agreement, the Discharger submitted a letter to the Central Coast Water Board stating that the appeal of the CDP to the CCC constituted a force majeure event under the terms of the Settlement Agreement. On March 24, 2011, the Central Coast Water Board responded that it agreed that the appeal constituted

a force majeure event, and in a letter from the same day stated, "In considering the JPA's compliance with the Compliance Schedule, the Water Board will extend the dates of the remaining Conversion Schedule for tasks contained with the Agreement paragraph B.1 for a period not to exceed the actual delay resulting from this force majeure event."

Following the January 10, 2013 CDP denial, on May 18, 2013, the City of Morro Bay issued a request for proposal for the preliminary planning consultant for a new water reclamation facility (WRF). On May 14, 2013, the City Council selected the consultant for the preliminary planning of the new WRF. A contract with the contractor was executed on June 10, 2013.

On December 10, 2013, the City of Morro Bay City Council chose three possible sites for development of the new WRF. In February 2014, the City of Morro Bay City Council established the goal of having the new WRF operational in five years.

On May 8, 2014, the consultant submitted to the City of Morro Bay a Report on Reclamation and Council Recommended WRF Sites that provided a comparative analysis of the three proposed sites. Based on the report, the City Council is expected to choose a single site to continue moving forward with a Work Plan and begin due diligence toward the eventual design and construction of the new WRF. The Discharger has made measured and deliberate progress in achieving secondary treatment consistent with the 2008 Settlement Agreement.

Since the time the Discharger originally applied for Order renewal, there have been significant changes in their planning for future treatment facilities to address the need for full secondary treatment, pursuant to the Settlement Agreement. The Discharger will be providing an updated compliance schedule as part of this planning effort, and Water Board staff anticipates preparing a time schedule order of no more than five-years duration to accompany the proposed facilities. No additional extension of schedule is available to meet these final effluent discharge limitations contained within this proposed Order.

Additionally, the Cayucos Sanitary District has moved forward with plans to design, construct, and operate its own wastewater treatment plant, separate from its existing use of the subject Facility. Water Board staff is working with Cayucos Sanitary District on those plans and expects to draft a separate NPDES and WDRs for its facility, when appropriate.

The Discharger has requested that this Order contain revised effluent limitation and monitoring requirements to reflect this changing status. CWA section 301(h) provides for a modification of secondary treatment standards for publicly owned treatment works that discharge into marine waters if the modified requirements do not interfere with the attainment or maintenance of water quality. U.S. EPA has promulgated specific regulations pertaining to CWA section 301(h) in 40 CFR, subpart G.

In order to obtain a 301(h) modified permit, an applicable must demonstrate that:

- There is an applicable water quality standard specific to the pollutant for which the modification is requested (usually BOD<sub>5</sub> and TSS);
- The discharge of pollutants in accordance with such modified requirements will not interfere, alone or in combination with pollutants from other sources, with the attainment or maintenance of that water quality which assures protection of public water supplies and protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife, and allows recreational activities, in and on the water;

- The applicant has established a system for monitoring the impact of such discharge on a representative sample of aquatic biota, to the extent practicable, and the scope of such monitoring is limited to include only those scientific investigations which are necessary to study the effects of the proposed discharge;
- Such modified requirements will not result in any additional requirements on any other point or nonpoint source;
- All applicable pretreatment requirements for sources introducing waste into such treatment works will be enforced;
- In the case of any treatment works serving a population of 50,000 or more, with respect to any toxic pollutant introduced into such works by an industrial discharger for which pollutant there is no applicable pretreatment requirement in effect, sources introducing waste into such works are in compliance with all applicable pretreatment requirements, the applicant will enforce such requirements, and the applicant has in effect a pretreatment program which, in combination with the treatment of discharges from such works, removes the same amount of such pollutant as would be removed if such works were to apply secondary treatment to discharges and if such works had no pretreatment program with respect to such pollutant;
- To the extent practicable, the applicant has established a schedule of activities designed to eliminate the entrance of toxic pollutants from nonindustrial sources into such treatment works;
- There will be no new or substantially increased discharges from the point source of the pollutant to which the modification applies above that volume of discharge specified in the permit;
- The applicant at the time such modification becomes effective will be discharging effluent which has received at least primary or equivalent treatment and which meets the criteria established under section 304(a)(1) [of the CWA] after initial mixing in the waters surrounding or adjacent to the point at which such effluent is discharged [40 CFR part 125.57].

The conditions of the 2008 Settlement Agreement prohibited the Discharger from applying to U.S. EPA for a 301(h) waiver. U.S. EPA has not granted a 301(h) waiver, and full secondary treatment requirements must be implemented within this Order.

Consistent with Part B.2.b of the 2008 Settlement Agreement, this Order contains final effluent limitations and monitoring requirements. Concurrently with the issuance of this Order, the Central Coast Water Board shall consider a 13385(j)(3) order that includes interim effluent limitations for BOD<sub>5</sub> and TSS that are the same as those in the previous 301(h) modified permit. The compliance dates established within the 13385(j)(3) order will consider the 2008 Settlement Agreement Conversion Schedule, the force majeure event (the 2013 CCC denial of the CDP), and a projected five-year schedule.

#### **D. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data**

Effluent limitations contained in the existing Order for discharges from Discharge Point No. 001 (Monitoring Location EFF-001) and representative monitoring data from the term of the previous Order are as follows:



**Table F-4. Historic Effluent Limitations and Monitoring Data**

Parameter	Units	Effluent Limitation			Monitoring Data (From March 2009 – To Sept 2013)		
		Average Monthly	Average Weekly	Instant Max	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Instant Max Discharge
Biochemical Oxygen Demand (5-day @ 20°C) (BOD <sub>5</sub> )	mg/L	120	--	180	87.5	--	154
	lbs /day	2,062	--	3,092	NR	--	NR
	kg/ day	936	--	1,404	NR	--	NR
Total Suspended Solids (TSS)	mg/L	70	--	105	37	--	97
	lbs /day	1,203	--	1,804	NR	--	NR
	kg/ day	546	--	819	NR	--	NR
Settleable Solids	mL/L	1.0	1.5	3.0	0.06	0.09	0.3
Turbidity	NTU	75	100	225	41	52	78
Oil and Grease	mg/L	25	40	75	9.5	25	25
	lbs /day	430	687	1,288	NR	NR	NR
	kg/ day	195	312	585	NR	NR	NR
pH	standard units	6.0 – 9.0 at all times			7.2 – 7.9		

NR – Not Reported

**Table F-5. Historic Effluent Limitations and Monitoring Data, Protection of Marine Aquatic Life**

Parameter	Units	Effluent Limitation			Monitoring Data <sup>[1]</sup> (From July 2009 – To July 2013)		
		6-Month Median	Maximum Daily	Instant Max	Highest 6-Month Median	Highest Maximum Daily	Highest Instant Max
Arsenic	µg/L	670	3,890	10,300	J 2.0	J 2.0	J 2.0
Cadmium	µg/L	130	540	1,340	J 10	J 10	J 10
Chromium (VI)	µg/L	270	1,070	2,680	J 10	J 10	J 10
Copper	µg/L	140	1,340	3,750	22	22	22
Lead	µg/L	270	1,070	2,680	1.8	1.8	1.8
Mercury	µg/L	5.29	21.4	53.5	J 0.09	J 0.09	J 0.09
Nickel	µg/L	670	2,680	6,700	J 10	J 10	J 10
Selenium	µg/L	2,010	8,040	20,100	2.7	2.7	2.7
Silver	µg/L	70	350	920	J 4.6	J 4.6	J 4.6
Zinc	µg/L	1,620	9,660	25,700	59	59	59
Cyanide	µg/L	130	540	1,340	50	50	50
Total Chlorine Residual	mg/L	0.27	1.07	8.04	7.4	7.4	7.4
Ammonia (as N)	mg/L	80.4	322	804	42	64	64
Acute Toxicity	TUa	--	4.3	--	--	NR	--
Chronic Toxicity	TUc	--	134	--	--	31	--
Phenolic Compounds (non-chlorinated)	µg/L	4,020	16,100	40,200	3.3	3.3	3.3

Phenolic Compounds (chlorinated)	µg/L	130	540	1,340	<0.2	<0.2	<0.2
Endosulfan	µg/L	1.21	2.41	3.62	<0.0014	<0.0014	<0.0014
Endrin	µg/L	0.27	0.54	0.80	<0.0008	<0.0008	<0.0008
HCH	µg/L	0.54	1.07	1.61	<0.0009	<0.0009	<0.0009
Radioactivity	pCi/L	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, section 30253 of the California Code of Regulations			19	19	19

NR = Not Reported

<sup>[1]</sup> Values preceded with a "J" represent maximum effluent concentrations that were detected, but not quantifiable.

**Table F-6. Historic Effluent Limitations and Monitoring Data for Non-Carcinogens and Carcinogens**

Parameter	Units	Effluent Limitation	Monitoring Data <sup>[1]</sup> July 2009– To July 2013
		Average Monthly	Highest Average Monthly Discharge
<b>Non- Carcinogens</b>			
Acrolein	µg/L	29,500	<7.3
Antimony	µg/L	160,800	34
Bis(2-chloroethoxy) methane	µg/L	590	<0.27
Bis(2-chloroisopropyl) ether	µg/L	160,800	<0.3
Chlorobenzene	µg/L	76,400	<0.06
Chromium (III)	µg/L	25,500,000	J 2.6
Di-n-butyl phthalate	µg/L	469,000	<0.39
Dichlorobenzenes	µg/L	683,00	<0.05
Diethyl phthalate	µg/L	4,420,000	<0.33
Dimethyl phthalate	µg/L	109,900,00	<0.39
4,6-dinitro-2-methylphenol	µg/L	29,500	<0.34
2,4-dinitrophenol	µg/L	540	<0.2
Ethylbenzene	µg/L	549,000	J 0.5
Fluoranthene	µg/L	2,000	<0.2
Hexachlorocyclopentadiene	µg/L	7,800	<0.3
Nitrobenzene	µg/L	660	<0.26
Thallium	µg/L	270	<0.08
Toluene	µg/L	11,400,000	<0.5
Tributyltin	µg/L	0.188	<0.03
1,1,1-trichloroethane	µg/L	72,400,00	<0.063
<b>Carcinogens</b>			
Acrylonitrile	µg/L	13.4	<0.75
Aldrin	µg/L	0.00295	<0.0013
Benzene	µg/L	791	<0.061
Benzidine	µg/L	0.00925	<7.1
Beryllium	µg/L	4.42	J 1.2

Parameter	Units	Effluent Limitation	Monitoring Data <sup>[1]</sup> July 2009– To July 2013
		Average Monthly	Highest Average Monthly Discharge
Bis(2-chloroethyl) ether	µg/L	6.03	<0.68
Bis(2-ethylhexyl) phthalate	µg/L	469	9.2
Carbon tetrachloride	µg/L	121	<0.074
Chlordane	µg/L	0.00308	<0.38
Chlorodibromomethane	µg/L	1,152	<0.067
Chloroform	µg/L	17,400	J 0.97
DDT	µg/L	0.0228	<0.00076
1,4-dichlorobenzene	µg/L	2,410	J 0.1
3,3-dichlorobenzidine	µg/L	1.09	<8.2
1,2-dichloroethane	µg/L	3,750	<0.09
1,1-dichloroethylene	µg/L	120	<0.07
Dichlorobromomethane	µg/L	830	<0.15
Dichloromethane	µg/L	60,300	<0.28
1,3-dichloropropene	µg/L	1,190	<0.07
Dieldrin	µg/L	0.00536	<0.0012
2,4-dinitrotoluene	µg/L	348	<0.26
1,2-diphenylhydrazine	µg/L	21.4	<0.34
Halomethanes	µg/L	17,400	J 0.25
Heptachlor	µg/L	0.0067	<0.0012
Heptachlor epoxide	µg/L	0.00268	<0.00099
Hexachlorobenzene	µg/L	0.0281	<0.2
Hexachlorobutadiene	µg/L	1,880	<0.24
Hexachloroethane	µg/L	335	<0.32
Isophorone	µg/L	98,000	<0.31
N-nitrosodimethylamine	µg/L	978	<0.61
N-nitrosodi-n-propylamine	µg/L	50.9	<1.3
N-nitrosodiphenylamine	µg/L	335	<0.44
PAHs	µg/L	1.18	<0.2
PCBs	µg/L	0.00255	<0.02
TCDD equivalents	µg/L	0.00000052	<0.00000131
1,1,2,2-tetrachloroethane	µg/L	310	<0.17
Tetrachloroethylene	µg/L	268	<0.095
Toxaphene	µg/L	0.0281	<0.42
Trichloroethylene	µg/L	3,620	<0.07
1,1,2-trichloroethane	µg/L	1,260	<0.15
2,4,6-trichlorophenol	µg/L	39	<0.6
Vinyl chloride	µg/L	4,820	<0.11

<sup>[1]</sup> Values preceded with a “J” represent maximum effluent concentrations that were detected, but not quantifiable.

## E. Compliance Summary

The Discharger violated numeric effluent limitations during the term of the previous Order. Three violations were for total chlorine violations due to equipment changes/malfunctions. The fourth violation was for total suspended solids and no further incidences of violation have occurred. The following table summarizes the violations of effluent limitations based on data collected from July 2009 through August 2017.

**Table F-7. Effluent Limitations Compliance Summary**

Date	Violation Type	Pollutant	Reported Value	Permit Limitation	Units
12/16/2014	Maximum Daily	Chlorine Total Residual	3.0	1.07	mg/L
04/15/2015	Maximum Daily	Chlorine Total Residual	7.2	1.07	mg/L
12/11/2015	Maximum Daily	Chlorine Total Residual	4.5	1.07	mg/L
11/04/2016	Instantaneous Maximum	Total Suspended Solids	106	105	mg/L

#### **F. Planned Changes**

The Discharger will begin construction on a new wastewater treatment plant within this permit term. However, the Discharger points out that the current wastewater treatment facility will need to remain in service and continue operations and that significant improvement is required to maintain compliance. The Discharger has thus adopted a Major Repair and Maintenance Plan (MMRP) schedule to ensure compliance is maintained. The draft MMRP schedule provided in the Discharger's Report of Waste Discharge provided projected maintenance and improvement projects from fiscal year 2013 through 2018. The adopted budgets contain maintenance and improvement projects including the installation of new influent screens at the headworks, replacement of chains and flights in the chlorine contact tank, cleaning and repairs to a digester, pump and valve rebuild and replacement project, and the rehabilitation of the chlorine building. These projects have been partially completed, or are scheduled to be completed.

Since the time the Discharger originally applied for Order renewal, there have been significant changes in their planning for future treatment facilities to address the need for full secondary treatment, pursuant to the Settlement Agreement. The Discharger will be providing an updated compliance schedule as part of this planning effort, and Water Board staff anticipates preparing a time schedule order of no more than five-years duration to accompany the proposed facilities. No additional extension of schedule is available to meet these final effluent discharge limitations contained within this proposed Order.

### **III. APPLICABLE PLANS, POLICIES, AND REGULATIONS**

The requirements contained in this Order are based on the requirements and authorities described in this section.

#### **A. Legal Authorities**

This Order serves as waste discharge requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing

regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters.

## B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

## C. State and Federal Laws, Regulations, Policies, and Plans

- 1. Water Quality Control Plan.** The Regional Water Quality Control Board (Central Coast Water Board) adopted the *Water Quality Control Plan for the Central Coastal Basin* (hereinafter Basin Plan), the most recent version released in June 2011, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for the Pacific Ocean and other receiving waters addressed through the plan. Requirements in this Order implement the Basin Plan.

Beneficial uses applicable to the Pacific Ocean are as follows:

**Table F-8. Basin Plan Beneficial Uses**

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Water Contact (REC-1) Non-Contact Recreation (REC-2) Industrial Supply (IND) Navigation (NAV) Marine Habitat (MAR) Shellfish Harvesting (SHELL) Commercial and Sport Fishing (COMM) Rare, Threatened, or Endangered Species (RARE) Wildlife Habitat (WILD)

- 2. California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, 2009, and 2012. The State Water Board adopted the latest amendment on October 16, 2012, and it became effective on August 19, 2013. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the state to be protected as summarized below:

**Table F-9. Ocean Plan Beneficial Uses**

Discharge Point	Receiving Water	Beneficial Uses
001	Pacific Ocean	Industrial water supply (IND) Water Contact and non-contact recreation, including aesthetic enjoyment (REC-1 and REC-2) Navigation (NAV) Commercial and sport fishing (COMM)

		Mariculture (MARI) Preservation and enhancement of designated Areas of Special Biological Significance (ASBS) Rare and endangered species (RARE) Marine habitat (MAR) Fish migration (MIGR) Fish spawning and shellfish harvesting (SPWN)
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In order to protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

3. **Antidegradation Policy.** Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16. Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Central Coast Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution 68-16.
4. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.
5. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state, including protecting rare and endangered species. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

#### D. Impaired Water Bodies on CWA 303(d) List

CWA section 303(d) requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. For all 303(d) listed water bodies and pollutants, the Central Coast Water Board must develop and implement Total Maximum Daily Loads (TMDLs) that will specify Waste Load Allocations (WLAs) for point sources and Load Allocations (LAs) for non-point sources.

The U.S. EPA approved the State's 2010 303(d) list of impaired water bodies on November 12, 2010. The 2010 303(d) list does not identify the coast of the Pacific Ocean at Estero Bay in the vicinity of the point of discharge as being impaired.

## **E. Other Plans, Policies and Regulations**

1. **Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (State Water Board Order No. 2006-0003-DWQ).** The General Permit, adopted on May 2, 2006, is applicable to all "federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California." The purpose of the General Permit is to promote the proper and efficient management, operation, and maintenance of sanitary sewer systems and to minimize the occurrences and impacts of sanitary sewer overflows. The Discharger is covered under the General Permit and must comply with its requirements.

## **IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

### **A. Discharge Prohibitions**

1. **Discharge Prohibition III.A.** (Discharge of treated wastewater at a location or in a manner different from that described in this Order is prohibited). This prohibition is similar to the previous Order and is based on 40 C.F.R. 122.21(a), duty to apply, and CWC section 13260, which requires filing a ROWD before discharges can occur.
2. **Discharge Prohibition III.B.** (Discharges of radiological, chemical, or biological warfare agent or high level radioactive waste to the Ocean is prohibited). This prohibition is based on the 2015 Ocean Plan Discharge Prohibition I.1.a.
3. **Discharge Prohibition III.C.** (The discharge of municipal or industrial waste sludge to the Pacific Ocean is prohibited). This prohibition is retained from the current permit and is based on the 2015 Ocean Plan Discharge Prohibition I.3.
4. **Discharge Prohibition III.D, III.E** (The overflow or bypass of wastewater from the Discharger's collection, treatment, or disposal facilities and the subsequent discharge of untreated or partially treated wastewater, except as provided for in Attachment D, Standard Provision I.G (Bypass), is prohibited.) The discharge of untreated or partially treated wastewater from the Discharger's collection, treatment, or disposal facilities represents an unauthorized bypass pursuant to 40 C.F.R. 122.41(m) or an unauthorized discharge, which poses a threat to human health and/or aquatic life, and therefore, is explicitly prohibited by the Order. Discharge Prohibitions III.E is retained from the current permit.
5. **Discharge Prohibition III.F.** (Materials and substances that are prohibited). This prohibition is based on requirements of the Ocean Plan.

6. **Discharge Prohibition III.G.** (Discharge of chlorine or toxic substances used for disinfection prohibited). This prohibition is retained from the current Order.

## B. Technology-Based Effluent Limitations

### 1. Scope and Authority

CWA section 301(b) requires U.S. EPA to develop secondary treatment standards for publicly-owned treatment works at a level of effluent quality attainable through applying secondary or equivalent treatment. U.S. EPA promulgated such technology-based effluent guidelines at 40 C.F.R. 133. These secondary treatment regulations include the following minimum requirements.

**Table F-10. Secondary Treatment Requirements**

Parameter	Units	30-Day Average	7-Day Average
BOD <sup>[1]</sup>	mg/L	30	45
TSS <sup>[1]</sup>	mg/L	30	45
pH	standard units	6.0 – 9.0	

<sup>[1]</sup> The 30-day average percent removal for BOD<sub>5</sub> and TSS shall not be less than 85 percent.

In addition to the secondary treatment standards established in 40 C.F.R. 133, the State Water Board, in Table 2 of the Ocean Plan, has supplemented these technology-based requirements with additional requirements for conventional pollutants (settleable matter, oil and grease), which are applicable to the Facility. The Ocean Plan requirements are discussed in section IV.B.2 of this Fact Sheet.

### 2. Applicable Technology-Based Effluent Limitations

Title 40 C.F.R. 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 C.F.R. 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 C.F.R. 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration and mass limitations are not necessary to protect the beneficial uses of the receiving waters.

- a. **BOD<sub>5</sub> and TSS.** Federal Regulations, 40 C.F.R. 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD and TSS. Effluent limitations for BOD<sub>5</sub> and TSS have thus been established in this Order based on these standards.

Additionally, 40 C.F.R. 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. This Order includes a limitation requiring an average of 85 percent removal of BOD and TSS over each calendar month.

- b. **pH.** Federal Regulations, 40 C.F.R. 133, establishes technology-based effluent limitations for pH. The secondary treatment standards require the pH of the effluent



to be no lower than 6.0 and no greater than 9.0 standard units. This pH range is also consistent with the Ocean Plan Table 2 effluent limitations.

- c. **Settleable Solids.** The Ocean Plan Table 2 establishes the minimum weekly, monthly, and maximum average of effluent quality attainable by secondary treatment for settleable solids. Effluent limitations for settleable solids have been established in this Order based on these requirements.
- d. **Oil and Grease.** The Ocean Plan Table 2 establishes the minimum weekly, monthly, and maximum average of effluent quality attainable by secondary treatment for oil and grease. Effluent limitations for oil and grease have been established in this Order based on these requirements.
- e. **Turbidity.** The Ocean Plan Table 2 establishes the minimum weekly, monthly, and maximum average of effluent quality attainable by secondary treatment for turbidity. Effluent limitations for turbidity have been established in this Order based on these requirements.

The following table summarizes technology-based effluent limitations established by the Order.

**Table F-11. Technology-Based Effluent Limitations**

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> ) <sup>[1]</sup>	mg/L	30	45	--
	lbs/day <sup>[2]</sup>	515	773	--
Total Suspended Solids (TSS) <sup>[1]</sup>	mg/L	30	45	--
	lbs/day <sup>[2]</sup>	515	773	--
Oil and Grease	mg/L	25	40	75
	lbs/day <sup>[2]</sup>	430	687	1,289
Settleable Solids	mL/L	1.0	1.5	3.0
Turbidity	NTU	75	100	225
pH	standard units	6.0 – 9.0 <sup>[3]</sup>		

<sup>[1]</sup> The 30-day average percent removal for BOD and TSS shall not be less than 85 percent.

<sup>[2]</sup> Mass-based effluent limitations were calculated using the following formula:

lbs/day = pollutant concentration (mg/L) \* Design flow (2.06 MGD) \* conversion factor (8.34)

<sup>[3]</sup> Applied as an instantaneous minimum and maximum.

## C. Water Quality-Based Effluent Limitations

### 1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been

established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the Ocean Plan.

## **2. Applicable Beneficial Uses and Water Quality Criteria and Objectives**

Beneficial uses for ocean waters of the Central Coast Region are established by the Basin Plan and Ocean Plan and are described in section III.C of this Fact Sheet.

Water quality criteria applicable to ocean waters of the Region are established by the Ocean Plan, which includes WQOs for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity. The WQOs from the Ocean Plan are incorporated as receiving water limitations in this Order. In addition, Table 1 of the Ocean Plan contains numeric WQOs for 83 toxic pollutants for the protection of marine aquatic life and human health. Pursuant to NPDES regulations at 40 C.F.R. 122.44(d)(1), and in accordance with procedures established by the Ocean Plan (2015), the central Coast Water Board has performed a reasonable potential analysis (RPA) to determine the need for effluent limitations for Table 1 toxic pollutants.

## **3. Determining the Need for WQBELs**

Procedures for performing an RPA for ocean dischargers are described in section III.C and Appendix VI of the Ocean Plan. The procedure is a statistical method that projects an effluent data set while taking into account the averaging period of WQOs, the long term variability of pollutants in the effluent, limitations associated with sparse data sets, and uncertainty associated with censored data sets. The procedure assumes a lognormal distribution of the effluent data set, and compares the 95<sup>th</sup> percentile concentration at 95 percent confidence of each Table 1 pollutant, accounting for dilution, to the applicable water quality criterion. The RPA results in one of the three following endpoints:

- |              |   |
|--------------|---|
| Endpoint 1 - | There is "reasonable potential." An effluent limitation must be developed for the pollutant. Effluent monitoring for the pollutant, consistent with the monitoring frequency in Appendix III (Ocean Plan), is required.   |
| Endpoint 2 - | There is no "reasonable potential." An effluent limitation is not required for the pollutant. Appendix III (Ocean Plan) effluent monitoring is not required for the pollutant; the Central Coast Board, however, may require occasional monitoring for the pollutant or for whole effluent toxicity as appropriate. |

Endpoint 3 - The RPA is inconclusive. Monitoring for the pollutant or whole effluent toxicity testing, consistent with the monitoring frequency in Appendix III, is required. An existing effluent limitation for the pollutant shall remain in the permit, otherwise the permit shall include a reopener clause to allow for subsequent modification of the permit to include an effluent limitation if monitoring establishes that the discharge causes, has the reasonable potential to cause, or contribute to an excursion above a Table 1 water quality objective.

The State Water Board has developed a reasonable potential calculator, which is available at:

[http://www.waterboards.ca.gov/water\\_issues/programs/ocean/docs/trirev/stakeholder050505/rpcalc22\\_setup.zip](http://www.waterboards.ca.gov/water_issues/programs/ocean/docs/trirev/stakeholder050505/rpcalc22_setup.zip)

The calculator (RPcalc 2.2) was used in the development of this Order and considers several pathways in the determination of reasonable potential.

**a. First Path**

If available information about the receiving water or the discharge supports a finding of reasonable potential without analysis of effluent data, the Central Coast Water Board may decide that WQBELs are necessary after a review of such information. Such information may include: the facility or discharge type, solids loading, lack of dilution, history of compliance problems, potential toxic effects, fish tissue data, 303(d) status of the receiving water, the presence of threatened or endangered species or their critical habitat, or other information.

**b. Second Path**

If any pollutant concentration, adjusted to account for dilution, is greater than the most stringent applicable WQO, there is reasonable potential for that pollutant.

**c. Third Path**

If the effluent data contains three or more detected and quantified values (i.e., values that are at or above the minimum level (ML), and all values in the data set are at or above the ML, a parametric RPA is conducted to project the range of possible effluent values. The 95<sup>th</sup> percentile concentration is determined at 95 percent confidence for each pollutant, and compared to the most stringent applicable water quality objective to determine reasonable potential. A parametric analysis assumes that the range of possible effluent values is distributed log-normally. If the 95<sup>th</sup> percentile value is greater than the most stringent applicable water quality objective, there is reasonable potential for that pollutant.

**d. Fourth Path**

If the effluent data contains three or more detected and quantified values (i.e., values that are at or above the ML), but at least one value in the data set is less than the ML, a parametric RPA is conducted according to the following steps:

- i. If the number of censored values (those expressed as a “less than” value) account for less than 80 percent of the total number of effluent values, calculate the  $M_L$  (the mean of the natural log of transformed data) and  $S_L$  (the standard deviation of the natural log of transformed data) and conduct a parametric RPA, as described above for the Third Path.
- ii. If the total number of censored values account for 80 percent of the total number of effluent values, conduct a non-parametric RPA, as described below for the Fifth Path. (A non-parametric analysis becomes necessary when the effluent data is limited, and no assumptions can be made regarding its possible distribution).

**e. Fifth Path**

A non-parametric RPA is conducted when the effluent data set contains less than three detected and quantified values, or when the effluent data set contains three or more detected and quantified values but the number of censored values accounts for 80 percent or more of the total of effluent values. A non-parametric analysis is conducted by ordering the data, comparing each result to the applicable WQO, and accounting for ties. The sample number is reduced by one for each tie, when the dilution-adjusted method detection limit (MDL) is greater than the water quality objective. If the adjusted sample number, after accounting for ties, is greater than 15, the pollutant has no reasonable potential to exceed the WQO. If the sample number is 15 or less, the RPA is inconclusive, monitoring is required, and any existing effluent limits in the expiring permit are retained.

In this case, a RPA was conducted using effluent monitoring data from January 2009 to July 2013. The implementation provisions for Table 1 in section III.C of the Ocean Plan specify that the minimum initial dilution is the lowest average initial dilution within any single month of the year. Dilution estimates shall be based on observed waste flow characteristics, observed receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure. Order No. 2008-0065 determined the minimum initial dilution factor ( $D_m$ ) for the discharge to be 133 to 1 (seawater to effluent). This  $D_m$  of 133:1 will be retained from the current Order and applied to the WQBELs established herein. If the actual dilution ratio is found to be different, then the ratio will be recalculated and this Order may be reopened when and as appropriate.

A summary of the RPA results is provided below.

**Table F-12. RPA Results**

Parameter	Units	N <sup>[1]</sup>	MEC <sup>[2],[3]</sup>	Most Stringent Criteria	Background	RPA Endpoint <sup>[4]</sup>
Arsenic, Total Recoverable	µg/L	9	J 2	8 <sup>[5]</sup>	3 <sup>[6]</sup>	3
Cadmium, Total Recoverable	µg/L	9	J 10	1 <sup>[5]</sup>	0	3
Chromium (VI), Total Recoverable	µg/L	9	J 10	2 <sup>[5]</sup>	0	3
Copper, Total Recoverable	µg/L	9	22	3 <sup>[5]</sup>	2 <sup>[6]</sup>	2
Lead, Total Recoverable	µg/L	9	1.8	2 <sup>[5]</sup>	0	2
Mercury, Total Recoverable	µg/L	9	0.016	0.04 <sup>[5]</sup>	0.0005 <sup>[6]</sup>	3
Nickel, Total Recoverable	µg/L	9	J 10	5 <sup>[5]</sup>	0	3
Selenium, Total Recoverable	µg/L	9	2.7	15 <sup>[5]</sup>	0	2

Parameter	Units	N <sup>[1]</sup>	MEC <sup>[2],[3]</sup>	Most Stringent Criteria	Background	RPA Endpoint <sup>[4]</sup>
Silver, Total Recoverable	µg/L	9	J 4.6	0.7 <sup>[5]</sup>	0.16 <sup>[6]</sup>	3
Zinc, Total Recoverable	µg/L	9	59	20 <sup>[5]</sup>	8 <sup>[6]</sup>	2
Cyanide, Total	µg/L	28	70	1 <sup>[5]</sup>	0	2
Total Residual Chlorine	µg/L	1,681	7,400	2 <sup>[5]</sup>	0	1
Ammonia	µg/L	63	64,000	600 <sup>[5]</sup>	0	2
Acute Toxicity	TUa	--	--	0.3 <sup>[7]</sup>	0	--
Chronic Toxicity	TUc	12	31.2	1 <sup>[7]</sup>	0	2
Phenolic Compounds <sup>[8]</sup>	µg/L	6	3.3	30 <sup>[5]</sup>	0	3
Chlorinated Phenolics <sup>[9]</sup>	µg/L	6	<0.2	1 <sup>[5]</sup>	0	3
Endosulfan <sup>[10]</sup>	µg/L	5	<0.0014	0.009 <sup>[5]</sup>	0	3
Endrin	µg/L	6	<0.00082	0.002 <sup>[5]</sup>	0	3
HCH <sup>[11]</sup>	µg/L	5	<0.00094	0.004 <sup>[5]</sup>	0	3
Radioactivity <sup>[12]</sup>	pCi/L	5	--	<sup>[12]</sup>	0	3
Acrolein	µg/L	5	<7.3	220 <sup>[13]</sup>	0	3
Antimony	µg/L	5	34	1,200 <sup>[13]</sup>	0	3
Bis(2-chloroethoxy) methane	µg/L	5	<0.27	4.4 <sup>[13]</sup>	0	3
Bis(2-chloroisopropyl) ether	µg/L	5	<0.3	1,200 <sup>[13]</sup>	0	3
Chlorobenzene	µg/L	5	<0.06	570 <sup>[13]</sup>	0	3
Chromium (III)	µg/L	4	J 2.6	190,000 <sup>[13]</sup>	0	3
Di-n-butyl phthalate	µg/L	5	<0.39	3,500 <sup>[13]</sup>	0	3
Dichlorobenzenes <sup>[14]</sup>	µg/L	5	<0.05	5,100 <sup>[13]</sup>	0	3
Diethyl phthalate	µg/L	5	<0.33	33,000 <sup>[13]</sup>	0	3
Dimethyl phthalate	µg/L	5	<0.39	820,000 <sup>[13]</sup>	0	3
4,6-dinitro-2-methylphenol	µg/L	6	<0.34	220 <sup>[13]</sup>	0	3
2,4-dinitrophenol	µg/L	6	<0.2	4.0 <sup>[13]</sup>	0	3
Ethylbenzene	µg/L	5	J 0.5	4,100 <sup>[13]</sup>	0	3
Fluoranthene	µg/L	5	<0.2	15 <sup>[13]</sup>	0	3
Hexachlorocyclopentadiene	µg/L	5	<0.3	58 <sup>[13]</sup>	0	3
Nitrobenzene	µg/L	5	<0.26	4.9 <sup>[13]</sup>	0	3
Thallium	µg/L	5	<0.08	2 <sup>[13]</sup>	0	3
Toluene	µg/L	5	0.5	85,000 <sup>[13]</sup>	0	3
Tributyltin	µg/L	5	<0.03	0.0014 <sup>[13]</sup>	0	3
1,1,1-trichloroethane	µg/L	5	<0.063	540,000 <sup>[13]</sup>	0	3
Acrylonitrile	µg/L	5	<0.75	0.10 <sup>[13]</sup>	0	3
Aldrin	µg/L	6	<0.0013	0.000022 <sup>[13]</sup>	0	3
Benzene	µg/L	5	<0.061	5.9 <sup>[13]</sup>	0	3
Benzidine	µg/L	5	<7.1	0.000069 <sup>[13]</sup>	0	3
Beryllium	µg/L	5	J 1.2	0.033 <sup>[13]</sup>	0	3
Bis(2-chloroethyl) ether	µg/L	5	<0.68	0.045 <sup>[13]</sup>	0	3
Bis(2-ethylhexyl) phthalate	µg/L	5	9.2	3.5 <sup>[13]</sup>	0	3
Carbon tetrachloride	µg/L	5	<0.074	0.90 <sup>[13]</sup>	0	3
Chlordane <sup>[15]</sup>	µg/L	5	<0.38	0.000023 <sup>[13]</sup>	0	3
Chlorodibromomethane	µg/L	5	<0.067	8.6 <sup>[13]</sup>	0	3
Chloroform	µg/L	5	J 0.97	130 <sup>[13]</sup>	0	3
DDT <sup>[16]</sup>	µg/L	6	<0.00076	0.00017 <sup>[13]</sup>	0	3

Parameter	Units	N <sup>[1]</sup>	MEC <sup>[2],[3]</sup>	Most Stringent Criteria	Background	RPA Endpoint <sup>[4]</sup>
1,4-dichlorobenzene	µg/L	6	J 0.1	18 <sup>[13]</sup>	0	3
3,3'-dichlorobenzidine	µg/L	5	< 8.2	0.0081 <sup>[13]</sup>	0	3
1,2-dichloroethane	µg/L	5	< 0.09	28 <sup>[13]</sup>	0	3
1,1-dichloroethylene	µg/L	5	< 0.07	0.9 <sup>[13]</sup>	0	3
Dichlorobromomethane	µg/L	5	< 0.15	6.2 <sup>[13]</sup>	0	3
Dichloromethane	µg/L	5	< 0.28	450 <sup>[13]</sup>	0	3
1,3-dichloropropene	µg/L	6	< 0.07	8.9 <sup>[13]</sup>	0	3
Dieldrin	µg/L	6	< 0.0012	0.00004 <sup>[13]</sup>	0	3
2,4-dinitrotoluene	µg/L	5	< 0.26	2.6 <sup>[13]</sup>	0	3
1,2-diphenylhydrazine	µg/L	5	< 0.34	0.16 <sup>[13]</sup>	0	3
Halomethanes <sup>[17]</sup>	µg/L	6	J 0.25	130 <sup>[13]</sup>	0	3
Heptachlor	µg/L	6	< 0.0012	0.00005 <sup>[13]</sup>	0	3
Heptachlor epoxide	µg/L	6	< 0.00099	0.00002 <sup>[13]</sup>	0	3
Hexachlorobenzene	µg/L	5	< 0.2	0.00021 <sup>[13]</sup>	0	3
Hexachlorobutadiene	µg/L	5	< 0.24	14 <sup>[13]</sup>	0	3
Hexachloroethane	µg/L	5	< 0.32	2.5 <sup>[13]</sup>	0	3
Isophorone	µg/L	5	< 0.31	730 <sup>[13]</sup>	0	3
N-nitrosodimethylamine	µg/L	5	< 0.61	7.3 <sup>[13]</sup>	0	3
N-nitrosodi-N-propylamine	µg/L	5	< 1.3	0.38 <sup>[13]</sup>	0	3
N-nitrosodiphenylamine	µg/L	5	< 0.44	2.5 <sup>[13]</sup>	0	3
PAHs <sup>[18]</sup>	µg/L	5	< 0.2	0.0088 <sup>[13]</sup>	0	3
PCBs <sup>[19]</sup>	µg/L	5	< 0.02	0.000019 <sup>[13]</sup>	0	3
TCDD equivalents <sup>[20]</sup>	µg/L	14	<0.00000131	0.0000000039 <sup>[13]</sup>	0	2
1,1,2,2-tetrachloroethane	µg/L	5	< 0.17	2.3 <sup>[13]</sup>	0	3
Tetrachloroethylene	µg/L	5	< 0.095	2.0 <sup>[13]</sup>	0	3
Toxaphene	µg/L	5	< 0.42	0.00021 <sup>[13]</sup>	0	3
Trichloroethylene	µg/L	5	< 0.07	27 <sup>[13]</sup>	0	3
1,1,2-trichloroethane	µg/L	5	< 0.15	9.4 <sup>[13]</sup>	0	3
2,4,6-trichlorophenol	µg/L	6	< 0.6	0.29 <sup>[13]</sup>	0	3
Vinyl chloride	µg/L	5	< 0.11	36 <sup>[13]</sup>	0	3

[1] Number of data points available for the RPA.

[2] If there is a detected value, the highest reported value is summarized in the table. If there are no detected values, the lowest MDL is summarized in the table. Values preceded with a "J" represent maximum effluent concentrations that were detected, but not quantifiable.

[3] Note that the reported MEC does not account for dilution. The RPA does account for dilution; therefore it is possible for a parameter with an MEC in exceedance of the most stringent criteria not to present a RP (i.e., Endpoint 1).

[4] Endpoint 1 – RP determined, limit required, monitoring required.

Endpoint 2 – Discharger determined not to have RP, monitoring may be established.

Endpoint 3 – RPA was inconclusive, carry over previous limits if applicable, establish monitoring.

[5] Based on the 6-Month Median in Table 1 of the Ocean Plan.

[6] Background concentrations contained in Table 3 of the Ocean Plan.

[7] Based on the Daily Maximum in Table 1 of the Ocean Plan.

[8] Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol; 4,6-dinitro-2-methylphenol; 2,4,5-dinitrophenol; 2-methylphenol; 4-methylphenol; 2-nitrophenol; 4-nitrophenol; and phenol.

[9] Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol; 2-chlorophenol; pentachlorophenol; 2,4,5-trichlorophenol; and 2,4,6-trichlorophenol.

Parameter	Units	N <sup>[1]</sup>	MEC <sup>[2],[3]</sup>	Most Stringent Criteria	Background	RPA Endpoint <sup>[4]</sup>
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- <sup>[10]</sup> Endosulfan represents the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.
- <sup>[11]</sup> HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.
- <sup>[12]</sup> Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, section 30253 of the California Code of Regulations.
- <sup>[13]</sup> Based on 30-Day Average in Table 1 of the Ocean Plan.
- <sup>[14]</sup> Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.
- <sup>[15]</sup> Chlordane represents the sum of chlordane-alpha, chlordane-gamma, chlordane-alpha, chlordane-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.
- <sup>[16]</sup> DDT represents the sum of 4,4'-DDT; 2,4'-DDT; 4,4'-DDE; 2,4'-DDE; 4,4'-DDD; and 2,4'-DDD.
- <sup>[17]</sup> Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).
- <sup>[18]</sup> PAHs (polynuclear aromatic hydrocarbons) represent the sum of acenaphthene; anthracene; 1,2-benzanthracene; 2,4-benzofluoranthene; benzo[k]fluoranthene; 1,12-benzoperylene; benzo[a]pyrene; chrysene; dibenzo[a,h]anthracene; fluorine; ideno[1,2,3-cd]pyrene; phenanthrene; and pyrene.
- <sup>[19]</sup> PCBs (polychlorinated biphenyls) represent the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.
- <sup>[20]</sup> TCDD equivalents represent the sum of concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown by the table below. U.S. EPA Method 8280 may be used to analyze TCDD equivalents.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8 – tetra CDD	1.0
2,3,7,8 – penta CDD	0.5
2,3,7,8 – hexa CDD	0.1
2,3,7,8 – hepta CDD	0.01
octa CDD	0.001
2,3,7,8 – tetra CDF	0.1
1,2,3,7,8 – penta CDF	0.05
2,3,4,7,8 – penta CDF	0.5
2,3,7,8 – hexa CDFs	0.1
2,3,7,8 – hepta CDFs	0.01
octa CDF	0.001

#### 4. WQBEL Calculations

- a. From the Table 1 WQOs in the Ocean Plan, effluent limitations were calculated according to the following equation for all pollutants, except for acute toxicity and radioactivity:

$C_e = C_o + D_m (C_o - C_s)$  where,

$C_e$  = the effluent limitation ( $\mu\text{g/L}$ )

$C_o$  = the WQO to be met at the completion of initial dilution ( $\mu\text{g/L}$ )

$C_s$  = background seawater concentration

$D_m$  = minimum probable initial dilution expressed as parts seawater per part wastewater

- b. Initial dilution (Dm) has been determined to be 133 to 1 by the Central Coast Water Board.
- c. Table 3 of the Ocean Plan establishes background concentrations for some pollutants to be used when determining reasonable potential (represented as "Cs"). In accordance with Table 1 implementing procedures, Cs equals zero for all pollutants not established in Table 3. The background concentrations provided in Table 3 are summarized below:

**Table F-13. Pollutants Having Background Concentrations**

Pollutant	Background Seawater Concentration
Arsenic	3 µg/L
Copper	2 µg/L
Mercury	0.0005 µg/L
Silver	0.16 µg/L
Zinc	8 µg/L

- d. A summary of WQBELs established for Discharge Point No. 001 in this Order are provided in Tables F-14a – F-14c.

**Table F-14a. Effluent Limitations, Protection of Marine Aquatic Life**

Parameter	Units	Effluent Limitation		
		6-Mo Median <sup>[1]</sup>	Maximum Daily <sup>[2]</sup>	Instantaneous Maximum <sup>[3]</sup>
Arsenic, Total Recoverable	µg/L	670	3,890	10,300
	lbs/day	12	67	177
Cadmium, Total Recoverable	µg/L	130	540	1,340
	lbs/day	2.2	9.3	23
Chromium (VI) , Total Recoverable	µg/L	270	1,070	2,680
	lbs/day	4.64	18	46
Mercury, Total Recoverable	µg/L	5.29	21.4	53.5
	lbs/day	0.091	0.37	0.92
Nickel, Total Recoverable	µg/L	670	2,680	6,700
	lbs/day	12	46	115
Silver, Total Recoverable	µg/L	70	350	920
	lbs/day	1.2	6.01	16
Total Chlorine Residual	µg/L	268	1,072	8,040
	lbs/day	4.6	18	138
Acute Toxicity	TUa	--	4.3	--
Chronic Toxicity	TUc	--	134	--
Phenolic Compounds (non-chlorinated)	µg/L	4,020	16,100	40,200
	lbs/day	69	277	691
Phenolic Compounds (chlorinated)	µg/L	130	540	1,340
	lbs/day	2.2	9.3	23
Endosulfan	µg/L	1.21	2.41	3.62
	lbs/day	0.021	0.041	0.062
Endrin	µg/L	0.27	0.54	0.80
	lbs/day	0.0046	0.0093	0.014



Parameter	Units	Effluent Limitation		
		6-Mo Median <sup>[1]</sup>	Maximum Daily <sup>[2]</sup>	Instantaneous Maximum <sup>[3]</sup>
HCH	µg/L	0.54	1.07	1.61
	lbs/day	0.0093	0.018	0.028
Radioactivity	<sup>[4]</sup>			

<sup>[1]</sup> The six-month median shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered equal to zero for days on which no discharge occurred. The six-month median limit on daily mass emissions shall be determined using the six-month medial effluent concentration  $C_e$  and the observed flow rate,  $Q$ , in million gallons per day (MGD).

<sup>[2]</sup> The daily maximum shall apply to flow weighted 24-hour composite samples. The daily maximum mass emission shall be determined using the daily maximum effluent concentration limit as  $C_e$  and the observed flow rate,  $Q$ , in MGD.

<sup>[3]</sup> The instantaneous maximum shall apply to grab sample determinations.

<sup>[4]</sup> Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, section 30253 of the California Code of Regulations

**Table F-14b. Effluent Limitations – Protection of Human Health – Non-Carcinogens**

Parameter	Units	Effluent Limitation
		30-day Average
Acrolein	µg/L	29,500
	lbs/day	507
Antimony	µg/L	160,800
	lbs/day	2,763
Bis(2-chloroethoxy) methane	µg/L	590
	lbs/day	10
Bis(2-chloroisopropyl) ether	µg/L	160,800
	lbs/day	2,763
Chlorobenzene	µg/L	76,400
	lbs/day	1,313
Chromium (III) <sup>[1]</sup>	µg/L	25,500,000
	lbs/day	438,100
Di-n-butyl phthalate	µg/L	469,000
	lbs/day	8,058
Dichlorobenzenes <sup>[2]</sup>	µg/L	683,000
	lbs/day	11,734
Diethyl phthalate	µg/L	4,420,000
	lbs/day	75,937
Dimethyl phthalate	µg/L	109,900,000
	lbs/day	1,888,126
4,6-dinitro-2-methylphenol	µg/L	29,500
	lbs/day	507
2,4-dinitrophenol	µg/L	540
	lbs/day	9.3
Ethylbenzene	µg/L	549,000
	lbs/day	9,432

Parameter	Units	Effluent Limitation
		30-day Average
Fluoranthene	µg/L	2,000
	lbs/day	34
Hexachlorocyclopentadiene	µg/L	7,800
	lbs/day	134
Nitrobenzene	µg/L	660
	lbs/day	11
Thallium	µg/L	270
	lbs/day	4.64
Toluene	µg/L	11,400,000
	lbs/day	195,857
Tributyltin	µg/L	0.188
	lbs/day	0.0032
1,1,1-trichloroethane	µg/L	72,400,000
	lbs/day	1,243,860

[1] Discharger may at their option meet this objective as a Total Chromium objective.

[2] Sum of 1,2- and 1,3-dichlorobenzene.

**Table F-14c. Effluent Limitations – Protection of Human Health –Carcinogens**

Parameter	Units	Effluent Limitation
		30-day Average
Acrylonitrile	µg/L	13.4
	lbs/day	0.23
Aldrin	µg/L	0.00295
	lbs/day	$5.07 \times 10^{-5}$
Benzene	µg/L	791
	lbs/day	14
Benzidine	µg/L	0.00925
	lbs/day	0.00016
Beryllium	µg/L	4.42
	lbs/day	0.076
Bis(2-chloroethyl) ether	µg/L	6.03
	lbs/day	0.10
Bis(2-ethylhexyl) phthalate	µg/L	469
	lbs/day	8.06
Carbon tetrachloride	µg/L	121
	lbs/day	2.08
Chlordane <sup>[1]</sup>	µg/L	0.00308
	lbs/day	$5.3 \times 10^{-5}$
Chlorodibromomethane	µg/L	1,152
	lbs/day	20
Chloroform	µg/L	17,400
	lbs/day	299
DDT <sup>[2]</sup>	µg/L	0.0228

Parameter	Units	Effluent Limitation
		30-day Average
	lbs/day	0.00039
1,4-dichlorobenzene	µg/L	2,410
	lbs/day	41
3,3-dichlorobenzidine	µg/L	1.09
	lbs/day	0.019
1,2-dichloroethane	µg/L	3,750
	lbs/day	64
1,1-dichloroethylene	µg/L	120
	lbs/day	2.06
Dichlorobromomethane	µg/L	830
	lbs/day	14
Dichloromethane	µg/L	60,300
	lbs/day	1,036
1,3-dichloropropene	µg/L	1,190
	lbs/day	20
Dieldrin	µg/L	0.00536
	lbs/day	$9.21 \times 10^{-5}$
2,4-dinitrotoluene	µg/L	348
	lbs/day	6.0
1,2-diphenylhydrazine	µg/L	21.4
	lbs/day	0.37
Halomethanes <sup>[3]</sup>	µg/L	17,400
	lbs/day	299
Heptachlor	µg/L	0.0067
	lbs/day	$1.15 \times 10^{-4}$
Heptachlor epoxide	µg/L	0.00268
	lbs/day	$4.6 \times 10^{-5}$
Hexachlorobenzene	µg/L	0.0281
	lbs/day	0.00048
Hexachlorobutadiene	µg/L	1,880
	lbs/day	32
Hexachloroethane	µg/L	335
	lbs/day	5.8
Isophorone	µg/L	98,000
	lbs/day	1,684
N-nitrosodimethylamine	µg/L	978
	lbs/day	17
N-nitrosodi-n-propylamine	µg/L	50.9
	lbs/day	0.87
N-nitrosodiphenylamine	µg/L	335
	lbs/day	5.8
PAHs <sup>[4]</sup>	µg/L	1.18
	lbs/day	0.020

Parameter	Units	Effluent Limitation
		30-day Average
PCBs <sup>[5]</sup>	µg/L	0.00255
	lbs/day	4.38 x 10 <sup>-5</sup>
1,1,2,2-tetrachloroethane	µg/L	310
	lbs/day	5.3
Tetrachloroethylene	µg/L	268
	lbs/day	4.6
Toxaphene	µg/L	0.0281
	lbs/day	0.00048
Trichloroethylene	µg/L	3,620
	lbs/day	62
1,1,2-trichloroethane	µg/L	1,260
	lbs/day	22
2,4,6-trichlorophenol	µg/L	39
	lbs/day	0.67
Vinyl chloride	µg/L	4,820
	lbs/day	83

[1] Sum of chlorodane-alpha, chlorodane-gamma, chlorodene-alpha, chlorodene-gamma, nonachlor-alpha, nonachlor gamma, and oxychlorodane.

[2] Sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD, and 2,4'-DDD.

[3] Sum of bromoform, bromoethane (methylbromide), chloromethane (methyl chloride), chlorodibromomethane, and dichlorobromomethane.

[4] Sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,1,2-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[a,h]anthracene, fluorine, ideno[1,2,3-cd]pyrene, phenanthrene, and pyrene.

[5] Sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

## 5. Whole Effluent Toxicity (WET)

WET limitations protect receiving water from the aggregated toxic effect of a mixture of pollutants in effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative “no toxics in toxic amounts” criterion while implementing numeric criteria for toxicity. There are two types of WET tests – acute and chronic. An acute test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

Order No. R3-2008-0065 established effluent limitations for both acute and chronic toxicity and semiannual monitoring for chronic toxicity. There was no acute toxicity monitoring requirement, thus an RPA could not be performed. The effluent limitations and monitoring requirements will be retained in this permit. The RPA for chronic toxicity demonstrates that chronic toxicity does not appear to have reasonable potential to exceed water quality objectives. However, effluent data for total residual chlorine indicate reasonable potential to exceed water quality objectives for the protection of marine aquatic life. Due to the potential for toxic impacts to aquatic life, reasonable potential for chronic toxicity is retained based on Step 13 of Appendix VI of the Ocean Plan, which

requires the consideration of all available information to determine if a WQBEL is required. Further, section III.C.4.c of the Ocean Plan requires that chronic toxicity be monitored when dilution is between 100:1 and 350: 1. Monitoring for chronic toxicity has been retained to evaluate compliance with the applicable effluent limitation and based on the available dilution for the discharge location of 133:1.

The Discharger will be required to implement a Toxicity Reduction Evaluation (TRE) Workplan, as described in section V.C.2.a of the Order. When monitoring measures WET in the effluent above the limitation established by the Order, the Discharger must resample, if the discharge is continuing, and retest.

#### **D. Final Effluent Limitation Considerations**

##### **1. Anti-Backsliding Requirements**

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order, with some exceptions discussed below, are at least as stringent as the effluent limitations in the previous Order.

Effluent limitations for ammonia, copper, lead, selenium, and zinc have been removed from this Order. The removal of the effluent limitations for these parameters is based on the availability of new information, including available effluent data, consistent with 40 C.F.R. 122.44(i)(B).

##### **2. Antidegradation Policies**

Provisions of this Order are consistent with applicable anti-degradation policy expressed by NPDES regulations at 40 C.F.R. 131.12 and by State Water Board Resolution No. 68-16. The Order does not authorize increases in discharge rates or pollutant loadings, and its limitations and conditions otherwise assure maintenance of the existing quality of receiving waters.

##### **3. Stringency of Requirements for Individual Pollutants**

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD<sub>5</sub>, TSS, oil and grease, turbidity, pH, and settleable solids. Restrictions on these pollutants are discussed in the Fact Sheet, in section IV.B. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. These limitations are not more stringent than required by the CWA.

##### **4. Summary of Final Effluent Limitations – Discharge Point No. 001**

**Table F-15. Final Effluent Limitations**

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> ) <sup>[1]</sup>	mg/L	30	45	--
	lbs/day <sup>[2]</sup>	515	773	--
Total Suspended Solids (TSS) <sup>[1]</sup>	mg/L	30	45	--
	lbs/day <sup>[2]</sup>	515	773	--
Oil and Grease	mg/L	25	40	75
	lbs/day <sup>[2]</sup>	430	687	1,289
Settleable Solids	ml/L	1.0	1.5	3.0
pH	standard units	6.0 – 9.0 at all times		
Turbidity	NTU	75	100	225

<sup>[1]</sup> The average monthly percent removal for BOD and TSS shall not be less than 85 percent.

<sup>[2]</sup> Mass based effluent limitations were calculated using the following formula:  
lbs/day = pollutant concentration (mg/L) \* Design flow (2.06 MGD) \* conversion factor (8.34)

5. **Percent Removal:** The average monthly percent removal of BOD<sub>5</sub> and TSS shall not be less than 85 percent.
6. **Dry Weather Flow.** Effluent peak seasonal dry weather flow shall not exceed a monthly average of 2.36 million gallons per day.
7. **Bacteria**
  - a. Total Coliform
    - i. The total coliform concentrations shall not exceed a 30-day geometric mean of 23 MPN/100 mL.
    - ii. No total coliform single sample shall exceed 2,400 MPN/100 mL.

**Table F-16a. Final Effluent Limitations, Protection of Marine Aquatic Life**

Parameter	Units	Effluent Limitation		
		6-Mo Median <sup>[1]</sup>	Maximum Daily <sup>[2]</sup>	Instantaneous Maximum <sup>[3]</sup>
Arsenic, Total Recoverable	µg/L	670	3,890	10,300
	lbs/day	12	67	177
Cadmium, Total Recoverable	µg/L	130	540	1,340
	lbs/day	2.2	9.3	23
Chromium (VI), Total Recoverable	µg/L	270	1,070	2,680
	lbs/day	4.64	18	46
Mercury, Total Recoverable	µg/L	5.29	21.4	53.5
	lbs/day	0.091	0.37	0.92
Nickel, Total Recoverable	µg/L	670	2,680	6,700
	lbs/day	12	46	115
Silver, Total Recoverable	µg/L	70	350	920
	lbs/day	1.2	6.01	16
Total Chlorine Residual	µg/L	268	1,072	8,040
	lbs/day	4.6	18	138
Acute Toxicity	TUa	--	4.3	--
Chronic Toxicity	TUc	--	134	--

Parameter	Units	Effluent Limitation		
		6-Mo Median <sup>[1]</sup>	Maximum Daily <sup>[2]</sup>	Instantaneous Maximum <sup>[3]</sup>
Phenolic Compounds (non-chlorinated)	µg/L	4,020	16,100	40,200
	lbs/day	69	277	691
Phenolic Compounds (chlorinated)	µg/L	130	540	1,340
	lbs/day	2.2	9.3	23
Endosulfan	µg/L	1.21	2.41	3.62
	lbs/day	0.021	0.041	0.062
Endrin	µg/L	0.27	0.54	0.80
	lbs/day	0.0046	0.0093	0.014
HCH	µg/L	0.54	1.07	1.61
	lbs/day	0.0093	0.018	0.028
Radioactivity	<sup>[4]</sup>			

<sup>[1]</sup> The six-month median shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered equal to zero for days on which no discharge occurred. The six-month median limit on daily mass emissions shall be determined using the six-month median effluent concentration  $C_e$  and the observed flow rate,  $Q$ , in million gallons per day (MGD).

<sup>[2]</sup> The daily maximum shall apply to flow weighted 24-hour composite samples. The daily maximum mass emission shall be determined using the daily maximum effluent concentration limit as  $C_e$  and the observed flow rate,  $Q$ , in MGD.

<sup>[3]</sup> The instantaneous maximum shall apply to grab sample determinations.

<sup>[4]</sup> Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, section 30253 of the California Code of Regulations.

**Table F-16b. Final Effluent Limitations – Protection of Human Health – Non-Carcinogens**

Parameter	Units	Effluent Limitation
		30-day Average
Acrolein	µg/L	29,500
	lbs/day	507
Antimony	µg/L	160,800
	lbs/day	2,763
Bis(2-chloroethoxy) methane	µg/L	590
	lbs/day	10
Bis(2-chloroisopropyl) ether	µg/L	160,800
	lbs/day	2,763
Chlorobenzene	µg/L	76,400
	lbs/day	1,313
Chromium (III) <sup>[1]</sup>	µg/L	25,500,000
	lbs/day	438,100
Di-n-butyl phthalate	µg/L	469,000
	lbs/day	8,058
Dichlorobenzenes <sup>[2]</sup>	µg/L	683,000
	lbs/day	11,734
Diethyl phthalate	µg/L	4,420,000
	lbs/day	75,937
Dimethyl phthalate	µg/L	109,900,000

Parameter	Units	Effluent Limitation
		30-day Average
	lbs/day	1,888,126
4,6-dinitro-2-methylphenol	µg/L	29,500
	lbs/day	507
2,4-dinitrophenol	µg/L	540
	lbs/day	9.3
Ethylbenzene	µg/L	549,000
	lbs/day	9,432
Fluoranthene	µg/L	2,000
	lbs/day	34
Hexachlorocyclopentadiene	µg/L	7,800
	lbs/day	134
Nitrobenzene	µg/L	660
	lbs/day	11
Thallium	µg/L	270
	lbs/day	4.64
Toluene	µg/L	11,400,000
	lbs/day	195,857
Tributyltin	µg/L	0.188
	lbs/day	0.0032
1,1,1-trichloroethane	µg/L	72,400,000
	lbs/day	1,243,860

<sup>[1]</sup> Discharger may at its option meet this objective as a total chromium objective.

<sup>[2]</sup> Sum of 1,2- and 1,3-dichlorobenzene.

**Table F-16c. Final Effluent Limitations – Protection of Human Health – Carcinogens**

Parameter	Units	Effluent Limitation
		30-day Average
Acrylonitrile	µg/L	13.4
	lbs/day	0.23
Aldrin	µg/L	0.00295
	lbs/day	$5.07 \times 10^{-5}$
Benzene	µg/L	791
	lbs/day	14
Benzidine	µg/L	0.00925
	lbs/day	0.00016
Beryllium	µg/L	4.42
	lbs/day	0.076
Bis(2-chloroethyl) ether	µg/L	6.03
	lbs/day	0.10
Bis(2-ethylhexyl) phthalate	µg/L	469
	lbs/day	8.06
Carbon tetrachloride	µg/L	121
	lbs/day	2.08



Parameter	Units	Effluent Limitation
		30-day Average
Chlordane <sup>[1]</sup>	µg/L	0.00308
	lbs/day	$5.3 \times 10^{-5}$
Chlorodibromomethane	µg/L	1,152
	lbs/day	20
Chloroform	µg/L	17,400
	lbs/day	299
DDT <sup>[2]</sup>	µg/L	0.0228
	lbs/day	0.00039
1,4-dichlorobenzene	µg/L	2,410
	lbs/day	41
3,3-dichlorobenzidine	µg/L	1.09
	lbs/day	0.019
1,2-dichloroethane	µg/L	3,750
	lbs/day	64
1,1-dichloroethylene	µg/L	120
	lbs/day	2.06
Dichlorobromomethane	µg/L	830
	lbs/day	14
Dichloromethane	µg/L	60,300
	lbs/day	1,036
1,3-dichloropropene	µg/L	1,190
	lbs/day	20
Dieldrin	µg/L	0.00536
	lbs/day	$9.21 \times 10^{-5}$
2,4-dinitrotoluene	µg/L	348
	lbs/day	6.0
1,2-diphenylhydrazine	µg/L	21.4
	lbs/day	0.37
Halomethanes <sup>[3]</sup>	µg/L	17,400
	lbs/day	299
Heptachlor	µg/L	0.0067
	lbs/day	$1.15 \times 10^{-4}$
Heptachlor epoxide	µg/L	0.00268
	lbs/day	$4.6 \times 10^{-5}$
Hexachlorobenzene	µg/L	0.0281
	lbs/day	0.00048
Hexachlorobutadiene	µg/L	1,880
	lbs/day	32
Hexachloroethane	µg/L	335
	lbs/day	5.8
Isophorone	µg/L	98,000
	lbs/day	1,684
N-nitrosodimethylamine	µg/L	978

Parameter	Units	Effluent Limitation
		30-day Average
	lbs/day	17
N-nitrosodi-n-propylamine	µg/L	50.9
	lbs/day	0.87
N-nitrosodiphenylamine	µg/L	335
	lbs/day	5.8
PAHs <sup>[4]</sup>	µg/L	1.18
	lbs/day	0.020
PCBs <sup>[5]</sup>	µg/L	0.00255
	lbs/day	4.38 x 10 <sup>-5</sup>
1,1,2,2-tetrachloroethane	µg/L	310
	lbs/day	5.3
Tetrachloroethylene	µg/L	268
	lbs/day	4.6
Toxaphene	µg/L	0.0281
	lbs/day	0.00048
Trichloroethylene	µg/L	3,620
	lbs/day	62
1,1,2-trichloroethane	µg/L	1,260
	lbs/day	22
2,4,6-trichlorophenol	µg/L	39
	lbs/day	0.67
Vinyl chloride	µg/L	4,820
	lbs/day	83

[1] Sum of chlorodane-alpha, chlorodane-gamma, chlorodene-alpha, chlorodene-gamma, nonachlor-alpha, nonachlor gamma, and oxychlorodane.

[2] Sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD, and 2,4'-DDD.

[3] Sum of bromoform, bromoethane (methylbromide), chloromethane (methyl chloride), chlorodibromomethane, and dichlorobromomethane.

[4] Sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,1,2-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[a,h]anthracene, fluorine, ideno[1,2,3-cd]pyrene, phenanthrene, and pyrene.

[5] Sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

#### E. Land Discharge Specifications – Not Applicable

#### F. Recycling Specifications – Not Applicable

### V. RATIONALE FOR RECEIVING WATER LIMITATIONS

#### A. Surface Water

Receiving water quality is a result of many factors, some unrelated to the discharge. This Order considers these factors and is designed to minimize the influence of the discharge on the receiving water. Receiving water limitations for Discharge Point No. 001 to the Pacific Ocean are consistent with the water quality objectives contained in the Ocean Plan and Basin Plan, and are retained from the previous Order.

**B. Groundwater – Not Applicable**

**VI. RATIONALE FOR PROVISIONS**

**A. Standard Provisions**

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D to the order.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

**B. Special Provisions**

**1. Reopener Provisions**

The Order may be modified in accordance with the requirements set forth at 40 C.F.R. 122 and 124, to include appropriate conditions or limits based on newly available information, or to implement any new State water quality objectives that are approved by the U.S. EPA. As effluent is further characterized through additional monitoring, and if a need for additional effluent limitations becomes apparent after additional effluent characterization, the Order will be reopened to incorporate such limitations.

**2. Special Studies and Additional Monitoring Requirements**

**a. Toxicity Reduction Requirements**

The Order contains the requirement to perform a TRE, if chronic toxicity limitation is exceeded. When toxicity monitoring measures toxicity in the effluent above a whole effluent toxicity effluent limitation established by the Order, the Discharger is required to resample and retest. When all monitoring results are available, the Executive Officer can determine whether to initiate enforcement action, whether to require the Discharger to implement TRE requirements, or whether other measures are warranted.

**b. Effluent Bacteria Evaluation**

To evaluate potential impacts on human health and assist in public health determinations, the Order contains requirements to conduct monitoring when effluent limitations for total coliform bacteria are exceeded in consecutive monitoring events. The Discharger shall conduct near shore and surf zone monitoring for bacteria in accordance with section VIII.A of the Monitoring and Reporting Program. Results of the increased monitoring for bacteria shall be summarized and submitted in a report to the Executive Officer.

### **3. Best Management Practices and Pollution Prevention**

#### **a. Pollution Prevention Program**

A Pollution Prevention Program is a regulatory program administered by the Discharger to prevent the introduction of pollutants into the Facility which will interfere with the operation of the treatment works, pass through the treatment facility, reduce opportunities to recycle and reuse municipal wastewater and sludge, or expose the Facility employees to hazardous chemicals. Although a 301(h) waiver was not applied for or granted to the Discharger, the Facility is anticipated to continue to operate as it has under previous 301(h) waivers, and is unable to provide full secondary treatment to all effluent discharged from the Facility. Thus, this permit continues to implement pollution prevention requirements specified in 40 C.F.R. Part 125.66(d) in lieu of the general pretreatment regulations specified in 40 C.F.R. Part 403.

#### **b. Pollutant Minimization Program**

The 2015 Ocean Plan establishes requirements for a Pollutant Minimization Program (PMP) to reduce all potential sources of a pollutant through pollutant minimization control strategies. This Order implements the requirements of section III.C.9 of the Ocean Plan.

### **4. Construction, Operation, and Maintenance Specifications**

The Facility shall be operated as specified under Standard Provisions, Attachment D.

### **5. Special Provisions for Municipal Facilities (POTWs Only)**

#### **a. Biosolids Management**

The use and disposal of biosolids is regulated under federal and State laws and regulations, including permitting requirements and technical standards included in 40 C.F.R. 503. The Discharger is required to comply with the standards and time schedules contained in 40 C.F.R. 503.

Title 27, CCR, Division 2, Subdivision 1, section 20005 establishes approved methods for the disposal of collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes. Requirements to ensure the Discharger disposes of solids in compliance with State and federal regulations have been included in this Order.

### **6. Other Special Provisions**

#### **a. Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (State Water Board Order No. 2006-003-DWQ).**

The Order requires coverage by and compliance with applicable provisions of General Waste Discharge Requirements for Sanitary Sewer Systems (State Water Board Order No. 2006-003-DWQ). This General Permit, adopted on May 2, 2006, is applicable to all "federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one

mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California.” The purpose of the General Permit is to promote the proper and efficient management, operation, and maintenance of sanitary sewer systems and to minimize the occurrences and impacts of sanitary sewer overflows.

## **VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS**

40 C.F.R. section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Central Coast Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E, establishes monitoring and reporting requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

### **A. Influent Monitoring**

In addition to influent flow monitoring, monitoring for BOD<sub>5</sub> and TSS is required to determine compliance with the Order’s 85 percent removal requirement for these pollutants. Influent monitoring requirements have been retained from the previous Order.

### **B. Effluent Monitoring**

Effluent monitoring is necessary to determine compliance with effluent limitations and evaluate compliance with applicable water quality objectives and criteria. Effluent monitoring requirements from the previous Order for Discharge Point No. 001 are retained in this Order, with some exceptions.

The previous Order established an effluent limitation for acute toxicity, but did not require monitoring. Due to the procedures in Appendix VI of the Ocean Plan, and State and federal anti-backsliding regulations, the effluent limitation for acute toxicity has been carried over to this Order. Acute toxicity monitoring requirements have not been added, based on the use of the more sensitive chronic toxicity monitoring required and initial dilution of 133:1.

Although the effluent limitations for chronic toxicity was retained due to the determination of reasonable potential for various Ocean Plan Table 1 parameters, the MEC for chronic toxicity was 31.2 TUc. This is significantly less than the applicable WQBEL of 134 TUc. Thus, due to the limited risk to exceed the applicable WQBEL, the monitoring frequency for chronic toxicity has been reduced from semiannual to annual.

Monitoring for Ocean Plan Table 1 metals and non-metals for protection of marine aquatic life without reasonable potential was established as once per year. This reduces the monitoring frequency from semiannual to annual.

Monitoring of the parameters for protection of human health without reasonable potential was established as once per permit term. This is consistent with other ocean discharge permits within the region.

Because ammonia did not demonstrate reasonable potential to exceed water quality objectives, the monitoring for ammonia was reduced from monthly to annually. Because the data is not necessary to evaluate compliance with applicable water quality objectives,

monitoring for nitrate, urea, orthophosphate, and dissolved silica was reduced from semiannual to annual.

### **C. Whole Effluent Toxicity Testing Requirements**

See the previous section regarding monitoring frequencies for chronic toxicity. WET limitations protect receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. Chronic toxicity testing is conducted over a longer period of time and may measure mortality, reproduction, and/or growth. Accelerated monitoring requirements have been established in the attached MRP in order to confirm the presence of toxicity in the effluent prior to implementation of TIE and TRE procedures.

### **D. Receiving Water Monitoring**

#### **1. Surface Water**

Surf zone monitoring is conducted to assess bacteriological conditions in areas used for body-contact sports (e.g., surfing) and where shellfish may be harvested for human consumption and to assess aesthetic conditions for general recreational uses (e.g., picnicking, boating, etc.).

Ocean monitoring is necessary to evaluate the impacts of the discharge on the receiving water and to determine compliance with surface water limitations.

Surface water receiving water monitoring requirements have been reduced to annually, consistent with the Discharger's demonstrated compliance and consistent with other ocean discharge permits within the region.

Water column surveys have been removed from this permit based on consistent compliance with surface water limitations, analysis of previous water column surveys, planned upgrades to full secondary treatment, and consistent with other municipal wastewater treatment facilities permitted to discharge to ocean waters in the Central Coast region.

#### **2. Groundwater – Not Applicable**

### **E. Other Monitoring Requirements**

#### **1. Benthic Monitoring**

Benthic monitoring is necessary to assess the temporal and spatial occurrence of pollutants in local marine sediments and to evaluate the physical and chemical quality of the sediments in relation to the outfall. This Order decreases the frequency of benthic sampling from annual to once per permit based on the Facility upgrade to full secondary treatment, previous monitoring results, and consistent with other similar municipal wastewater treatment facilities permitted to discharge to ocean waters in the Central Coast region. Monitoring is required in the first year of the permit in order to maintain a continuous dataset with previous monitoring.

#### **2. Biosolids Monitoring**

Biosolids monitoring shall be reported in the annual report in accordance with 40 C.F.R. 503. Biosolids monitoring requirements are similar to the previous Order.

### **3. Ocean Outfall Inspection**

This Order retains the requirement of the previous Order to conduct annual visual inspections of the outfall and diffuser structure and provide a report of this inspection to the Central Coast Water Board regarding the system's physical integrity.

## **VIII. PUBLIC PARTICIPATION**

The Central Coast Water Board considered the issuance of WDRs that will serve as an NPDES permit for the City of Morro Bay/Cayucos Sanitary District Wastewater Treatment Plant. As a step in the WDRs adoption process, Central Coast Water Board staff developed tentative WDRs and encouraged public participation in the WDR adoption process.

### **A. Notification of Interested Parties**

The Central Coast Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through publication in the local paper and posting in Discharger's City Hall.

The public had access to the agenda and any changes in dates and locations through the Central Coast Water Board's web site at:  
<http://www.waterboards.ca.gov/centralcoast/>

### **B. Written Comments**

Interested persons were invited to submit written comments concerning tentative WDRs as provided through the notification process. Comments were encouraged to be sent via email to [centralcoast@waterboards.ca.gov](mailto:centralcoast@waterboards.ca.gov). Comments may also have been submitted in person, or by mail, to the Executive Office at the Central Coast Water Board at:

Central Coast Water Board  
895 Aerovista Place, Suite 101  
San Luis Obispo, CA 93401-7906

To be fully responded to by staff and considered by the Central Coast Water Board, the written comments were due at the Central Coast Water Board office by 5:00 p.m. on **November 6, 2017**.

The Central Coast Water Board received written comments from the City of Morro Bay on November 6, 2017, as follows below. Water Board staff's response to comments is provided as well.

- 1. Provide additional time to review an administrative draft of the pending time schedule order.** We understand a time schedule order with interim limits will be prepared to address compliance with the new permit. We are concerned that some of the monitoring requirements are not consistent with a secondary treatment permit and may carry over to a permit for the new facility. We respectfully request sufficient time for the City to review an administrative draft of the pending time schedule order.

**Staff response:** Water Board staff will be working closely with Discharger to develop realistic milestones and compliance dates for the pending time schedule order. Water Board staff intends to have the time schedule order implemented prior to the effective date of this permit.

2. **Update the Draft Permit to conform to the current Ocean Plan.** The Draft Permit cites objectives from the 2012 California Ocean Plan. However, that plan has been superseded by the 2015 Ocean Plan. The Tentative Order (Draft Permit) should revise its requirements to conform to the current Ocean Plan.

**Staff Response:** Corrections have been made.

3. **Cite a Consistent Annual Report Due Date of April 1.** The Draft Permit contains conflicting dates for the submission of the Annual Monitoring Report, including January 30 (Page D-13), February 1 (Table E-12), and April 1 (Page E-26). We request the various references to an annual monitoring report submission deadline be revised to reflect an April 1 deadline. Only the April 1st deadline is tenable. That date is consistent with the Current Permit's submission deadline requirement. Earlier submission dates would be difficult to achieve. The data collection, laboratory processing of field samples, and analysis of instrumental data are sequential and require a finite amount of time. Many of these steps can only be initiated after the beginning of the year. An earlier deadline would leave little time for assimilating and reporting on the results, and the quality and scope of the final report would suffer greatly.

**Staff Response:** Annual monitoring report expectation is April 1<sup>st</sup>; corrections have been made for consistency.

4. **Eliminate the Cat-Litter Public-Outreach Program.** The Draft Permit retains a nebulous cat-litter requirement that is an outdated relic of the previous permit-renewal process conducted a decade ago. This problematic permit requirement has been the subject of considerable criticism in every annual monitoring report since the current permit was approved (See Pages 2-17, 2-18, and 3-9 in <http://www.morro-bay.ca.us/Archive.aspx?ADID=2757> and prior annual reports posted on the City of Morro Bay Website since 2009). As discussed in those reports, we request elimination of this requirement for the following reasons.
  - a) The requirement arose out of a Section 7 consultation with the USFW service by the EPA as part of their biological evaluation of current 301(h)-modified permit. The new Draft Permit is not 301(h) modified, and therefore EPA and USFW evaluations and Section 7 consultations are no longer part of the regulatory process. Consequently, there is no mechanism for those regulatory agencies to address new scientific information and revisit the original Cat-Litter requirement.
  - b) Shortly after final approval of the current MBCSD permit in 2009, results from a comprehensive field study (Johnson et al. 2009) were published that confirmed that disease vectors unrelated to WWTP discharge are responsible for the observed *T. gondii* exposure in otters, and that the epicenter for sea otter infection is not within Estero Bay. As such, there is no longer any scientific rationale for continuation of a dedicated outreach program specific to cat-litter disposal in the MBCSD collection system.
  - c) None of the other regional ocean dischargers have a similar requirement, including the recently approved permits for Goleta, Avila, and Carpinteria. It is not as though the MBCSD is the only ocean discharger with cats located within its collection area, or that have southern sea otters within its receiving waters.
  - d) Numerous nebulous requirements dealing with cat litter are included in multiple locations within the Draft Permit (Pages 20, E-27, F-7, F-40, and F-41). The



annual requirements for “implementation goals...work plans...quantifiable measures for goals...descriptions of actions taken...reevaluations with adequate justification” are vague and make quantitative evaluation of compliance with the requirement unattainable.

**Staff Response:** Water Board staff concurs with Discharger’s comments and has reviewed the data from the annual reports submitted. Since the time of the original cat-litter public outreach program, the Central Coast Water Board has shifted similar programs to NPDES stormwater programs, when the programs are deemed necessary. Consistent with this practice for other areas in the Central Coast region, we will remove the cat-litter program from this permit and the stormwater program would be the appropriate regulatory program, if deemed necessary.

**5. Eliminate the Acute Toxicity Requirement.** A requirement for an annual acute toxicity test was added to the Draft Permit apparently because the Current Permit did not require that test and therefore, an RPA could not be performed (Page F-31). However, the acute toxicity test requirement was specifically excluded from the Current Permit for a variety of reasons. All of those same reasons apply to the Draft Permit. Specifically, ammonia interference introduces substantial inaccuracy in reported test results, and there is no technical or regulatory rationale for requiring acute toxicity testing of MBCSD effluent. For the following reasons, we request elimination of the acute toxicity testing requirement from the effluent monitoring requirements (Table E-3 on Page E-56). Alternatively, if inclusion of some form of acute testing requirement is deemed necessary, the requirement for conducting an acute test should be triggered by an elevated chronic test result that exceeds 90% (120 TUc) of the effluent limit. At a minimum, given the great uncertainty in the reported acute toxicity results, all Toxicity Reduction Requirements should only be based on a chronic toxicity triggering level, and not a trigger related to the acute bioassay results. Much of the rationale for eliminating the acute toxicity monitoring requirement was presented during the development of the current discharge permit, and has been presented in annual monitoring reports prior to 2009 (see Pages 2-38 thru 2-41 of the 2008 Annual Report available at: <http://www.morro-bay.ca.us/Archive.aspx?ADID=124>). Some of the major points are summarized below.

- a) The Draft Permit fact sheet [Page F-31] correctly states that the California Ocean Plan (COP) requires chronic toxicity testing for dischargers when dilution is between 100:1 to 350:1, but does not acknowledge that the COP also states that acute tests are discretionary within that dilution range. In fact, at 133:1, the MBCSD discharge is at the lower end of that range, and for dischargers with slightly lower dilutions, below 100:1, acute testing is not required under any circumstances.
- b) Acute testing is unnecessarily redundant when chronic testing is also required as part of the WDRs because chronic tests provide far more accurate and sensitive measures of effluent toxicity. In Functional Equivalent Documents supporting the COP, State Board “Staff agrees that critical life stage tests are more sensitive indicators of receiving water impacts than acute toxicity tests.”
- c) Acute tests conducted on MBCSD effluent during prior permit cycles have resulted in highly erroneous measures of toxicity that provided no insight into the actual toxicity of the discharge. Over two decades of acute testing prior to the current permit have demonstrated that the presence of ammonia in the MBCSD effluent samples severely compromises the accurate determination of acute toxicity.
- d) Even within these past artificially elevated acute-toxicity measurements, the reported acute toxicity of the MBCSD discharge has been less than half of the more-stringent effluent limitation cited in the WDRs of that period. Consequently,

even the past artificially inflated acute-toxicity values cannot be considered a threat to beneficial uses.

- e) The acute toxicity limit is intended to prevent lethality to organisms passing through the acute mixing zone. For the MBCSD discharge, the prescribed mixing zone is highly localized around the outfall, and extends only 1.5 m (4.9 ft) from the point of discharge. Field measurements collected at that distance within MBCSD discharge jets show that the effluent had already been diluted more than 100-fold, which is 25-times more dilute than the effluent tested in the bioassays. The only conceivable beneficial use that could be impacted within that narrow zone would be fishing. However, finfish are likely to avoid the turbulent discharge jet. Acute toxicity tests continuously expose organisms over a four-day period and do not reflect the brief duration of any potential finfish exposure.

**Staff Response:** Water Board staff has reviewed the existing Order's permitting history with regards to acute toxicity testing requirements. The existing permit's Fact Sheet (page F-36) provided Staff Response 6 regarding the removal of acute toxicity monitoring requirement. The same conditions still apply. Chronic toxicity testing is a more sensitive and accurate measure of whole effluent toxicity than acute toxicity. In this case, with an initial dilution of 133:1, chronic toxicity testing provides adequate protection of beneficial uses. Acute toxicity testing is unnecessary. Staff has removed the acute toxicity monitoring requirement.

6. **Reduce the Monitoring Frequency for Cyanide and TCDD Equivalents.** Based on an RPA conducted on a limited dataset collected 3 years ago, the Draft Permit established monitoring frequencies for cyanide of twice per year and a TCDD equivalents (dioxin) monitoring frequency of once per year. However, the RPA finding that these two constituents have a reasonable potential to exceed water-quality objectives is an artifact of uncertainty introduced by the limited time span of the datasets. Attachment A to the comment letter contains the RPA input and results for a more representative 14-year dataset spanning the period from 2004 thru 2017. Analysis of that data conclusively determines an RPA endpoint of 2, indicating that an effluent limitation is not required for those pollutants. We request the monitoring frequency for cyanide and TCDD equivalents be reduced to once in the life of the permit.

**Staff Response:** Water Board staff reviewed the updated reasonable potential analysis for cyanide and TCDD provided by the Discharger. The data supports an endpoint of 2, and therefore similar to other endpoint 2 pollutants, an effluent limitation is not required for those pollutants, and the frequency of monitoring has been changed to similarly grouped parameters with endpoint 2 (once per permit term).

7. **Remove the effluent nutrient monitoring requirement.** A provision for nutrient monitoring was incorporated into the Current Permit to address concerns regarding the MBCSD's potential nutrient contribution to the generation of harmful algal blooms offshore central California. However, chemical analyses on nitrate, urea, orthophosphate, and silica that were conducted in every annual report produced in the current permit cycle, demonstrate unequivocally that nutrient concentrations within the MBCSD effluent, and their mass loading to the marine environment from its discharge, are miniscule compared to both other central-coast dischargers, and the contribution from regional streams and rivers. These nutrient comparisons are provided in Section 2.2.11 on Pages 2-32 thru 2-34 and on Pages 5-9 and 5-10 of 2015 Annual Report available at: <http://www.morro-bay.ca.us/Archive.aspx?ADID=2757>. Some of that discussion is summarized below. We request that the effluent nutrient monitoring requirement (nitrate, urea, orthophosphate, and dissolved silica in Table E-3 on Page E-5 of the draft permit) be removed.

- a) In contrast to the other effluent parameters, there are no effluent limits associated with these four nutrients and therefore, they have no bearing on compliance assessments.
- b) Nutrient loading from the MBCSD WWTP is several orders-of-magnitude lower than both runoff and discharge from other central-coast WWTP's, and far smaller than the nutrient loading from naturally occurring processes such as upwelling.
- c) Additionally, it is clear that nutrient loads from the MBCSD discharge are unrelated to the frequency or intensity of the algal blooms occurring along this stretch of coastline. Consequently, continued nutrient monitoring provides no scientifically valid or usable information relevant to the prediction or management of algal blooms, and should be discontinued.
- d) Other, much larger central coast dischargers are no longer required to monitor for nutrients and it is unreasonable to impose this additional requirement only on the MBCSD discharge.

**Staff Response:** Water Board staff does not recommend revisions to the draft permit based on Discharger's comments. Nutrient discharge and loading continues to be a concern in the region, and other municipal wastewater treatment plants are monitoring for nutrient discharges. The nutrient monitoring data continues to provide value to potential impacts to the discharge environment.

- 8. Reduce the requirements for offshore benthic surveys and eliminate the requirement for water-column surveys.** The requirement for annual offshore benthic and water-column surveys is not warranted for a variety of reasons. We request that the requirement for water-column surveys be eliminated, and the frequency of benthic surveying be reduced to once-in-the-life of the permit. Justification and discussion is provided below.

- a) The offshore benthic and water-column surveys are labor intensive to conduct and time consuming to analyze, and as a result, are far more expensive than end-of-pipe chemical assays.
- b) The months of effort expended on these offshore surveys will not result in monitoring program that is more protective of the marine environment than achieved by the routine onshore effluent monitoring already implemented in the permit. End-of-pipe monitoring provides an immediate and easily-interpreted assessment of potential marine impacts that may result from a decline in effluent quality. In contrast, offshore monitoring requires complex analyses to determine the presence of long-term changes in a highly variable marine environment.
- c) The quarter-century of data already amassed by the MBCSD offshore monitoring program has never indicated any marine impacts from the discharge. It is highly unlikely that continued offshore monitoring of similar intensity will result in a different finding.
- d) The proposed offshore monitoring program is more intensive than that of other dischargers of similar or larger discharge volume. For example, as with most small ocean dischargers, the new Goleta permit does not require offshore water-column surveys, and limits the benthic sampling to once-in-the-life of the permit. This level of monitoring is also appropriate for the MBCSD discharge given that its flow is four-times smaller, its offshore dilution is 10% greater, and it services a less-industrialized collection area.
- e) The small volume of effluent discharged by the MBCSD is much higher quality than that achieved by primary treatment alone because the majority of effluent receives secondary treatment. TSS and BOD concentrations within the MBCSD discharge are the only effluent constituents that may occasionally slightly exceed

full-secondary standards, but because of the limited discharge volume, TSS and BOD loading to the environment is similarly limited. Moreover, the MBCSD discharge volume has declined in recent years and additional declines are expected when the Cayucos treatment plant is commission next year.

- f) The Draft MBCSD Permit is no longer covered by Section 301(h) of the Clean Water Act, and as such, it not legally subject to the intensive offshore monitoring program specifically mandated in that section of the Federal Regulations. From a regulatory standpoint, it is inconsistent to impose these exhaustive monitoring requirements when the other 301(h) provisions were eliminated in the Draft Permit.

**Staff Response:** Water Board staff agrees with the Discharger's comments regarding the conclusions from the existing, intensive monitoring program. The comprehensive data set gathered during the previous Orders' offshore monitoring programs do not indicate an impact from the discharge on the marine environment. Additionally, since the Facility will no longer operate with a 301(h) waiver, reducing the monitoring to requirements consistent with other facilities within the region is supported. Monitoring requirements have been changed accordingly.

9. **Correct the effluent concentration and loading limits for heptachlor and Heptachlor epoxide in Table 7 on Page 9, Table F-6 on Page F-13, and Table F14c on Pages F-29 and F-30.** The respective concentration limits should be 0.0067 µg/L and 0.00268 µg/L, and the loadings should be 1.15 x 10<sup>-4</sup> lbs/day and 4.6 x 10<sup>-5</sup> lbs/day. This request was made in Comment 32 of Attachment F – Fact Sheet for the current permit, but was never implemented in the final permit.

**Staff Response:** Water Board staff verified the units with the 2015 California Ocean Plan. The Discharger is correct regarding the values. Corrections have been made.

10. The City also requests the Regional Water Quality Control Board acknowledge the City is pursuing a recycled water program, and salt reduction in the collection system will be critical to reducing capital and operating cost for production of recycled water. Based on sampling conducted in June and July of 2015, the City estimated that brine from self-regenerating water softeners contributed 12% of total dissolved solids (TDS) and 19% of chlorides to wastewater treatment plant (WWTP) influent (January 5, 2016, Presentation to Water Reclamation Facility Citizens Advisory Committee).

**Staff Response:** The Central Coast Water Board encourages, consistent with the State Recycled Water Policy, communities to plan for maximizing the extent of recycled water production and use. Water Board staff will continue to work with Dischargers to encourage and facilitate recycled water projects, including the City of Morro Bay.

### C. Public Hearing

The Central Coast Water Board held a public hearing on the proposed WDRs during its regular Board meeting as follows:

Date: December 7, 2017  
Time: 8 am – 5 pm  
Location: Central Coast Water Board  
895 Aerovisa Place, Suite 101

San Luis Obispo, CA 93401

Interested persons were invited to attend. At the public hearing, the Central Coast Water Board offered to hear testimony, pertinent to the discharge, WDR's, and permit. For accuracy of the record, important testimony is requested in writing. The item was considered on the consent calendar. Mr. Rob Livick from the City of Morro Bay Public Works Department provided a brief update on the City's activities presented in the Staff Report for this item. No members of the public requested comment, or was any provided.

**D. Reconsideration of Waste Discharge Requirements**

Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be received by the State Water Board at the following address within 30 calendar days of the Regional Water Board's action.

State Water Resources Control Board  
Office of Chief Counsel  
P.O. Box 100, 1001 I Street  
Sacramento, CA 95812-0100

For instructions on how to file a petition for review, see:

[http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality/wqpetition\\_instr.shtml](http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml)

**E. Information and Copying**

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:00 a.m. and 5:00 p.m., Monday through Friday. Copying of documents may be arranged through the Central Coast Water Board by calling (805) 549-3147.

**F. Register of Interested Persons**

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Central Coast Water Board reference this Facility, and provide a name, address, and phone number.

**G. Additional Information**

Requests for additional information or questions regarding this order should be directed to Katie DiSimone at (805) 542-4638 ([Katie.disimone@waterboards.ca.gov](mailto:Katie.disimone@waterboards.ca.gov)) or Sheila Soderberg at (805) 549-3592 ([Sheila.soderberg@waterboards.ca.gov](mailto:Sheila.soderberg@waterboards.ca.gov)).



## Appendix F

# FINANCIAL PLAN AND RATE ANALYSIS FOR A NEW WATER RECLAMATION FACILITY (BARTLE WELLS ASSOCIATES, JULY 2018)







# City of Morro Bay



## Financial Plan & Rate Analysis for a New Water Reclamation Facility

*Draft 07/05/18*



**BARTLE WELLS ASSOCIATES**  
INDEPENDENT PUBLIC FINANCE ADVISORS



**BARTLE WELLS ASSOCIATES**  
INDEPENDENT PUBLIC FINANCE ADVISORS

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July 5, 2018

City of Morro Bay  
595 Harbor Street  
Morro Bay, CA 93442

Bartle Wells Associates is pleased to submit the attached *Financial Plan & Rate Analysis for a New Water Reclamation Facility*. The report develops financial projections and recommends rate surcharges to support the funding of a new Water Reclamation Facility (WRF) to replace and upgrade the City's aging wastewater treatment plant and provide recycled water to improve local supply reliability.

The report recommends the City adopt new water and sewer rate surcharges to help fund each utility's share of costs for the WRF Project. These WRF surcharges would be levied in addition to the City's previously-adopted water and sewer rates and would remain in effect while debt service incurred to fund the WRF Project remains outstanding.

Financial projections and rate surcharges were developed under two key scenarios including a) a Base Case Scenario with front-loaded WRF surcharges totaling \$41 per month per single family home starting 2019/20; b) a Phase-In Scenario with WRF surcharges phased in over a few years resulting in less cash funding for the WRF Project and total WRF surcharges of \$44 per month per single family home.

BWA also evaluated the impacts of c) securing a low-rate State Revolving Fund (SRF) loan to supplement the City's anticipated WIFIA financing, which would result in a roughly \$7 monthly reduction to the WRF surcharges, and d) a wastewater-only project with no recycled water facilities under which the savings due to reduced project costs are largely offset by the increase in debt service assuming all bond financing without WIFIA financing or additional SRF loans.

I enjoyed working with the City on this assignment and appreciate the input and assistance received from the City's project team and Blue Ribbon Commission in evaluating financial scenarios and rate alternatives. Please contact me anytime if you have questions about the findings and recommendations presented in the report or any related issues.

Sincerely,

BARTLE WELLS ASSOCIATES

Alex Handlers, CIPMA  
Principal/Vice-President

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Appendix A - Water & Sewer Capital Improvement Plans

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Appendix D - Financial Projections with Additional SRF Financing

Appendix E - Financial Projections with No Recycled Water



# City of Morro Bay

## Financial Plan & Rate Analysis for a New Water Reclamation Facility

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### 1. Background

The City of Morro Bay is located on the Central California coast in San Luis Obispo County, about 12 miles northwest of the City of San Luis Obispo. The City has a population of approximately 10,500. The City provides water and wastewater service to residents and businesses within the City.

The City's existing wastewater treatment plant has reached the end of its useful life and needs to be rebuilt due to a number of factors including age and condition, as well as capacity and regulatory deficiencies. The existing plant was originally built in 1953 and last underwent major upgrades in 1984. The existing plant does not meet current wastewater discharge permit requirements and needs to be rebuilt to comply with the City's new Waste Discharge Permit requirement within a maximum of five years, as required by the Central Coast Regional Water Quality Control Board (RWQCB). Failure to meet the RWQCB's permit requirements can result in substantial fines.

Adding to the City's challenges, the wastewater treatment plant cannot be rebuilt at its current location. The existing plant is located on the coast in a flood plain and tsunami inundation zone. In 2013, the California Coastal Commission denied the City's development permit to build a new treatment plant near the existing site. In 2015 the Commission issued Sea Level Rise Policy Guidance that strongly discourages siting facilities in areas where they could be adversely affected by the impacts of sea level rise over the full life of the structure. The current location is also inconsistent with other provisions of the Coastal Act and Local Coastal Program.

Based on evaluation of a wide range of project and site alternatives, the City is now moving forward with a new Water Reclamation Facility (WRF) at a proposed site near the intersection of South Bay Boulevard and Highway 1, approximately 1 mile east of downtown Morro Bay. In June 2018, pursuant to a competitive proposal process, the City selected a team to construct the new WRF via a design-build process.

The full WRF project includes a new wastewater treatment plant, pumping facilities, a pipeline to convey wastewater to the new WRF, and water recycling facilities for potable reuse. Water recycling facilities are included in the WRF project for a number of reasons including:

- The City predominantly relies on imported water from the State Water Project for the

community's water supply. Recycled water provides the City with a relatively drought-proof local supply that improves water supply security and reliability.

- While water recycling infrastructure adds significant cost to the WRF project, it also helps make the WRF project eligible and competitive for grants and low-interest-rate loans. Financial analysis indicates that the impact of the added costs of the recycled water facilities would be largely offset by the financial benefits of subsidized financing available with recycling.
- Water recycling was identified as a community goal for the new WRF.

Over the past year, the City has been working to minimize the cost of the WRF Project. Together, the combined efforts of the City, various citizen-advisory groups and engineering consultants have helped substantially reduce costs from prior estimates developed in 2017. The City is currently in negotiations with the selected design-build team and hopes to further reduce costs during the design-build process.

## 2. Study Overview

Bartle Wells Associates (BWA) was retained to develop a financial plan and rate recommendations to support funding for the new WRF as well ongoing operating and capital improvement needs. This report presents findings and rate recommendations developed under a few financial scenarios. The proposed WRF Facility Surcharges were developed with input from City staff, Carollo Engineers, and the City's Blue Ribbon Commission -- a group of Morro Bay residents with substantial financial and business experience that was established to provide independent review and help evaluate the costs and potential rate increases needed to support the new WRF.

The City's water and sewer utilities are financially self-supporting enterprises funded primarily from monthly service charges. *In order to secure financing for the WRF, the City will need to first adopt utility rate surcharges adequate to support repayment of debt service for the new WRF.*

BWA developed financial projections and rate recommendations under four alternative scenarios.

- Base Case Scenario:** This scenario assumes the WRF project is funded by a combination of WIFIA financing, revenue bonds, and pay-as-you go cash funding from rates and fund reserves. Under this scenario, the City would levy the full WRF Facility Surcharges beginning fiscal year 2019/20.
- Phase-In Scenario:** This scenario is similar to the Base Case Scenario, but assumes the WRF Facility Surcharges would be phased in from fiscal year 2019/20 through 2021/22.

- C. **SRF Financing Scenario:** This scenario assumes the City obtains low-rate SRF financing, instead of bonds, to supplement the anticipated WIFIA loan and cash funding.
- D. **No Water Recycling Scenario:** This scenario eliminates the water recycling facilities resulting in a reduced-cost, wastewater-only WRF project, and also assumes no WIFIA financing with all project funding from bonds and pay-as-you-go cash contributions.

### 3. Prior Rate Increases & Need for WRF Surcharges

In 2015, the City adopted 5-years of water and sewer rate increases. The adopted rates were designed to phase in funding to support the cost of providing utility service and help provide funding for capital improvements to aging infrastructure. As of July 1, 2018, the City will have implemented 4 of the 5 years of adopted rate increases. Prior to these rate increases, the City had not adopted any water rate increases in 20 years but had periodically adopted some sewer rate adjustments.

The previously-adopted sewer rates were also designed to help support funding for a new wastewater treatment plant assuming Morro Bay would need to fund approximately \$56 million of project costs, equal to 75% of an estimated \$75 million wastewater treatment plant that would be jointly owned with Cayucos funding the remaining 25%. The \$75 million preliminary cost estimate from 2015 was based on a conceptual design and parametric estimates.

In addition, the adopted rates were not designed to fund recycled water facilities, which were previously expected to be a future phase of the project. The adopted sewer rates also assumed the City would be able to obtain low-rate financing from the State Revolving Fund (SRF) for all debt financing needs of the new treatment plant. SRF financing was previously fairly easy to obtain but is now substantially more difficult to secure.

The adopted rates substantially strengthened the financial condition of the City's water and sewer utilities but do not provide adequate funding to support each utility's share of costs for the new WRF. Additional water and sewer charges are needed to provide adequate funding for each utility's share of debt service for the WRF project.

BWA recommends the City adopt new water and sewer WRF Facility Surcharges to supplement the previously-adopted rates in order to provide adequate funding for WRF-related debt repayment. These would be separate surcharges levied in addition to the City's adopted utility rates.

## 4. Summary of Proposed WRF Facility Surcharges

Table 1 shows proposed WRF Facility Surcharges for single family residential customers under the four financial scenarios. Note that the surcharges shown under the Phase-In Scenario are maximum surcharges with full phase-in starting 2022/23. Surcharges for residential customers are structured as fixed monthly charges. Surcharges for all customer classes are detailed later in this report.

**Table 1 – Summary of Maximum Single Family Residential WRF Facility Surcharges**

	Base Case	Phase-In	WIFIA & SRF	No Recycling*
	WRF+Recycling WIFIA+Bonds	Base Case with Rate Phase In	WRF+Recycling WIFIA+SRF	No Recycling All Bonds
<b>WRF Facility Surcharges</b>				
Sewer WRF Facility Surcharge	\$25.00	\$27.00	\$20.00	\$44.00
Water WRF Facility Surcharge	16.00	17.00	14.00	-
<b>Total</b>	<b>41.00</b>	<b>44.00</b>	<b>34.00</b>	<b>44.00*</b>

\* Under the No Recycling Scenario, the fifth and final year of the previously-adopted water rate increases would not need to be implemented, resulting in a \$4.50 reduction in the monthly water bill for a typical single family home using 5 units of water per month compared to other scenarios. This results in a net reduction of \$1.50 per month compared to the Base Case Scenario.

## 5. Key Alternative for Implementing & Billing WRF Facility Surcharges

The City has options for implementing and billing the proposed WRF Facility Surcharge noted below.

### Timing of Surcharge Implementation

At this stage, the City is considering two approaches regarding the timing of implementing the WRF Facility Surcharges, including:

- **Front-Load** - Levy the full WRF Facility Surcharges starting fiscal year 2019/20 (Base Case Scenario)
- **Phase-In** - Phase-in the WRF Facility Surcharges in upcoming years (Phase-In Scenario)

The Phase-In Scenario results in a lower level of surcharge revenues than the front-loaded Base Case Scenario until the surcharges are fully phased-in. The Phase-In Scenario results in approximately \$4.3 million less of pay-as-you-go cash funding which results in the need for a corresponding increase in debt financing, higher annual debt service, and ultimately a higher surcharge.

### **Method of Bill Collection**

The City currently bills customers monthly via a combined utility bill for water and sewer service. The City is considering two methods of bill collection for recovering the WRF Facility Surcharges, including:

- **Monthly Billing** - Add the WRF Facility Surcharges as a new line-item in the monthly bills.
- **Property Tax Rolls** - Recover the proposed WRF Facility Surcharges on the property tax rolls.

The WRF Facility Surcharges would be the same under both billing alternatives and in many cases would be paid by the same people; only the method of billing and collection would vary. Additional information regarding potential billing on the property tax rolls is included later in this report.

### **Community & Advisory Board/Committee Input Received**

The City conducted a community workshop to discuss the WRF project and proposed rate surcharges on Saturday, June 23, 2018. During the workshop, community members were requested to provide their preferences regarding: a) either phasing in or front-loading the WRF Facility Surcharges, and b) billing the WRF Facility Surcharges as a separate line-item on the monthly utilities bill vs. submitting the surcharges for recovery via the property tax rolls. Community members who participated at the workshop were fairly evenly split regarding their preferences on both the potential phase-in and method of bill collection.

The same feedback was sought from members of the Public Works Advisory Board (PWAB), Water Reclamation Facility Citizens Advisory Committee (WRFCAC), and Citizens Finance Advisory Committee (CFAC) during a joint meeting between these three committees held on June 25, 2018. Advisory board and committee members slightly favored phasing in the surcharges and strongly favored including the surcharges on the monthly utilities bill, not on the property tax rolls.



## 6. Total Monthly Water & Sewer Charges with WRF Facility Surcharges

Tables 2A and 2B show the total combined monthly water and sewer charges – *including water and sewer service charges and the proposed WRF Facility Surcharges* – for a typical single family home using 5 units (hcf) of water use per month under the Base Case and Phase-In Scenarios. Under the Phase-In Scenario, pay-as-you-go cash funding for the WRF Project generated by the Surcharges would be reduced by approximately \$4.3 million compared to the Base Case Scenario. This results in the need for a corresponding amount of additional debt financing which results in slightly higher debt service and a higher maximum surcharge.

*Note that monthly single family residential use has averaged about 4.6 units (hcf) over the past year. BWA estimates that roughly 2/3rds of single family residential bills are at or below 5 hcf.*

**Table 2A – Base Case Scenario: Total Monthly Charges with WRF Surcharges**

Typical Single Family Home with 5 Units (hcf) Monthly Water Use

	2018/19	2019/20	2020/21	2021/22	2022/23
<b>Monthly Utility Bill</b>					
Sewer Monthly Charge	\$77.00	\$83.00	\$83.00	\$83.00	\$83.00
Water Monthly Charge	62.50	67.00	67.00	67.00	67.00
Subtotal Monthly Bill	139.50	150.00	150.00	150.00	150.00
<b>WRF Facility Surcharges</b>					
Sewer WRF Facility Surcharge	-	25.00	25.00	25.00	25.00
Water WRF Facility Surcharge	-	16.00	16.00	16.00	16.00
Subtotal Monthly Bill		41.00	41.00	41.00	41.00
<b>Total Monthly Charges</b>	<b>139.50</b>	<b>191.00</b>	<b>191.00</b>	<b>191.00</b>	<b>191.00</b>

**Table 2B – Phase-In Scenario: Total Monthly Charges with WRF Surcharges**

Typical Single Family Home with 5 Units (hcf) Monthly Water Use

	2018/19	2019/20	2020/21	2021/22	2022/23
<b>Monthly Utility Bill</b>					
Sewer Monthly Charge	\$77.00	\$83.00	\$83.00	\$83.00	\$83.00
Water Monthly Charge	62.50	67.00	67.00	67.00	67.00
Subtotal Monthly Bill	139.50	150.00	150.00	150.00	150.00
<b>WRF Facility Surcharges</b>					
Sewer WRF Facility Surcharge	-	9.00	18.00	27.00	27.00
Water WRF Facility Surcharge	-	8.00	12.00	17.00	17.00
Subtotal Monthly Bill		17.00	30.00	44.00	44.00
<b>Total Monthly Charges</b>	<b>139.50</b>	<b>167.00</b>	<b>180.00</b>	<b>194.00</b>	<b>194.00</b>

## 7. WRF Project Costs & Timing

Table 3 shows projected WRF project capital and operating costs based on the winning design-build proposal received by the City (which is subject to final negotiation) and engineering cost estimates provided by Carollo Engineers. The WRF project is currently estimated to cost \$122.8 million including expenses incurred to date; the financial and rate projections are based on this amount. The total cost with roughly \$3 million of additional unallocated project reserve contingency is estimated at \$126 million.

**Table 3 – WRF Project Cost Estimates**

	Construction Costs <sup>1</sup>	Soft Costs	Project Reserves <sup>2</sup>	Total Cost
<b>Projected Capital Costs</b>				
<i>Includes permitting, design, procurement, construction, and management.</i>				
Water Reclamation Facility	\$62,616,000	\$8,489,000	\$3,131,000	\$74,236,000
Conveyance Facilities	21,086,000	2,820,000	2,343,000	26,249,000
Offsite Recycled Water Facilities <sup>3</sup>	8,592,000	2,648,000	859,000	12,099,000
General Program Implementation	0	5,160,000	0	5,160,000
Subtotal	92,294,000	19,117,000	6,333,000	117,744,000
Prior Project Expenditures	0	5,063,000		5,063,000
Total	92,294,000	24,180,000		122,807,000
<i>Total with Reserve Contingency</i>				<i>126,000,000</i>
<b>Annual Operating &amp; Maintenance Expenses</b>				
<i>Projected online starting January 1, 2022.</i>	<u>2018 Estimate</u>	<u>Cost Inflation</u>	<u>2022 Projection</u>	
WRF Wastewater Operations	\$2,383,000	\$299,000	\$2,682,000	
Conveyance to WRF	246,000	31,000	277,000	
Recycled Water Operations	193,000	24,000	217,000	

Source: Carollo Engineers, WRF Program Revised Cost Estimates as of 6/20/18.

1 Construction costs Include estimated cost inflation to construction mid-point where applicable.

2 Project Reserves are placeholder estimates for additional project funding requirements (e.g. outside project scope) with funding subject to City control.

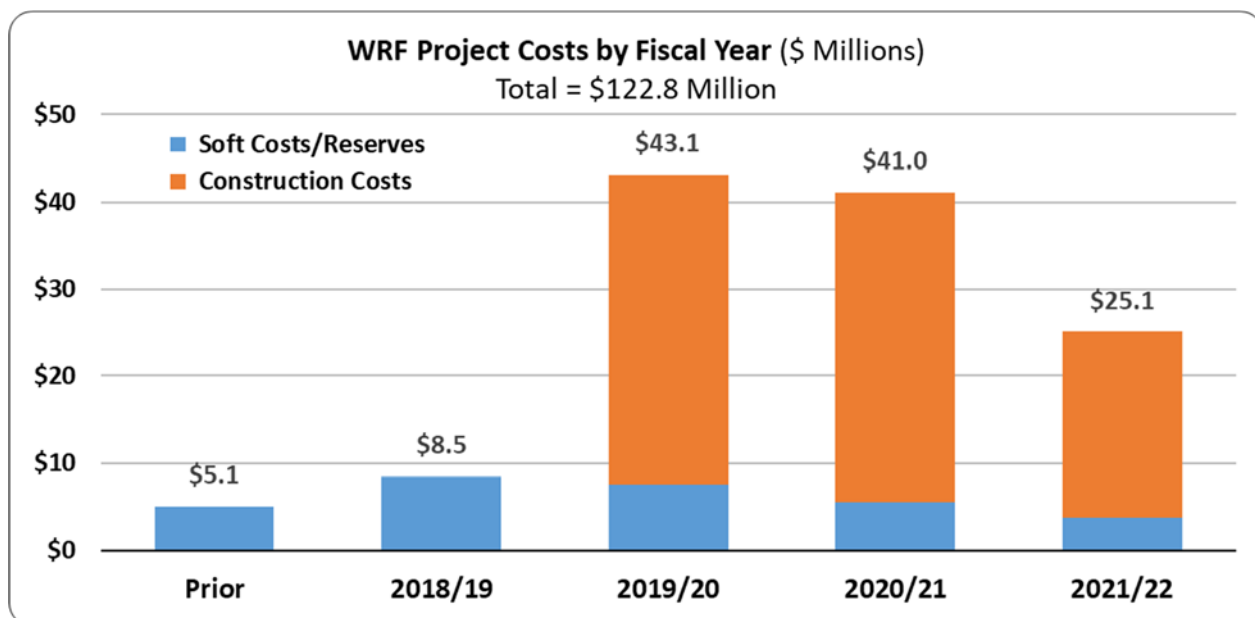
3 Offsite Recycled Water Facilities assume West alternative and include property acquisition estimate.

Without recycled water infrastructure, the cost of the project is reduced by approximately \$20 million to an estimated total of \$102.2 million. The reduction includes elimination of \$12 million of Offsite Recycled Water Facilities, and an \$8 million reduction in costs for the wastewater treatment plant. Tables detailing financial projections for a No Water Recycling Scenario are included in the appendix.

Table 4 shows projected WRF costs by fiscal year. The City estimates that a little over \$5 million will have been spent by the end of fiscal year 2017/18, with future costs totaling about \$117.7 million including estimated cost inflation to the projected mid-point of construction for each project component. The City anticipates incurring costs primarily for design in 2018/19, with construction occurring during the subsequent 3 fiscal years. The new wastewater treatment facility is targeted for completion by October 2021 with operations targeted to start January 2022.

**Table 4 – Projected WRF Costs by Fiscal Year**

	Prior Costs			Projected Costs			
	Prior	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Soft Costs	2,800,000	1,423,000	840,000	8,490,000	5,218,000	3,160,000	2,248,000
Construction					35,512,000	35,512,000	21,271,000
Project Reserves					2,377,000	2,377,000	1,579,000
Annual Total	2,800,000	1,423,000	840,000	8,490,000	43,107,000	41,049,000	25,098,000
<i>Subtotal</i>			<i>5,063,000</i>				<i>117,744,000</i>
<i>Total</i>							<i>122,807,000</i>



## 8. Water vs. Wastewater Cost Allocation

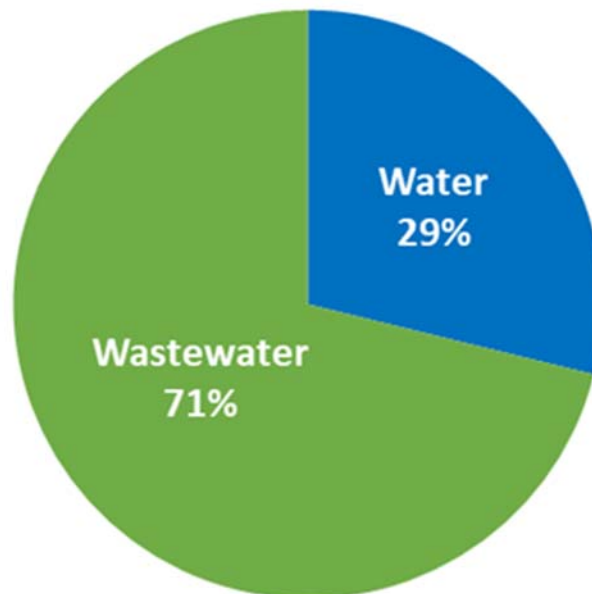
Table 5 shows an allocation of WRF project costs to water vs. wastewater based on analysis developed by Carollo Engineers. Costs allocated to the water utility include all facility costs related to recycled water production that are in excess of the costs that would be incurred for constructing a new WRF for wastewater only. Each utility is responsible for funding its share of project costs.

**Table 5 – WRF Project Cost Allocation to Water vs. Wastewater**

Project Component	Total Cost	Water		Wastewater	
Water Reclamation Facility	\$74,236,000	\$21,528,000	29.0%	\$52,708,000	71.0%
Conveyance Facilities	26,249,000	0	0.0%	26,249,000	100.0%
Offsite Recycled Wtr Facilities	12,099,000	12,099,000	100.0%	0	0.0%
General Program Implementation *	5,160,000	1,541,000	29.9%	3,619,000	70.1%
Prior Project Expenditures	<u>5,063,000</u>	<u>244,000</u>	<u>4.8%</u>	<u>4,819,000</u>	<u>95.2%</u>
Total	122,807,000	35,412,000	28.8%	87,395,000	71.2%

\* Allocated based on proportionate share of total future facility costs.

### Water vs. Wastewater Costs



## 9. WRF Project Funding Sources

The City anticipates funding the WRF project via a combination of long-term debt and pay-as-you-go cash funding provided by utility rates and available fund reserves. The Base Case Scenario assumes the City secures WIFIA funding for the maximum allowable 49% of the WRF project cost, with remaining funding provided by cash funding and revenue bonds. Table 6 and the chart below show a breakdown of anticipated funding sources for the WRF project under the Base Case Scenario. For comparison, the Phase-In Scenario results in \$4.3 million of reduced cash funding for the WRF and a corresponding \$4.3 million increase in Revenue Bond financing.

**Table 6A – Base Case: WRF Project Funding Sources**

	Total	% of Ttl	Water	% of Source	Wastewater	% of Source
<b>WRF Total Project Costs</b>	\$122,807,000		\$35,412,000	28.8%	87,395,000	71.2%
<b>Projected Funding Sources</b>						
WIFIA Loan	60,175,000	49.0%	17,352,000	28.8%	42,823,000	71.2%
SRF Planning Loan	10,300,000	8.4%	2,970,000	28.8%	7,330,000	71.2%
Revenue Bonds	24,700,000	20.1%	10,246,000	41.5%	14,454,000	58.5%
Sewer New Cash Funding	17,969,000	14.6%	0	0.0%	17,969,000	100.0%
Water New Cash Funding	4,600,000	3.7%	4,600,000	100.0%	0	0.0%
Prior Cash Contributions	<u>5,063,000</u>	<u>4.1%</u>	<u>244,000</u>	<u>4.8%</u>	<u>4,819,000</u>	<u>95.2%</u>
<b>Total</b>	<b>122,807,000</b>	<b>100.0%</b>	<b>35,412,000</b>	<b>28.8%</b>	<b>87,395,000</b>	<b>71.2%</b>

**Base Case: WRF Project Funding Sources**

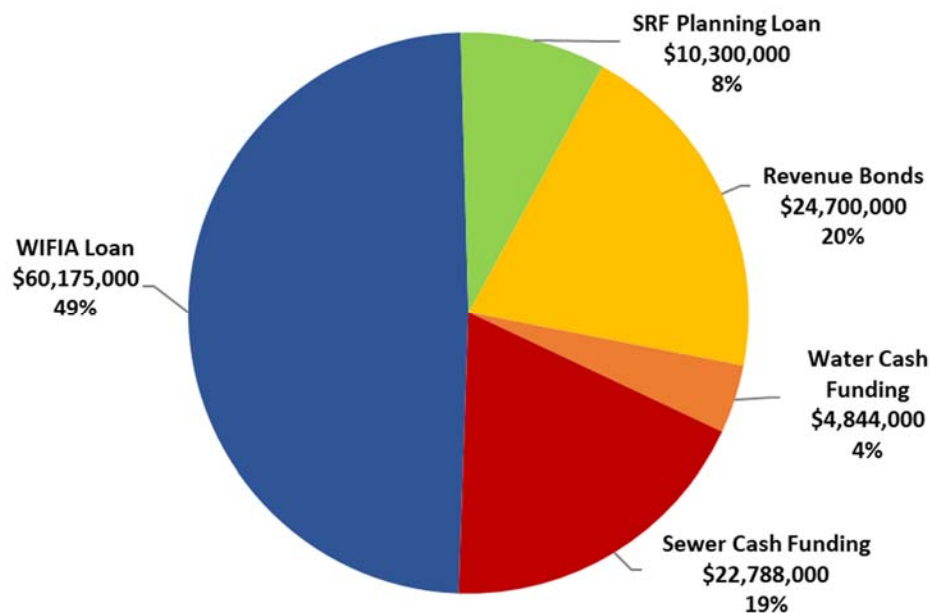


Table 7 shows a breakdown of anticipated funding sources for the WRF Project by fiscal year under the Base Case Scenario.

**Table 7 – Base Case: WRF Funding Sources by Year**

	Prior	2018/19	2019/20	2020/21	2021/22
<b>WRF Project Costs</b>	\$5,063,000	\$8,490,000	\$43,107,000	\$41,049,000	\$25,098,000
<b>WRF Funding Sources</b>					
SRF Planning Loan		5,800,000	4,500,000		
WIFIA Loan			31,100,000	29,075,000	
Revenue Bonds				7,400,000	17,300,000
Sewer Cash Contribution	4,819,000	2,390,000	5,307,000	3,374,000	6,898,000
Water Cash Contribution	244,000	300,000	2,200,000	1,200,000	900,000
<b>Total</b>	<b>5,063,000</b>	<b>8,490,000</b>	<b>43,107,000</b>	<b>41,049,000</b>	<b>25,098,000</b>

The City has been pursuing state and federal grants and low-interest-rate loans to help finance the WRF project. The City has been successful in obtaining commitments for a substantial amount of low-interest-rate financing to date and continues to seek additional financial assistance. The City has retained Kestrel Consulting, a grant specialist, to assist in identifying and applying for grants and subsidized financing programs.

- The City was awarded a \$10.3 million Planning Loan from California’s Clean Water State Revolving Fund (SRF) Financing Program with a subsidized interest rate of 1.70%.
- Morro Bay was as one of 12 communities nationwide invited to apply for low-interest-rate financing from the Water Infrastructure and Financing Innovation Act (WIFIA) funding program administered by the United State Environmental Protection Agency (EPA). WIFIA financing can be used to fund up to 49% of the WRF project cost and has favorable repayment terms including low interest rates. The rate for a long-term WIFIA loan is currently in the 3% range but would not be formally set until final approval is obtained.
- The City was previously awarded a small Recycled Water Planning Feasibility Study Grant.
- The City is pursuing additional financing from Clean Water SRF Financing Program, which offers low-interest-rate loans – currently below 2% -- and repayment terms up to 30 years.
- The City has been pursuing grant financing from the United States Bureau of Reclamation.

Any additional grant or subsidized loan financing received would result in lower future debt service and could reduce annual funding needs from future water and sewer charges.

## 10. Debt Service Estimates

Tables 8A and 8B show debt service estimates under the Base Case and Phase-In Scenarios. Debt service is partially structured around the 10-year repayment term of the SRF Planning Loan to result in level annual future debt service. The debt service estimates for the anticipated WIFIA Loan and projected Revenue Bonds are based on slightly conservative assumptions of interest rates. Interest rates are currently lower but would be established when the WIFIA financing agreement is finalized and when Revenue Bonds are issued.

**Table 8A – Base Case: Debt Service Estimates**

	SRF Planning Loan	WIFIA Loan	Revenue Bonds	Total
Project Funding	\$10,300,000	\$60,175,000	\$24,700,000	\$95,175,000
Term	10 Years	35 Years	30 Years	All-In TIC
Avg Interest Rate	1.70%	3.25%	4.70%	3.48%
<b><u>Debt Service</u></b>				
Through 2029/30	\$1,130,000	\$2,973,000	\$1,190,000	\$5,293,000
After 2029/30	-	\$3,422,000	\$1,871,000	\$5,293,000

The Phase-In Scenario generates less cash funding for the WRF Project which results in a corresponding increase in debt financing needs from revenue bonds and a resulting increase in debt financing and debt service.

**Table 8B – Phase-In: Debt Service Estimates**

	SRF Planning Loan	WIFIA Loan	Revenue Bonds	Total
Project Funding	\$10,300,000	\$60,175,000	\$29,000,000	\$99,475,000
Term	10 Years	35 Years	30 Years	All-In TIC
Avg Interest Rate	1.70%	3.25%	4.70%	3.51%
<b><u>Debt Service</u></b>				
Through 2029/30	\$1,130,000	\$3,051,000	\$1,396,000	\$5,577,000
After 2029/30	-	\$3,383,000	\$2,194,000	\$5,577,000

## 11. Capital Improvement Plans

The City recently collaborated with Carollo Engineers to evaluate and prioritize capital improvement needs to the City's aging water and sewer infrastructure resulting in the development of updated Capital Improvement Plans (CIPs) for the water and sewer utilities. The CIP projects include replacement and rehabilitation of old water and sewer pipelines, water pump stations, sewer lift stations, and water storage tanks. The CIPs are designed to address the highest priority needs the soonest. The City plans to continue evaluating its capital improvement needs and may re-prioritize projects in future years.

Tables 9 and 10 summarize annual water and sewer CIP funding needs. The City plans to fund these improvements on a pay-as-you-go basis with no additional debt. A detailed list of CIP projects and costs is included in the appendix to this report. Note that costs are shown in current dollars.

**Table 9 – Water Capital Improvement Plan Summary**

	Near-Term Years 1 - 5	Mid-Term Years 6 - 10	Long-Term Through 2040
CIP Cost Estimates	\$6,788,000	\$4,977,000	\$11,586,000
Average Annual Cost	1,357,600	995,400	965,500

**Table 10 – Sewer Capital Improvement Plan Summary**

	Near-Term Years 1 - 5	Mid-Term Years 6 - 10	Long-Term Through 2040
CIP Cost Estimates	\$5,096,000	\$5,726,000	\$7,349,000
Average Annual Cost	1,019,200	1,145,200	612,417



## 12. Financial Projections

BWA developed 10-year water and sewer utility financial projections to evaluate annual revenue requirements and project rate increases under each of the four financial scenarios. The projections are based on reasonable and slightly conservative assumptions including:

- Operating expenses are based on the 2018/19 preliminary budget.
- Operating costs escalate at the annual rate of 4% per year for planning purposes.
- Future costs for a) wastewater treatment at the new WRF and b) wastewater conveyance to the new WRF, and c) recycled water operations are based on engineering estimates developed by Carollo Engineers and account for future cost inflation.
- The projections assume a low-growth scenario of 5 new single family homes or equivalents per year.
- Water and sewer service charge revenues assume monthly water use remains constant based on usage over the past fiscal year. Note that residential sewer rates and all WRF Facility Surcharges are fixed monthly charges that do not vary with changes in water use.
- Sewer financial projections assume that Cayucos Sanitary District funds 25% of the operating costs of the existing wastewater treatment plant for two more fiscal years – through 2019/20 – after which Cayucos anticipates transitioning to its own planned treatment facility. *Note: The reduction in wastewater flow from Cayucos SD is not projected to result in a significant decrease in operating costs. Most of the treatment plant's operating and maintenance costs are fixed costs (e.g. staffing) that do not vary with changes in wastewater flow.*
- The sewer cash flow projections show how the entire WRF Project is funded and include the full debt service payments which are offset by the debt service paid by the water utility.
- Water and sewer capital improvement plans are funded entirely on a pay-as-you-go basis from revenues generated each year by water and sewer service charges.
- The City has accrued some fund reserves that can eventually be applied toward the WRF Project and anticipates generating additional cash contributions for the project from future rates and WRF Facility Surcharges. BWA recommends the City maintain its water and sewer fund reserves while the WRF Project is being built. The City can draw down a portion of its water and sewer fund reserves during fiscal year 2021/11, the final year of construction. Over the longer-term, the cash flow projections assume the City would maintain at least \$4 million in fund reserves for each utility.

Tables 11A and 12A show 10-year sewer cash flow projections and water cash flow projections under the Base Case Scenario. Tables 11B and 12B show financial projections under the Phase-In Scenario.

Table 11A - City of Morro Bay - Sewer Cash Flow Projections

Base Case Scenario

Years 1 - 5	Projected				
	2017/18	2018/19	2019/20	2020/21	2021/22
Monthly Single Family Sewer Charge	\$70.00	\$77.00	\$83.00	\$83.00	\$83.00
Monthly Single Family Surcharge			\$25.00	\$25.00	\$25.00
Beginning Sewer Accounts	5,346	5,351	5,356	5,361	5,366
Growth: Single Family Equivalents	5	5	5	5	5
Growth %	-	0.1%	0.1%	0.1%	0.1%
Sewer Development Impact Fee	\$5,445	\$5,550	\$5,660	\$5,770	\$5,890
Interest Earnings Rate	1.25%	1.75%	2.0%	2.0%	2.0%
Cost Escalation			4.0%	4.0%	4.0%
<b>Beginning Fund Reserves</b>	\$6,402,000	\$8,112,000	\$8,251,000	\$8,274,000	\$8,357,000
<b>REVENUES</b>					
Sewer Service Charges	6,100,000	6,716,000	7,246,000	7,253,000	7,260,000
Sewer WRF Facility Surcharges	0	0	2,173,000	2,173,000	2,173,000
Development Impact Fees	30,000	28,000	28,000	29,000	29,000
Interest Earnings	80,000	142,000	165,000	165,000	167,000
Rental Income/Other (Excl Penalties)	25,000	30,000	30,000	30,000	30,000
Subtotal	6,235,000	6,916,000	9,642,000	9,650,000	9,659,000
<b>WRF Debt Financing</b>					
SRF Planning Loan		5,800,000	4,500,000		
WIFIA Loan			31,100,000	29,075,000	
Bond Proceeds				7,400,000	17,300,000
<b>EXPENSES</b>					
<b>Operating &amp; Maintenance</b>	<u>Estimated</u>	<u>Projected</u>			
Sewer Collection	1,100,000	1,480,000	1,539,000	1,601,000	1,665,000
Wastewater Treatment Existing	2,000,000	2,210,000	2,298,000	2,390,000	1,247,000
Wastewater Treatment New WRF	-	-	-	-	1,500,000
Conveyance to New WRF	-	-	-	-	140,000
Less Cayucos SD Reimbursements	(495,000)	(553,000)	(575,000)	0	0
Subtotal	2,605,000	3,137,000	3,262,000	3,991,000	4,552,000
<b>Debt Service</b>					
SRF Planning Loan: Sewer Share	-	-	-	804,000	804,000
WRF WIFIA Loan: Sewer Share	-	-	-	-	-
WRF Revenue Bonds: Sewer Share	-	-	-	348,000	696,000
Subtotal	0	0	0	1,152,000	1,500,000
<b>Capital Improvements</b>					
Sewer Cash Contribution to WRF	840,000	2,390,000	5,307,000	3,374,000	6,898,000
Sewer System Pay-Go CIP	630,000	1,200,000	1,000,000	1,000,000	1,000,000
Vehicle/Equipment Replacement	450,000	50,000	50,000	50,000	50,000
Subtotal	1,920,000	3,640,000	6,357,000	4,424,000	7,948,000
Total Sewer Expenses	4,525,000	6,777,000	9,619,000	9,567,000	14,000,000
<b>Revenues Less Expenses</b>	1,710,000	139,000	23,000	83,000	(4,341,000)
<b>Ending Fund Reserves</b>	8,112,000	8,251,000	8,274,000	8,357,000	4,016,000
Debt Service Coverage	-	-	-	4.91	3.40

Table 11A - City of Morro Bay - Sewer Cash Flow Projections

Base Case Scenario

Years 6 - 10	Projected				
	2022/23	2023/24	2024/25	2025/26	2026/27
Monthly Residential Sewer Charge	\$83.00	\$85.00	\$87.00	\$90.00	\$92.00
Monthly Single Family WRF Surcharge	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00
Beginning Sewer Accounts	5,371	5,376	5,381	5,386	5,391
Growth: Single Family Equivalents	5	5	5	5	5
Growth %	0.1%	0.1%	0.1%	0.1%	0.1%
Sewer Development Impact Fee	\$6,010	\$6,130	\$6,250	\$6,380	\$6,510
Interest Earnings Rate	2.0%	2.0%	2.0%	2.0%	2.0%
Cost Escalation	4.0%	4.0%	4.0%	4.0%	4.0%
<b>Beginning Fund Reserves</b>	\$4,016,000	\$4,245,000	\$4,445,000	\$4,604,000	\$4,802,000
<b>REVENUES</b>					
Sewer Service Charges	7,267,000	7,449,000	7,631,000	7,901,000	8,084,000
Sewer WRF Facility Surcharges	2,173,000	2,173,000	2,173,000	2,173,000	2,173,000
Development Impact Fees	30,000	31,000	31,000	32,000	33,000
Interest Earnings	86,000	91,000	95,000	98,000	102,000
Rental Income/Other (Excl Penalties)	30,000	30,000	30,000	30,000	30,000
Subtotal	9,586,000	9,774,000	9,960,000	10,234,000	10,422,000
<u>WRF Debt Financing</u>					
SRF Planning Loan					
WIFIA Financing					
Bond Financing					
<b>EXPENSES</b>					
<b>Operating &amp; Maintenance</b>					
Sewer Collection	1,732,000	1,801,000	1,873,000	1,948,000	2,026,000
Wastewater Treatment Existing	0	0	0	0	0
Wastewater Treatment New WRF	2,682,000	2,789,000	2,901,000	3,017,000	3,138,000
Conveyance to New WRF	277,000	288,000	300,000	312,000	324,000
Less Cayucos SD Reimbursements	0	0	0	0	0
Subtotal	4,691,000	4,878,000	5,074,000	5,277,000	5,488,000
<b>Debt Service</b>					
SRF Planning Loan: Sewer Share	804,000	804,000	804,000	804,000	804,000
WRF WIFIA Loan: Sewer Share	2,116,000	2,116,000	2,116,000	2,116,000	2,116,000
WRF Revenue Bonds: Sewer Share	696,000	696,000	696,000	696,000	696,000
Subtotal	3,616,000	3,616,000	3,616,000	3,616,000	3,616,000
<b>Capital Improvements</b>					
Sewer Cash Contribution to WRF	0	0	0	0	0
Sewer System Pay-Go CIP	1,000,000	1,030,000	1,061,000	1,093,000	1,126,000
Vehicle/Equipment Replacement	50,000	50,000	50,000	50,000	50,000
Subtotal	1,050,000	1,080,000	1,111,000	1,143,000	1,176,000
Total Expenses	9,357,000	9,574,000	9,801,000	10,036,000	10,280,000
<b>Revenues Less Expenses</b>	229,000	200,000	159,000	198,000	142,000
<b>Ending Fund Reserves</b>	4,245,000	4,445,000	4,604,000	4,802,000	4,944,000
Debt Service Coverage	1.35	1.35	1.35	1.37	1.36

# Table 12A - City of Morro Bay - Water Cash Flow Projections Base Case Scenario

Years 1 - 5	Projected				
	2017/18	2018/19	2019/20	2020/21	2021/22
Fixed Monthly Water Charge	\$28.00	\$30.00	\$32.00	\$32.00	\$32.00
Fixed Monthly Single Family WRF Surcharge	-	-	\$16.00	\$16.00	\$16.00
Water Rate Adjustment %		7.1%	6.7%	0.0%	0.0%
Growth: Single Family Equivalents	5	5	5	5	5
Growth %	0.1%	0.1%	0.1%	0.1%	0.1%
Change in Water Sales		0.0%	0.0%	0.0%	0.0%
Water Development Impact Fee	\$5,392	\$5,500	\$5,610	\$5,720	\$5,830
Interest Earnings Rate	1.25%	1.75%	2.0%	2.0%	2.0%
State Water Project Cost Escalation			4.0%	4.0%	4.0%
Operating Cost Escalation			4.0%	4.0%	4.0%
<b>Beginning Fund Reserves</b>	\$3,132,000	\$4,456,000	\$4,537,000	\$4,622,000	\$4,687,000
<b>REVENUES</b>	<u>Estimated</u>	<u>Projected</u>			
Water Service Charges	5,280,000	5,700,000	6,086,000	6,092,000	6,098,000
Water WRF Facility Surcharges	0	0	1,654,000	1,654,000	1,654,000
Development Impact Fees	30,000	28,000	28,000	29,000	29,000
Interest Earnings	39,000	78,000	91,000	92,000	94,000
Other (Excludes Penalties)	16,000	20,000	20,000	20,000	20,000
Subtotal	5,365,000	5,826,000	7,879,000	7,887,000	7,895,000
<b>EXPENSES</b>					
<b>Operating &amp; Maintenance</b>	<u>Estimated</u>	<u>Projected</u>			
Water System Operations	1,591,000	2,130,000	2,215,000	2,304,000	2,396,000
State Water Project Payments	1,535,000	1,595,000	1,659,000	1,725,000	1,794,000
Recycled Water Operations	-	-	-	-	110,000
Subtotal	3,126,000	3,725,000	3,874,000	4,029,000	4,300,000
<b>Debt Service</b>					
SRF Planning Loan: Water Share	-	-	-	326,000	326,000
WRF WIFIA Loan: Water Share	-	-	-	-	-
WRF Revenue Bonds: Water Share	-	-	-	247,000	494,000
Share of CCWA 2016 Bonds (Thru Oct-2021)	665,000	670,000	670,000	670,000	670,000
Subtotal	665,000	670,000	670,000	1,243,000	1,490,000
<b>Capital Improvements</b>					
Water System Pay-Go CIP	250,000	1,000,000	1,000,000	1,300,000	1,800,000
Water Cash Contribution to WRF	0	300,000	2,200,000	1,200,000	900,000
Vehicle/Equipment Replacement	0	50,000	50,000	50,000	50,000
Subtotal	250,000	1,350,000	3,250,000	2,550,000	2,750,000
Total Expenses	4,041,000	5,745,000	7,794,000	7,822,000	8,540,000
<b>Revenues Less Expenses</b>	1,324,000	81,000	85,000	65,000	(645,000)
<b>Ending Fund Reserves</b>	4,456,000	4,537,000	4,622,000	4,687,000	4,042,000
CCWA Bond Debt Service Coverage	1.72	1.63	2.43	2.33	2.19
City Debt Service Coverage	3.37	3.14	5.98	3.10	2.41

# Table 12A - City of Morro Bay - Water Cash Flow Projections Base Case Scenario

Years 6 - 10	Projected				
	2022/23	2023/24	2024/25	2025/26	2026/27
Fixed Monthly Residential Water Charge	\$32.00	\$32.00	\$32.00	\$33.00	\$34.00
Fixed Monthly Single Family WRF Surcharge	\$16.00	\$16.00	\$16.00	\$16.00	\$16.00
Water Rate Adjustment %	0.0%	0.0%	0.0%	3.1%	3.0%
Growth: Single Family Equivalents	5	5	5	5	5
Growth %	0.1%	0.1%	0.1%	0.1%	0.1%
Change in Water Sales	0.0%	0.0%	0.0%	0.0%	0.0%
Water Development Impact Fee	\$5,950	\$6,070	\$6,190	\$6,310	\$6,440
Interest Earnings Rate	2.0%	2.0%	2.0%	2.0%	2.0%
State Water Project Cost Escalation	4.0%	4.0%	4.0%	4.0%	4.0%
Operating Cost Escalation	4.0%	4.0%	4.0%	4.0%	4.0%
<b>Beginning Fund Reserves</b>	\$4,042,000	\$4,031,000	\$4,442,000	\$4,647,000	\$4,825,000
<b>REVENUES</b>					
Water Service Charges	6,104,000	6,110,000	6,116,000	6,313,000	6,510,000
Water WRF Facility Surcharges	1,654,000	1,654,000	1,654,000	1,654,000	1,654,000
Development Impact Fees	30,000	30,000	31,000	32,000	32,000
Interest Earnings	86,000	86,000	94,000	99,000	102,000
Other (Excludes Penalties)	20,000	20,000	20,000	20,000	20,000
Subtotal	7,894,000	7,900,000	7,915,000	8,118,000	8,318,000
<b>EXPENSES</b>					
<b>Operating &amp; Maintenance</b>					
Water System Personnel	2,492,000	2,592,000	2,696,000	2,804,000	2,916,000
State Water Project Payments	1,866,000	1,941,000	2,019,000	2,100,000	2,184,000
Recycled Water Operations	220,000	229,000	238,000	248,000	258,000
Subtotal	4,578,000	4,762,000	4,953,000	5,152,000	5,358,000
<b>Debt Service</b>					
SRF Planning Loan: Water Share	326,000	326,000	326,000	326,000	326,000
WRF WIFIA Loan: Water Share	857,000	857,000	857,000	857,000	857,000
WRF Revenue Bonds: Water Share	494,000	494,000	494,000	494,000	494,000
Share of CCWA 2016 Bonds (Thru Oct-2021)	0	0	0	0	0
Subtotal	1,677,000	1,677,000	1,677,000	1,677,000	1,677,000
<b>Capital Improvements</b>					
Water System Pay-Go CIP	1,600,000	1,000,000	1,030,000	1,061,000	1,093,000
Water Cash Contribution to WRF	0	0	0	0	0
Vehicle/Equipment Replacement	50,000	50,000	50,000	50,000	50,000
Subtotal	1,650,000	1,050,000	1,080,000	1,111,000	1,143,000
Total Expenses	7,905,000	7,489,000	7,710,000	7,940,000	8,178,000
<b>Revenues Less Expenses</b>	(11,000)	411,000	205,000	178,000	140,000
<b>Ending Fund Reserves</b>	4,031,000	4,442,000	4,647,000	4,825,000	4,965,000
CCWA Bond Debt Service Coverage	-	-	-	-	-
Debt Service Coverage	1.98	1.87	1.77	1.77	1.77

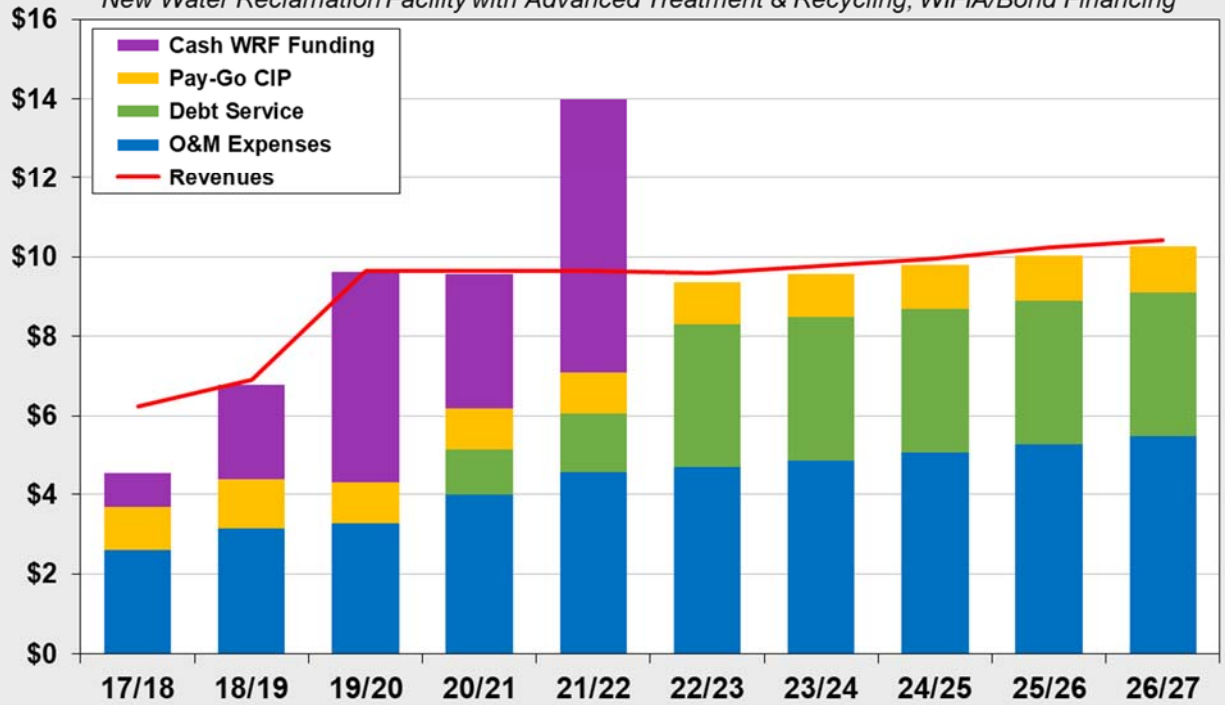
## Base Case Scenario

### SEWER

### City of Morro Bay

10-Year Sewer Revenue & Expense Projections (\$ millions)

*New Water Reclamation Facility with Advanced Treatment & Recycling, WIFIA/Bond Financing*



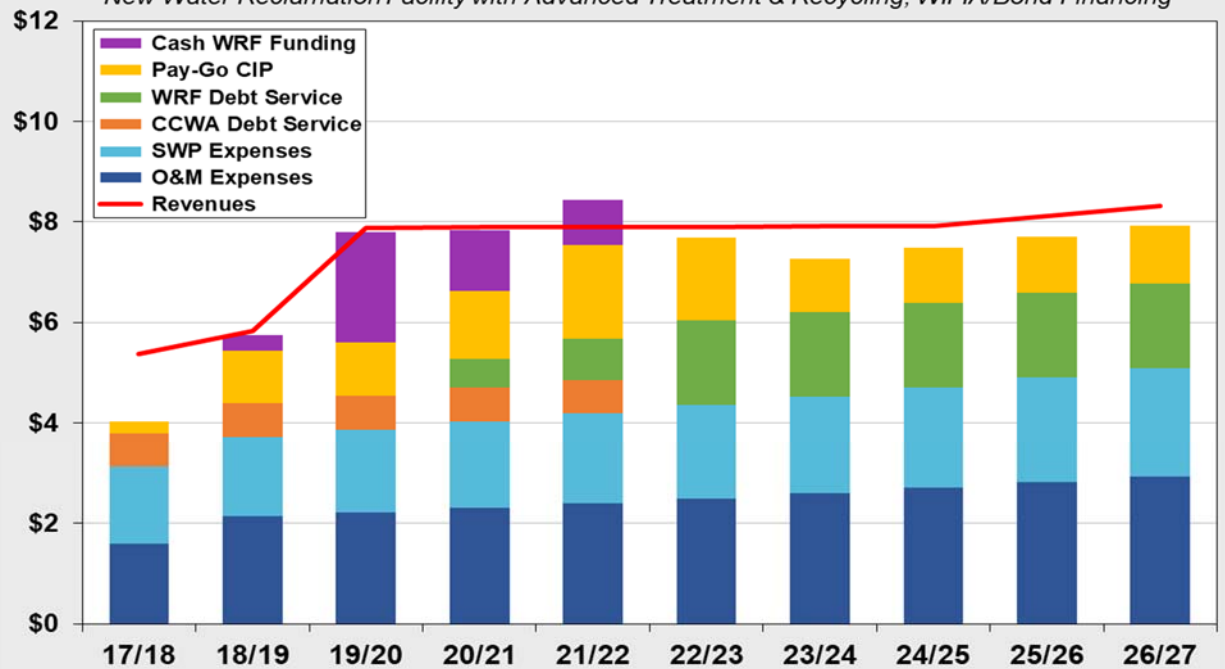
*Excludes WRF Project Costs funded by debt.*

### WATER

### City of Morro Bay

10-Year Water Revenue & Expense Projections (\$ millions)

*New Water Reclamation Facility with Advanced Treatment & Recycling, WIFIA/Bond Financing*



*Excludes WRF Project Costs funded by debt.*

Table 11B - City of Morro Bay - Sewer Cash Flow Projections

Phase-In Scenario

Years 1 - 5	Projected				
	2017/18	2018/19	2019/20	2020/21	2021/22
Monthly Single Family Sewer Charge	\$70.00	\$77.00	\$83.00	\$83.00	\$83.00
Monthly Single Family Surcharge			\$9.00	\$18.00	\$27.00
Beginning Sewer Accounts	5,346	5,351	5,356	5,361	5,366
Growth: Single Family Equivalents	5	5	5	5	5
Growth %	-	0.1%	0.1%	0.1%	0.1%
Sewer Development Impact Fee	\$5,445	\$5,550	\$5,660	\$5,770	\$5,890
Interest Earnings Rate	1.25%	1.75%	2.0%	2.0%	2.0%
Cost Escalation			4.0%	4.0%	4.0%
<b>Beginning Fund Reserves</b>	\$6,402,000	\$8,112,000	\$8,251,000	\$8,379,000	\$8,480,000
<b>REVENUES</b>					
Sewer Service Charges	6,100,000	6,716,000	7,246,000	7,253,000	7,260,000
Sewer WRF Facility Surcharges	0	0	778,000	1,563,000	2,347,000
Development Impact Fees	30,000	28,000	28,000	29,000	29,000
Interest Earnings	80,000	142,000	165,000	168,000	170,000
Rental Income/Other (Excl Penalties)	25,000	30,000	30,000	30,000	30,000
Subtotal	6,235,000	6,916,000	8,247,000	9,043,000	9,836,000
<u>WRF Debt Financing</u>					
SRF Planning Loan		5,900,000	4,400,000		
WIFIA Loan			33,800,000	26,375,000	
Bond Proceeds				11,700,000	17,300,000
<b>EXPENSES</b>					
<b>Operating &amp; Maintenance</b>	<u>Estimated</u>	<u>Projected</u>			
Sewer Collection	1,100,000	1,480,000	1,539,000	1,601,000	1,665,000
Wastewater Treatment Existing	2,000,000	2,210,000	2,298,000	2,390,000	1,247,000
Wastewater Treatment New WRF	-	-	-	-	1,500,000
Conveyance to New WRF	-	-	-	-	140,000
<i>Less Cayucos SD Reimbursements</i>	<i>(495,000)</i>	<i>(553,000)</i>	<i>(575,000)</i>	<i>0</i>	<i>0</i>
Subtotal	2,605,000	3,137,000	3,262,000	3,991,000	4,552,000
<b>Debt Service</b>					
SRF Planning Loan: Sewer Share	-	-	-	804,000	804,000
WRF WIFIA Loan: Sewer Share	-	-	-	-	-
WRF Revenue Bonds: Sewer Share	-	-	-	423,000	845,000
Subtotal	0	0	0	1,227,000	1,649,000
<b>Capital Improvements</b>					
Sewer Cash Contribution to WRF	840,000	2,390,000	3,607,000	2,274,000	6,598,000
Sewer System Pay-Go CIP	630,000	1,200,000	1,200,000	1,400,000	1,400,000
Vehicle/Equipment Replacement	450,000	50,000	50,000	50,000	50,000
Subtotal	1,920,000	3,640,000	4,857,000	3,724,000	8,048,000
Total Sewer Expenses	4,525,000	6,777,000	8,119,000	8,942,000	14,249,000
<b>Revenues Less Expenses</b>	1,710,000	139,000	128,000	101,000	(4,413,000)
<b>Ending Fund Reserves</b>	8,112,000	8,251,000	8,379,000	8,480,000	4,067,000
Debt Service Coverage	-	-	-	4.12	3.20



Table 11B - City of Morro Bay - Sewer Cash Flow Projections

Phase-In Scenario

Years 6 - 10	Projected				
	2022/23	2023/24	2024/25	2025/26	2026/27
Monthly Residential Sewer Charge	\$83.00	\$85.00	\$87.00	\$90.00	\$92.00
Monthly Single Family WRF Surcharge	\$27.00	\$27.00	\$27.00	\$27.00	\$27.00
Beginning Sewer Accounts	5,371	5,376	5,381	5,386	5,391
Growth: Single Family Equivalents	5	5	5	5	5
Growth %	0.1%	0.1%	0.1%	0.1%	0.1%
Sewer Development Impact Fee	\$6,010	\$6,130	\$6,250	\$6,380	\$6,510
Interest Earnings Rate	2.0%	2.0%	2.0%	2.0%	2.0%
Cost Escalation	4.0%	4.0%	4.0%	4.0%	4.0%
<b>Beginning Fund Reserves</b>	\$4,067,000	\$4,267,000	\$4,437,000	\$4,565,000	\$4,732,000
<b>REVENUES</b>					
Sewer Service Charges	7,267,000	7,449,000	7,631,000	7,901,000	8,084,000
Sewer WRF Facility Surcharges	2,347,000	2,347,000	2,347,000	2,347,000	2,347,000
Development Impact Fees	30,000	31,000	31,000	32,000	33,000
Interest Earnings	87,000	91,000	94,000	97,000	100,000
Rental Income/Penalties/Other	30,000	30,000	30,000	30,000	30,000
Subtotal	9,761,000	9,948,000	10,133,000	10,407,000	10,594,000
<u>WRF Debt Financing</u>					
SRF Planning Loan					
WIFIA Financing					
Bond Financing					
<b>EXPENSES</b>					
<b>Operating &amp; Maintenance</b>					
Sewer Collection	1,732,000	1,801,000	1,873,000	1,948,000	2,026,000
Wastewater Treatment Existing	0	0	0	0	0
Wastewater Treatment New WRF	2,682,000	2,789,000	2,901,000	3,017,000	3,138,000
Conveyance to New WRF	277,000	288,000	300,000	312,000	324,000
<i>Less Cayucos SD Reimbursements</i>	0	0	0	0	0
Subtotal	4,691,000	4,878,000	5,074,000	5,277,000	5,488,000
<b>Debt Service</b>					
SRF Planning Loan	804,000	804,000	804,000	804,000	804,000
WIFIA Financing	2,171,000	2,171,000	2,171,000	2,171,000	2,171,000
Revenue Bonds (structured around SRF)	845,000	845,000	845,000	845,000	845,000
Subtotal	3,820,000	3,820,000	3,820,000	3,820,000	3,820,000
<b>Capital Improvements</b>					
Sewer Cash Contribution to WRF	0	0	0	0	0
Sewer System Pay-Go CIP	1,000,000	1,030,000	1,061,000	1,093,000	1,126,000
Vehicle/Equipment Replacement	50,000	50,000	50,000	50,000	50,000
Subtotal	1,050,000	1,080,000	1,111,000	1,143,000	1,176,000
Total Expenses	9,561,000	9,778,000	10,005,000	10,240,000	10,484,000
<b>Revenues Less Expenses</b>	200,000	170,000	128,000	167,000	110,000
<b>Ending Fund Reserves</b>	4,267,000	4,437,000	4,565,000	4,732,000	4,842,000
Debt Service Coverage	1.33	1.33	1.32	1.34	1.34



Table 12B - City of Morro Bay - Water Cash Flow Projections

Phase-In Scenario

Years 1 - 5	Projected				
	2017/18	2018/19	2019/20	2020/21	2021/22
Fixed Monthly Water Charge	\$28.00	\$30.00	\$32.00	\$32.00	\$32.00
Fixed Monthly Single Family WRF Surcharge			\$8.00	\$12.00	\$17.00
Water Rate Adjustment %		7.1%	6.7%	0.0%	0.0%
Growth: Single Family Equivalents	5	5	5	5	5
Growth %	0.1%	0.1%	0.1%	0.1%	0.1%
Change in Water Sales		0.0%	0.0%	0.0%	0.0%
Water Development Impact Fee	\$5,392	\$5,500	\$5,610	\$5,720	\$5,830
Interest Earnings Rate	1.25%	1.75%	2.0%	2.0%	2.0%
State Water Project Cost Escalation			4.0%	4.0%	4.0%
Operating Cost Escalation			4.0%	4.0%	4.0%
<b>Beginning Fund Reserves</b>	\$3,132,000	\$4,456,000	\$4,637,000	\$4,797,000	\$4,924,000
<b>REVENUES</b>	<u>Estimated</u>	<u>Projected</u>			
Water Service Charges	5,280,000	5,700,000	6,086,000	6,092,000	6,098,000
Water WRF Facility Surcharges	0	0	827,000	1,240,000	1,757,000
Development Impact Fees	30,000	28,000	28,000	29,000	29,000
Interest Earnings	39,000	78,000	93,000	96,000	98,000
Other (Excludes Penalties)	16,000	20,000	20,000	20,000	20,000
Subtotal	5,365,000	5,826,000	7,054,000	7,477,000	8,002,000
<b>EXPENSES</b>					
<b>Operating &amp; Maintenance</b>	<u>Estimated</u>	<u>Projected</u>			
Water System Operations	1,591,000	2,130,000	2,215,000	2,304,000	2,396,000
State Water Project Payments	1,535,000	1,595,000	1,659,000	1,725,000	1,794,000
Recycled Water Operations	-	-	-	-	110,000
Subtotal	3,126,000	3,725,000	3,874,000	4,029,000	4,300,000
<b>Debt Service</b>					
SRF Planning Loan: Water Share	-	-	-	326,000	326,000
WRF WIFIA Loan: Water Share	-	-	-	-	-
WRF Revenue Bonds: Water Share	-	-	-	275,000	551,000
Share of CCWA 2016 Bonds (Thru Oct-2021)	665,000	670,000	670,000	670,000	670,000
Subtotal	665,000	670,000	670,000	1,271,000	1,547,000
<b>Capital Improvements</b>					
Water System Pay-Go CIP	250,000	1,000,000	1,000,000	1,300,000	1,800,000
Water Cash Contribution to WRF	0	200,000	1,300,000	700,000	1,200,000
Vehicle/Equipment Replacement	0	50,000	50,000	50,000	50,000
Subtotal	250,000	1,250,000	2,350,000	2,050,000	3,050,000
Total Expenses	4,041,000	5,645,000	6,894,000	7,350,000	8,897,000
<b>Revenues Less Expenses</b>	1,324,000	181,000	160,000	127,000	(895,000)
<b>Ending Fund Reserves</b>	4,456,000	4,637,000	4,797,000	4,924,000	4,029,000
CCWA Bond Debt Service Coverage	1.72	1.63	2.08	2.16	2.23
City Debt Service Coverage	3.37	3.14	4.75	2.71	2.39

Table 12B - City of Morro Bay - Water Cash Flow Projections

Phase-In Scenario

Years 6 - 10	Projected				
	2022/23	2023/24	2024/25	2025/26	2026/27
Fixed Monthly Residential Water Charge	\$32.00	\$32.00	\$32.00	\$33.00	\$34.00
Fixed Monthly Single Family WRF Surcharge	\$17.00	\$17.00	\$17.00	\$17.00	\$17.00
Water Rate Adjustment %	0.0%	0.0%	0.0%	3.1%	3.0%
Growth: Single Family Equivalents	5	5	5	5	5
Growth %	0.1%	0.1%	0.1%	0.1%	0.1%
Change in Water Sales	0.0%	0.0%	0.0%	0.0%	0.0%
Water Development Impact Fee	\$5,950	\$6,070	\$6,190	\$6,310	\$6,440
Interest Earnings Rate	2.0%	2.0%	2.0%	2.0%	2.0%
State Water Project Cost Escalation	4.0%	4.0%	4.0%	4.0%	4.0%
Operating Cost Escalation	4.0%	4.0%	4.0%	4.0%	4.0%
<b>Beginning Fund Reserves</b>	\$4,029,000	\$4,041,000	\$4,475,000	\$4,704,000	\$4,906,000
<b>REVENUES</b>					
Water Service Charges	6,104,000	6,110,000	6,116,000	6,313,000	6,510,000
Water WRF Facility Surcharges	1,757,000	1,757,000	1,757,000	1,757,000	1,757,000
Development Impact Fees	30,000	30,000	31,000	32,000	32,000
Interest Earnings	86,000	86,000	95,000	100,000	104,000
Other (Excludes Penalties)	20,000	20,000	20,000	20,000	20,000
Subtotal	7,997,000	8,003,000	8,019,000	8,222,000	8,423,000
<b>EXPENSES</b>					
<b>Operating &amp; Maintenance</b>					
Water System Operations	2,492,000	2,592,000	2,696,000	2,804,000	2,916,000
State Water Project Payments	1,866,000	1,941,000	2,019,000	2,100,000	2,184,000
Recycled Water Operations	220,000	229,000	238,000	248,000	258,000
Subtotal	4,578,000	4,762,000	4,953,000	5,152,000	5,358,000
<b>Debt Service</b>					
SRF Planning Loan: Water Share	326,000	326,000	326,000	326,000	326,000
WRF WIFIA Loan: Water Share	880,000	880,000	880,000	880,000	880,000
WRF Revenue Bonds: Water Share	551,000	551,000	551,000	551,000	551,000
Share of CCWA 2016 Bonds (Thru Oct-2021)	0	0	0	0	0
Subtotal	1,757,000	1,757,000	1,757,000	1,757,000	1,757,000
<b>Capital Improvements</b>					
Water System Pay-Go CIP	1,600,000	1,000,000	1,030,000	1,061,000	1,093,000
Water Cash Contribution to WRF	0	0	0	0	0
Vehicle/Equipment Replacement	50,000	50,000	50,000	50,000	50,000
Subtotal	1,650,000	1,050,000	1,080,000	1,111,000	1,143,000
Total Expenses	7,985,000	7,569,000	7,790,000	8,020,000	8,258,000
<b>Revenues Less Expenses</b>	12,000	434,000	229,000	202,000	165,000
<b>Ending Fund Reserves</b>	4,041,000	4,475,000	4,704,000	4,906,000	5,071,000
CCWA Bond Debt Service Coverage	-	-	-	-	-
Debt Service Coverage	1.95	1.84	1.75	1.75	1.74

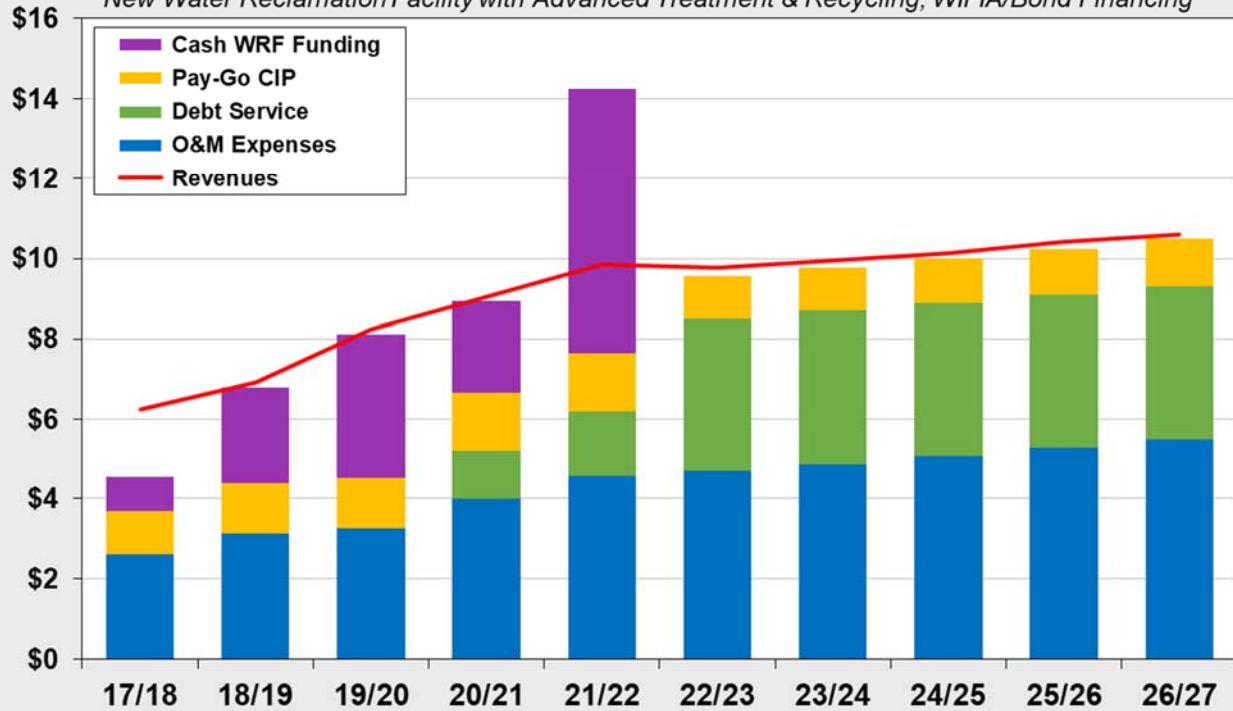
## Phase-In Scenario

### SEWER

#### City of Morro Bay

10-Year Sewer Revenue & Expense Projections (\$ millions)

*New Water Reclamation Facility with Advanced Treatment & Recycling, WIFIA/Bond Financing*



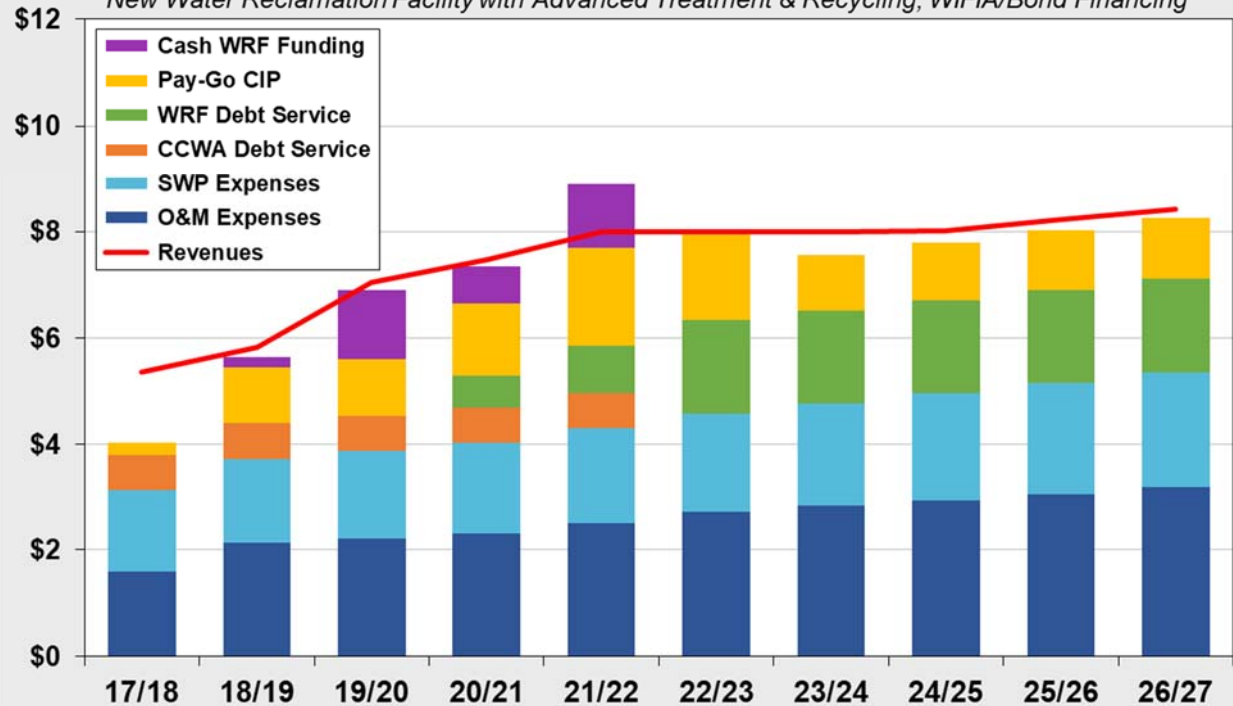
*Excludes WRF Project Costs funded by debt.*

### WATER

#### City of Morro Bay

10-Year Water Revenue & Expense Projections (\$ millions)

*New Water Reclamation Facility with Advanced Treatment & Recycling, WIFIA/Bond Financing*



*Excludes WRF Project Costs funded by debt.*

### 13. Debt Service Coverage

Tables 13A and 13B show projected debt service coverage independently for the sewer and water utilities as well as combined coverage for both utilities under the Base Case and Phase-In Scenarios. Debt service coverage is calculated based on Net Revenues – defined as total revenues less operating and maintenance expenses – divided by annual debt service. Additional funding generated after paying debt service is available to help fund the City’s water and sewer CIP projects.

**Table 13A – Base Case: Debt Service Coverage**

	2022/23	2023/24	2024/25	2025/26	2026/27
<b>SEWER</b>					
Net Revenues	\$4,895,000	\$4,896,000	\$4,886,000	\$4,957,000	\$4,934,000
Debt Service	3,616,000	3,616,000	3,616,000	3,616,000	3,616,000
Debt Service Coverage	1.35	1.35	1.35	1.37	1.36
Add'l Funding Generated	1,279,000	1,280,000	1,270,000	1,341,000	1,318,000
<b>WATER</b>					
Net Revenues	\$3,316,000	\$3,138,000	\$2,962,000	\$2,966,000	\$2,960,000
Debt Service	1,677,000	1,677,000	1,677,000	1,677,000	1,677,000
Debt Service Coverage	1.98	1.87	1.77	1.77	1.77
Add'l Funding Generated	1,639,000	1,461,000	1,285,000	1,289,000	1,283,000
<b>COMBINED</b>					
Net Revenues	\$8,211,000	\$8,034,000	\$7,848,000	\$7,923,000	\$7,894,000
Debt Service	5,293,000	5,293,000	5,293,000	5,293,000	5,293,000
Debt Service Coverage	1.55	1.52	1.48	1.50	1.49
Add'l Funding Generated	2,918,000	2,741,000	2,555,000	2,630,000	2,601,000

**Table 13B – Phase-In: Debt Service Coverage**

	2022/23	2023/24	2024/25	2025/26	2026/27
<b>SEWER</b>					
Net Revenues	\$5,070,000	\$5,070,000	\$5,059,000	\$5,130,000	\$5,106,000
Debt Service	3,820,000	3,820,000	3,820,000	3,820,000	3,820,000
Debt Service Coverage	1.33	1.33	1.32	1.34	1.34
Add'l Funding Generated	1,250,000	1,250,000	1,239,000	1,310,000	1,286,000
<b>WATER</b>					
Net Revenues	\$3,419,000	\$3,241,000	\$3,066,000	\$3,070,000	\$3,065,000
Debt Service	1,757,000	1,757,000	1,757,000	1,757,000	1,757,000
Debt Service Coverage	1.95	1.84	1.75	1.75	1.74
Add'l Funding Generated	1,662,000	1,484,000	1,309,000	1,313,000	1,308,000
<b>COMBINED</b>					
Net Revenues	\$8,489,000	\$8,311,000	\$8,125,000	\$8,200,000	\$8,171,000
Debt Service	5,577,000	5,577,000	5,577,000	5,577,000	5,577,000
Debt Service Coverage	1.52	1.49	1.46	1.47	1.47
Add'l Funding Generated	2,912,000	2,734,000	2,548,000	2,623,000	2,594,000

## 14. Sewer WRF Facility Surcharges

Tables 14A and 14B show proposed sewer WRF Facility Surcharges under the Base Case and Phase-In Scenarios. These surcharges would be levied as separate surcharges in addition to the City's previously-adopted sewer rates. The surcharges maintain the same rate structure as the City's existing sewer rates. Residential surcharges are fixed monthly surcharges and Non-Residential surcharges are volumetric rates applied to monthly water use – with higher charges for customer classes with higher wastewater strength -- subject to a minimum charge as shown.

**Table 14A – Base Case: Proposed Monthly Sewer WRF Facility Surcharges**

	2018/19	2019/20	2020/21	2021/22	2022/23
<b>RESIDENTIAL</b>					
<i>Charge per residential dwelling unit</i>					
Single Family		\$25.00	\$25.00	\$25.00	\$25.00
Multi-Family/Condo		20.00	20.00	20.00	20.00
<b>NON-RESIDENTIAL</b>					
<i>Rate per hcf of metered water use</i>					
Class A - Low Strength		\$3.43	\$3.43	\$3.43	\$3.43
Class B - Domestic Strength		4.10	4.10	4.10	4.10
Class C - Moderate Strength		4.77	4.77	4.77	4.77
Class D - Mod-High Strength		5.43	5.43	5.43	5.43
Class E - High Strength		6.77	6.77	6.77	6.77
<i>Minimum Monthly Charge</i>		20.00	20.00	20.00	20.00

**Table 14B – Phase-In: Proposed Monthly Sewer WRF Facility Surcharges**

	2018/19	2019/20	2020/21	2021/22	2022/23
<b>RESIDENTIAL</b>					
<i>Charge per residential dwelling unit</i>					
Single Family		\$9.00	\$18.00	\$27.00	\$27.00
Multi-Family/Condo		7.20	14.40	21.60	21.60
<b>NON-RESIDENTIAL</b>					
<i>Rate per hcf of metered water use</i>					
Class A - Low Strength		\$1.24	\$2.47	\$3.71	\$3.71
Class B - Domestic Strength		1.48	2.95	4.43	4.43
Class C - Moderate Strength		1.72	3.43	5.15	5.15
Class D - Mod-High Strength		1.96	3.91	5.87	5.87
Class E - High Strength		2.44	4.87	7.31	7.31
<i>Minimum Monthly Charge</i>		7.20	14.40	21.60	21.60

## 15. Water WRF Facility Surcharges

Tables 15A and 15B show proposed water WRF Facility Surcharges under the Base Case and Phase-In Scenarios. Again, these surcharges would be levied in addition to the City's previously-adopted water rates. Residential surcharges are fixed monthly surcharges and Non-Residential surcharges are volumetric rates applied to monthly water use, subject to a minimum charge as shown. The rates for each customer class are designed to recover a proportionate share of revenues based on each class' proportionate share of water use, based on the most recent year of annual water use data available from May 2017 through April 2018.

**Table 15A – Base Case: Proposed Monthly Water WRF Facility Surcharges**

	2018/19	2019/20	2020/21	2021/22	2022/23
<b>RESIDENTIAL</b>					
<i>Charge per residential dwelling unit</i>					
Single Family		\$16.00	\$16.00	\$16.00	\$16.00
Multi-Family/Condo		12.80	12.80	12.80	12.80
<b>NON-RESIDENTIAL</b>					
<i>Rate per hcf of metered water use</i>					
Surcharge on all water use		\$3.64	\$3.64	\$3.64	\$3.64
<i>Minimum Monthly Charge</i>		12.80	12.80	12.80	12.80

**Table 15B – Phase-In: Proposed Monthly Water WRF Facility Surcharges**

	2018/19	2019/20	2020/21	2021/22	2022/23
<b>RESIDENTIAL</b>					
<i>Charge per residential dwelling unit</i>					
Single Family		\$8.00	\$12.00	\$17.00	\$17.00
Multi-Family/Condo		6.40	9.60	13.60	13.60
<b>NON-RESIDENTIAL</b>					
<i>Rate per hcf of metered water use</i>					
Surcharge on all water use		\$1.82	\$2.73	\$3.87	\$3.87
<i>Minimum Monthly Charge</i>		6.40	9.60	13.60	13.60

## 16. Previously-Adopted Water & Sewer Rates

In 2015, the City adopted 5-years of water and sewer rate increases. As of July 1, 2018, the City will have implemented 4 of the 5 years of previously-adopted rate increases. The final rate increase – scheduled to become effective July 1, 2019 – equates to a roughly 7.5% increase for a typical single family home with 5 hcf monthly water use. The adopted rates substantially strengthened the financial condition of the City’s water and sewer utilities but do not provide adequate funding to support each utility’s share of costs for the new WRF.

In particular, the previously-adopted sewer rates were designed to help support funding for approximately \$56 of project costs. This amount was based on a) Morro Bay funding 75% of a \$75 million wastewater treatment plant, b) Cayucos funding the other 25% of facility costs, c) no funding provided for recycled water facilities, and d) an assumption of full availability of low-interest-rate SRF financing for all debt financing needs. The additional water and sewer WRF Facility Surcharges are needed to provide adequate funding for each utility’s share of debt service for the WRF project.

Based on the financial projections, if the WRF Facility Surcharges are adopted, then no additional water or sewer rate increases – above those previously adopted – would likely need to be implemented over at least the next 5 years. However, the City should periodically evaluate its utility rates in future years to ensure future rates continue to recover the cost of providing service and each utility continues to meet its future financial obligations.

**Table 16 – Adopted Monthly Water Rates (Excluding Proposed Surcharges)**

		2018/19	2019/20	2020/21	2021/22	2022/23
		Adopted	Adopted	No Change Projected		
<b>Fixed Monthly Charge</b>		\$30.00	\$32.00	\$32.00	\$32.00	\$32.00
<b>Water Quantity Charges</b>						
<i>Billed per 100 cubic feet of metered water use (\$/hcf)</i>						
<u>Tier</u>	<u>Use in Tier</u>					
Tier 1	0 - 3 hcf	\$5.50	\$6.00	\$6.00	\$6.00	\$6.00
Tier 2	4 - 10 hcf	8.00	8.50	8.50	8.50	8.50
Tier 3	11- 50 hcf	10.50	11.00	11.00	11.00	11.00
Tier 4	>50 hcf	13.50	14.00	14.00	14.00	14.00

**Table 17 – Adopted Monthly Sewer Rates (Excluding Proposed Surcharges)**

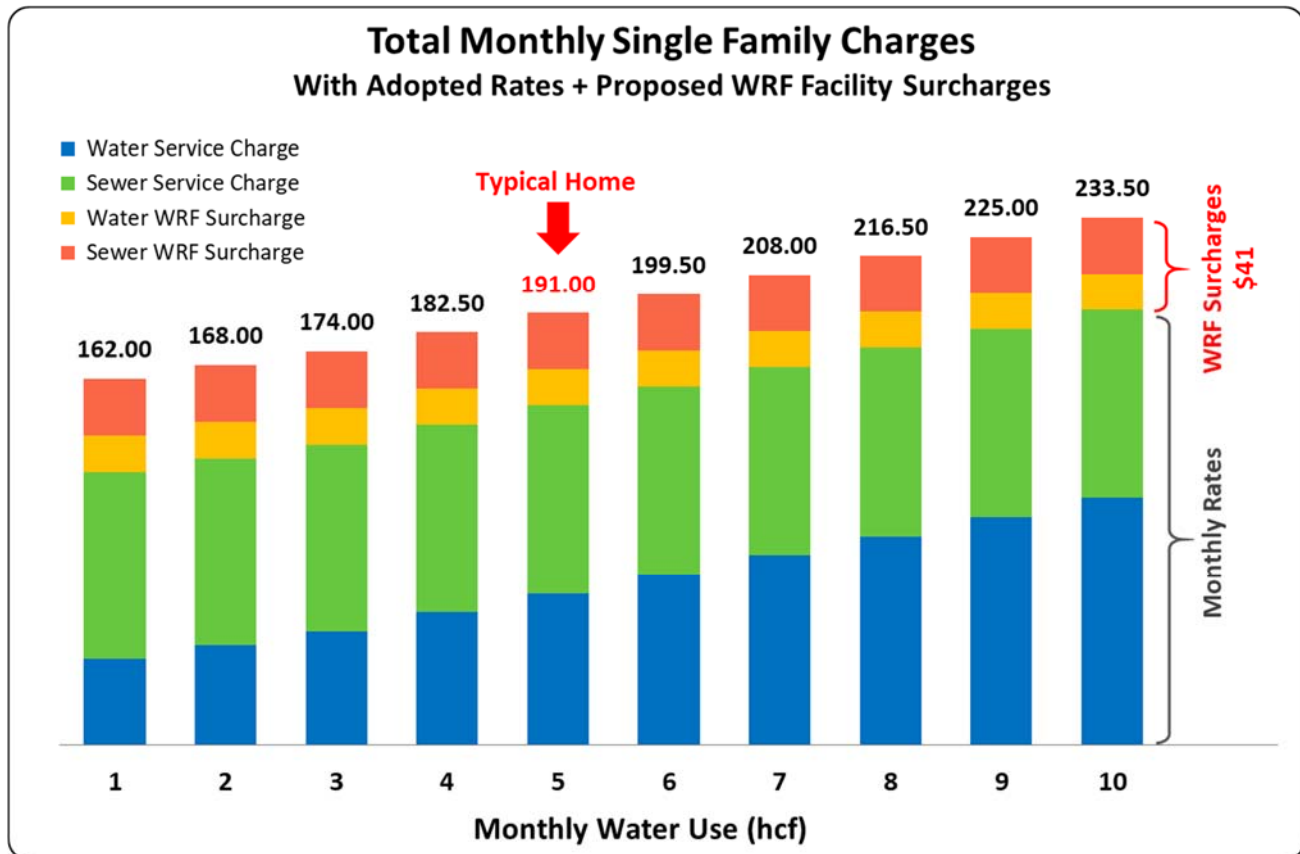
	2018/19	2019/20	2020/21	2021/22	2022/23
	Adopted	Adopted	No Change Projected		
<b>RESIDENTIAL</b>					
<i>Charge per residential dwelling unit</i>					
Single Family	\$77.00	\$83.00	\$83.00	\$83.00	\$83.00
Multi-Family/Condo	61.60	66.40	66.40	66.40	66.40
<b>NON-RESIDENTIAL</b>					
<i>Rate per hcf of metered water use</i>					
Class A - Low Strength	\$10.57	\$11.40	\$11.40	\$11.40	\$11.40
Class B - Domestic Strength	12.67	13.61	13.61	13.61	13.61
Class C - Moderate Strength	14.89	15.82	15.82	15.82	15.82
Class D - Mod-High Strength	17.13	18.03	18.03	18.03	18.03
Class E - High Strength	21.36	22.46	22.46	22.46	22.46
<i>Minimum Monthly Charge</i>	61.60	66.40	66.40	66.40	66.40



## 17. Single Family Residential Bill Impacts

The following charts and tables show the total combined billing impacts – with full implementation of previously-adopted water and sewer rates and the proposed WRF Surcharges – on single family homes at different levels of monthly water use under the Base Case Scenario.

### Base Case Scenario



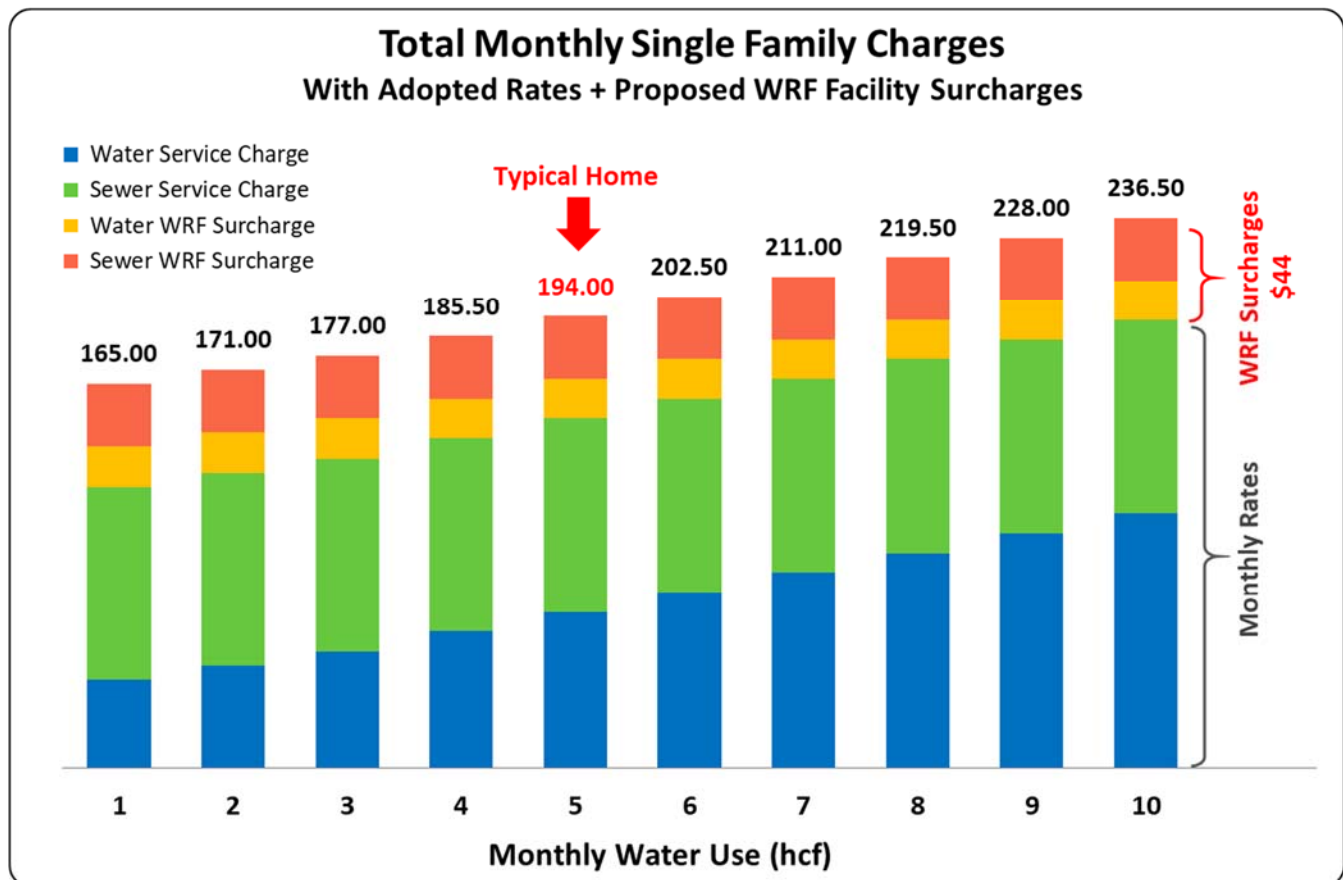
**Table 18A – Base Case: Total Combined Bill with Adopted Rates + Proposed WRF Surcharges**

Single Family Home at Different Levels of Use

	Monthly Water Use (hcf)									
	1	2	3	4	5	6	7	8	9	10
Water Service Charge	\$38.00	\$44.00	\$50.00	\$58.50	\$67.00	\$75.50	\$84.00	\$92.50	\$101.00	\$109.50
Sewer Service Charge	83.00	83.00	83.00	83.00	83.00	83.00	83.00	83.00	83.00	83.00
Subtotal	121.00	127.00	133.00	141.50	150.00	158.50	167.00	175.50	184.00	192.50
Water WRF Surcharge	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
Sewer WRF Surcharge	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Subtotal	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00
<b>Combined Total</b>	<b>162.00</b>	<b>168.00</b>	<b>174.00</b>	<b>182.50</b>	<b>191.00</b>	<b>199.50</b>	<b>208.00</b>	<b>216.50</b>	<b>225.00</b>	<b>233.50</b>

The following charts and tables show the total combined billing impacts – with full implementation of previously-adopted water and sewer rates and the proposed WRF Facility Surcharges – on single family homes at different levels of monthly water use under the Phase-In Scenario.

### Phase-In Scenario



**Table 18B – Phase In: Total Combined Bill with Adopted Rates + Proposed WRF Surcharges**  
Single Family Home at Different Levels of Use

	Monthly Water Use (hcf)									
	1	2	3	4	5	6	7	8	9	10
Water Service Charge	\$38.00	\$44.00	\$50.00	\$58.50	\$67.00	\$75.50	\$84.00	\$92.50	\$101.00	\$109.50
Sewer Service Charge	<u>83.00</u>	<u>83.00</u>	<u>83.00</u>	<u>83.00</u>	<u>83.00</u>	<u>83.00</u>	<u>83.00</u>	<u>83.00</u>	<u>83.00</u>	<u>83.00</u>
Subtotal	121.00	127.00	133.00	141.50	150.00	158.50	167.00	175.50	184.00	192.50
Water WRF Surcharge	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00
Sewer WRF Surcharge	<u>27.00</u>	<u>27.00</u>	<u>27.00</u>	<u>27.00</u>	<u>27.00</u>	<u>27.00</u>	<u>27.00</u>	<u>27.00</u>	<u>27.00</u>	<u>27.00</u>
Subtotal	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00
<b>Combined Total</b>	<b>165.00</b>	<b>171.00</b>	<b>177.00</b>	<b>185.50</b>	<b>194.00</b>	<b>202.50</b>	<b>211.00</b>	<b>219.50</b>	<b>228.00</b>	<b>236.50</b>

## 18. Commercial/Non-Residential Bill Impacts

The following tables show the total combined impacts – with full implementation of previously-adopted utility rates and the proposed WRF Surcharges – on a range of commercial accounts.

**Table 19A – Base Case: Total Combined Utility Bill for Sample Commercial Accounts**

	2018/19	Projected			
		2019/20	2020/21	2021/22	2022/23
<b>Med-Small Commercial Office (4 hcf monthly water use, Domestic Strength)</b>					
<b>Monthly Utility Bill</b>					
Sewer Monthly Charge	\$61.60	\$66.40	\$66.40	\$66.40	\$66.40
Water Monthly Charge	54.50	58.50	58.50	58.50	58.50
Subtotal Monthly Bill	116.10	124.90	124.90	124.90	124.90
<b>WRF Facility Surcharges</b>					
Sewer WRF Project Debt Funding	-	20.00	20.00	20.00	20.00
Water WRF Project Debt Funding	-	14.56	14.56	14.56	14.56
Subtotal Monthly Bill		34.56	34.56	34.56	34.56
<b>Total Monthly Charges</b>	<b>116.10</b>	<b>159.46</b>	<b>159.46</b>	<b>159.46</b>	<b>159.46</b>

<b>Moderate Commercial Office (10 hcf monthly water use, Domestic Strength)</b>					
<b>Monthly Utility Bill</b>					
Sewer Monthly Charge	\$126.70	\$136.10	\$136.10	\$136.10	\$136.10
Water Monthly Charge	102.50	109.50	109.50	109.50	109.50
Subtotal Monthly Bill	229.20	245.60	245.60	245.60	245.60
<b>WRF Facility Surcharges</b>					
Sewer WRF Project Debt Funding	-	40.99	40.99	40.99	40.99
Water WRF Project Debt Funding	-	36.39	36.39	36.39	36.39
Subtotal Monthly Bill		77.38	77.38	77.38	77.38
<b>Total Monthly Charges</b>	<b>229.20</b>	<b>322.98</b>	<b>322.98</b>	<b>322.98</b>	<b>322.98</b>

<b>Restaurant (20 hcf monthly use, High Strength)</b>					
<b>Monthly Utility Bill</b>					
Sewer Monthly Charge	\$427.20	\$449.20	\$449.20	\$449.20	\$449.20
Water Monthly Charge	207.50	214.50	214.50	214.50	214.50
Subtotal Monthly Bill	634.70	663.70	663.70	663.70	663.70
<b>WRF Facility Surcharges</b>					
Sewer WRF Project Debt Funding	-	135.30	135.30	135.30	135.30
Water WRF Project Debt Funding	-	72.78	72.78	72.78	72.78
Subtotal Monthly Bill		208.08	208.08	208.08	208.08
<b>Total Monthly Charges</b>	<b>634.70</b>	<b>871.78</b>	<b>871.78</b>	<b>871.78</b>	<b>871.78</b>

**Table 20A – Base Case: Total Combined Utility Bill for Large Commercial Accounts**

	2018/19	Projected			
		2019/20	2020/21	2021/22	2022/23
Larger Commercial Building (50 hcf monthly water use, Domestic Strength)					
Monthly Utility Bill					
Sewer Monthly Charge	\$633.50	\$680.50	\$680.50	\$680.50	\$680.50
Water Monthly Charge	<u>522.50</u>	<u>529.50</u>	<u>529.50</u>	<u>529.50</u>	<u>529.50</u>
Subtotal Monthly Bill	1,156.00	1,210.00	1,210.00	1,210.00	1,210.00
WRF Facility Surcharges					
Sewer WRF Project Debt Funding	-	204.97	204.97	204.97	204.97
Water WRF Project Debt Funding	-	<u>181.94</u>	<u>181.94</u>	<u>181.94</u>	<u>181.94</u>
Subtotal Monthly Bill		386.91	386.91	386.91	386.91
Total Monthly Charges	1,156.00	1,596.91	1,596.91	1,596.91	1,596.91

<b>Motel (50 hcf monthly water use, Moderate Strength)</b>					
<b>Monthly Utility Bill</b>					
Sewer Monthly Charge	\$744.50	\$791.00	\$791.00	\$791.00	\$791.00
Water Monthly Charge	<u>522.50</u>	<u>549.50</u>	<u>549.50</u>	<u>549.50</u>	<u>549.50</u>
Subtotal Monthly Bill	1,267.00	1,340.50	1,340.50	1,340.50	1,340.50
<b>WRF Facility Surcharges</b>					
Sewer WRF Project Debt Funding	-	238.25	238.25	238.25	238.25
Water WRF Project Debt Funding	-	<u>181.94</u>	<u>181.94</u>	<u>181.94</u>	<u>181.94</u>
Subtotal Monthly Bill		420.19	420.19	420.19	420.19
<b>Total Monthly Charges</b>	<b>1,267.00</b>	<b>1,760.69</b>	<b>1,760.69</b>	<b>1,760.69</b>	<b>1,760.69</b>

<b>Large Hotel with Restaurant (250 hcf monthly water use, Mod-High Strength)</b>					
<b>Monthly Utility Bill</b>					
Sewer Monthly Charge	\$4,282.50	\$4,507.50	\$4,507.50	\$4,507.50	\$4,507.50
Water Monthly Charge	<u>3,222.50</u>	<u>3,449.50</u>	<u>3,449.50</u>	<u>3,449.50</u>	<u>3,449.50</u>
Subtotal Monthly Bill	7,505.00	7,957.00	7,957.00	7,957.00	7,957.00
<b>WRF Facility Surcharges</b>					
Sewer WRF Project Debt Funding	-	1,357.68	1,357.68	1,357.68	1,357.68
Water WRF Project Debt Funding	-	<u>909.71</u>	<u>909.71</u>	<u>909.71</u>	<u>909.71</u>
Subtotal Monthly Bill		2,267.39	2,267.39	2,267.39	2,267.39
<b>Total Monthly Charges</b>	<b>7,505.00</b>	<b>10,224.39</b>	<b>10,224.39</b>	<b>10,224.39</b>	<b>10,224.39</b>

The following tables show the impacts by fiscal year under the Phase In Scenario.

**Table 19B – Phase In: Total Combined Utility Bill for Sample Commercial Accounts**

		Projected			
	2018/19	2019/20	2020/21	2021/22	2022/23
Med-Small Commercial Office (4 hcf monthly water use, Domestic Strength)					
Monthly Utility Bill					
Sewer Monthly Charge	\$61.60	\$66.40	\$66.40	\$66.40	\$66.40
Water Monthly Charge	54.50	58.50	58.50	58.50	58.50
Subtotal Monthly Bill	116.10	124.90	124.90	124.90	124.90
WRF Facility Surcharges					
Sewer WRF Project Debt Funding	-	7.20	14.40	21.60	21.60
Water WRF Project Debt Funding	-	7.28	10.92	15.46	15.46
Subtotal Monthly Bill		14.48	25.32	37.06	37.06
Total Monthly Charges	116.10	139.38	150.22	161.96	161.96

Moderate Commercial Office (10 hcf monthly water use, Domestic Strength)					
Monthly Utility Bill					
Sewer Monthly Charge	\$126.70	\$136.10	\$136.10	\$136.10	\$136.10
Water Monthly Charge	102.50	109.50	109.50	109.50	109.50
Subtotal Monthly Bill	229.20	245.60	245.60	245.60	245.60
WRF Facility Surcharges					
Sewer WRF Project Debt Funding	-	14.76	29.52	44.27	44.27
Water WRF Project Debt Funding	-	18.19	27.29	38.66	38.66
Subtotal Monthly Bill		32.95	56.81	82.94	82.94
Total Monthly Charges	229.20	278.55	302.41	328.54	328.54

Restaurant (20 hcf monthly use, High Strength)					
Monthly Utility Bill					
Sewer Monthly Charge	\$427.20	\$449.20	\$449.20	\$449.20	\$449.20
Water Monthly Charge	207.50	214.50	214.50	214.50	214.50
Subtotal Monthly Bill	634.70	663.70	663.70	663.70	663.70
WRF Facility Surcharges					
Sewer WRF Project Debt Funding	-	48.71	97.42	146.13	146.13
Water WRF Project Debt Funding	-	36.39	54.58	77.32	77.32
Subtotal Monthly Bill		85.10	152.00	223.45	223.45
Total Monthly Charges	634.70	748.80	815.70	887.15	887.15

**Table 20B – Phase In: Total Combined Utility Bill for Large Commercial Accounts**

	2018/19	Projected			
		2019/20	2020/21	2021/22	2022/23
Larger Commercial Building (50 hcf monthly water use, Domestic Strength)					
Monthly Utility Bill					
Sewer Monthly Charge	\$633.50	\$680.50	\$680.50	\$680.50	\$680.50
Water Monthly Charge	<u>522.50</u>	<u>529.50</u>	<u>529.50</u>	<u>529.50</u>	<u>529.50</u>
Subtotal Monthly Bill	1,156.00	1,210.00	1,210.00	1,210.00	1,210.00
WRF Facility Surcharges					
Sewer WRF Project Debt Funding	-	73.79	147.58	221.37	221.37
Water WRF Project Debt Funding	-	<u>90.97</u>	<u>136.46</u>	<u>193.31</u>	<u>193.31</u>
Subtotal Monthly Bill		164.76	284.03	414.68	414.68
Total Monthly Charges	1,156.00	1,374.76	1,494.03	1,624.68	1,624.68

<b>Motel (50 hcf monthly water use, Moderate Strength)</b>					
<b>Monthly Utility Bill</b>					
Sewer Monthly Charge	\$744.50	\$791.00	\$791.00	\$791.00	\$791.00
Water Monthly Charge	<u>522.50</u>	<u>549.50</u>	<u>549.50</u>	<u>549.50</u>	<u>549.50</u>
Subtotal Monthly Bill	1,267.00	1,340.50	1,340.50	1,340.50	1,340.50
<b>WRF Facility Surcharges</b>					
Sewer WRF Project Debt Funding	-	85.77	171.54	257.31	257.31
Water WRF Project Debt Funding	-	<u>90.97</u>	<u>136.46</u>	<u>193.31</u>	<u>193.31</u>
Subtotal Monthly Bill		176.74	308.00	450.63	450.63
Total Monthly Charges	1,267.00	1,517.24	1,648.50	1,791.13	1,791.13

<b>Large Hotel with Restaurant (250 hcf monthly water use, Mod-High Strength)</b>					
<b>Monthly Utility Bill</b>					
Sewer Monthly Charge	\$4,282.50	\$4,507.50	\$4,507.50	\$4,507.50	\$4,507.50
Water Monthly Charge	<u>3,222.50</u>	<u>3,449.50</u>	<u>3,449.50</u>	<u>3,449.50</u>	<u>3,449.50</u>
Subtotal Monthly Bill	7,505.00	7,957.00	7,957.00	7,957.00	7,957.00
<b>WRF Facility Surcharges</b>					
Sewer WRF Project Debt Funding	-	488.77	977.53	1,466.30	1,466.30
Water WRF Project Debt Funding	-	<u>454.85</u>	<u>682.28</u>	<u>966.56</u>	<u>966.56</u>
Subtotal Monthly Bill		943.62	1,659.81	2,432.86	2,432.86
Total Monthly Charges	7,505.00	8,900.62	9,616.81	10,389.86	10,389.86

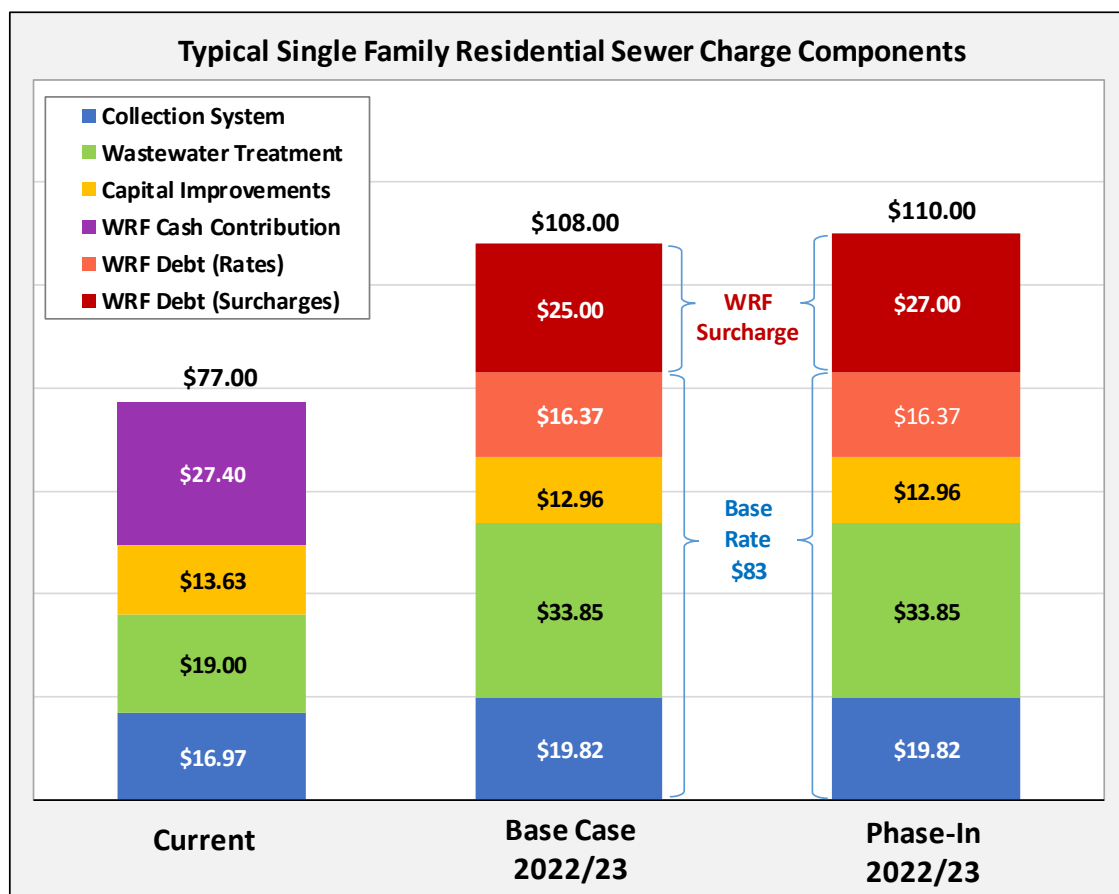
## 19. Sewer Rate & WRF Surcharge Cost Recovery

Table 21 shows an estimated breakdown of the cost components of monthly sewer charges for a typical single family home with 5 units (hcf) monthly water use. The table compares current charges vs. charges in 2022/23 with full implementation of adopted rates and the WRF Facility Surcharge.

**Table 21 – Sewer Rate Components**

	Current 2018/19	Base Case 2022/23	Phase-In 2022/23
<b>Base Monthly Sewer Rate</b>			
Sewer Collection System O&M	\$16.97	\$19.82	\$19.82
Wastewater Treatment O&M*	19.00	33.85	33.85
WRF Debt Service: Sewer Rates	0.00	16.37	16.37
Sewer CIP/Equipment/Other	13.63	12.96	12.96
WRF Cash Contribution	<u>27.40</u>	<u>0.00</u>	<u>0.00</u>
Subtotal Base Sewer Rate	77.00	83.00	83.00
<b>WRF Surcharge</b> (for WRF Debt Service)	0.00	25.00	27.00
<b>Total</b>	<b>77.00</b>	<b>83.00</b>	<b>83.00</b>

\* Current year wastewater treatment O&M is net of 25% cost-sharing by Cayucos SD



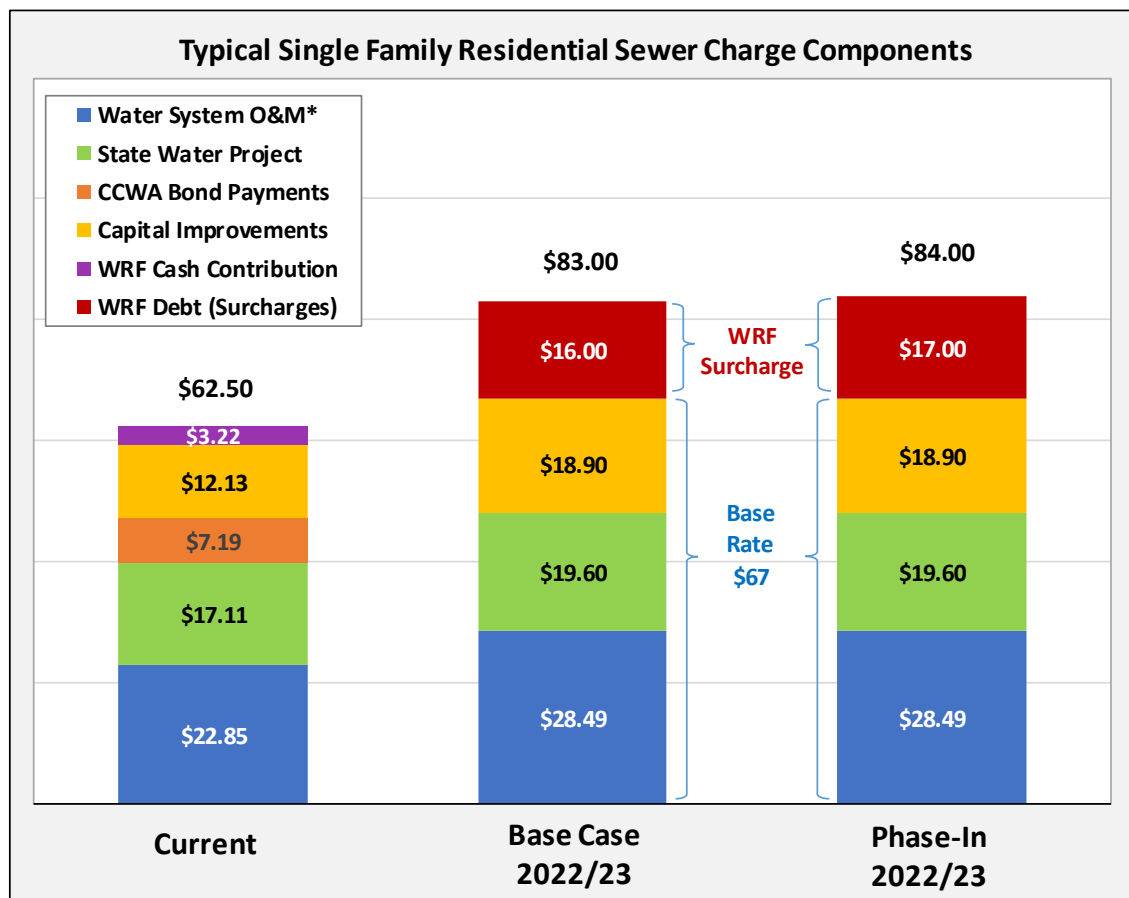
## 20. Water Rate & WRF Surcharge Cost Recovery

Table 22 shows an estimated breakdown of the cost components of monthly water charges for a typical single family home with 5 units (hcf) monthly water use. The table compares current charges vs. charges in 2022/23 with full implementation of adopted rates and the WRF Facility Surcharge.

**Table 22 – Water Rate Components**

	Current 2018/19	Base Case 2022/23	Phase-In 2022/23
<b>Base Monthly Water Rate</b>			
Water System O&M*	\$22.85	\$28.49	\$28.49
State Water Project Expenses	17.11	19.60	19.60
CCWA Bond Payments	7.19	0.00	0.00
Water CIP/Equipment/Other	12.13	18.90	18.90
WRF Cash Contribution	<u>3.22</u>	<u>0.00</u>	<u>0.00</u>
Subtotal Water Rate	62.50	67.00	67.00
<b>WRF Surcharge</b> (for WRF Debt Service)	0.00	16.00	17.00
<b>Total</b>	<b>62.50</b>	<b>83.00</b>	<b>84.00</b>

\* Water System O&M in 2022/23 includes recycled water operating expenses of \$220,000.





## 21. Billing Options for WRF Facility Surcharges

The City currently bills customers monthly via a combined utility bill for water and sewer service. The City is considering two methods of bill collection for recovering the WRF Facility Surcharges, including:

- **Monthly Billing** - Add the WRF Facility Surcharges as a new line-item in the monthly bills.
- **Property Tax Rolls** - Recover the proposed WRF Facility Surcharges on the property tax rolls.

The WRF Facility Surcharges would be the same under both alternatives; only the method of billing and collection would vary. For a single family home, adding the surcharges to the property tax rolls, would result in two payments of roughly \$250 that would be added to the semi-annual property tax assessments. Table 23 shows the timing of payments for WRF Facility Surcharges under the Base Case and Phase-In Scenarios with full implementation of the surcharges. Non-residential customers could be billed on the property tax rolls based on usage from the immediately-prior 12-month period.

**Table 23 – Example of Single Family WRF Surcharges Collected with Property Taxes**

	Annual Total	December Installment 1	April Installment 2
<b>WRF Facility Surcharges</b>			
Base Case Scenario	\$492.00	\$246.00	\$246.00
Phase-In Scenario	528.00	264.00	264.00

While there are some administrative differences for billing and collecting the WRF Facility Surcharges under the two billing options, the main difference is who will bear the financial burden of paying the surcharges: ratepayers or property owners. Note that many ratepayers are also property owners and would be the same people paying the same surcharges regardless of billing method. However, the City does serve a number of tenants who currently pay utility bills for their rental units.

Some potential pros, cons, and issues related to collecting the WRF Facility Surcharges on the property tax rolls include:

- In many (but not all) cases, property owners own substantial equity in their homes, whereas many renters do not have such equity and/or may not be able to afford to purchase a home. Hence billing the WRF Facility Surcharges via the property tax rolls would put the burden on a group that generally has more financial asset than renters. At the same time, there are number of homeowners who – although they may have substantial equity in their home – are also living on fixed incomes.

- The new WRF facility benefits homeowners by preserving property value with access to safe and reliable wastewater service.
- Adding the WRF Facility Surcharges to the combined monthly water and sewer bill could potentially result in an uptick in delinquencies. However, delinquencies can be ultimately recovered by placing a lien on the property, which results in the charge being put back on the property tax rolls in case of extreme delinquency.
- San Luis Obispo County is on the Teeter Plan and pays agencies for 100% of assessments or charges placed on the property tax rolls for collection, regardless of actual delinquencies. The County has indicated that if delinquencies exceed 3%, then the County retains the authority to end the Teeter Plan practice and instead provide only actual amounts collected. However, the County has never done this in the past.
- The cost of placing the surcharges on the property tax rolls currently costs \$2 per parcel and is roughly estimated to cost a total of about \$11,000 per year.
- Placing the surcharges on the tax roll would require the City Council to pass a Resolution adopting a schedule of charges to be levied on all affected properties by Assessor's Parcel Number (APN) each year. If the Resolution was not adopted, the charges could not be assessed on the property tax rolls. However, this does not mean that the City could not recover the charge, it would simply change the method of collection and would require the City to add the surcharges to the monthly bills instead.
- Regardless of the billing approach, the City would be under legal covenant to adopt rates and charges as needed to repay debt service, meet debt service coverage requirements, and meet other legal obligations.
- Collecting sewer charges on the property tax rolls would also result in a change in timing of receiving revenues. The County generally sends agencies payments twice per year (in December and April) based on actual tax collections. Subsequently, at the end of the fiscal year, the County does a true-up and would send the City the remainder of amounts billed on the tax rolls regardless of delinquencies. The County subsequently deals with the delinquencies and keeps any funds recovered from the delinquent properties including any penalties.
- If the City opted to collect the WRF Facility Surcharges on the property tax rolls, due to the change in timing of revenues, the City may need to strategically determine the payment dates for future debt service payments to ensure the debt payments are due after the City receives payment from the County in December and April.

In order to recover the WRF Facility Surcharges via the property tax rolls, the City would need to follow the process identified in the California Health and Safety Code Section 5470 – 5474, attached as an appendix to this report. The process is similar to the Proposition 218 process required for increasing utility rates and could be done concurrently when the City goes through the Proposition 218 rate increase process for potential water and sewer rate increases.

# **Appendix A**

## **Water & Sewer Capital Improvement Plans**



City of Morro Bay  
One Water Morro Bay  
**POTABLE WATER CAPITAL IMPROVEMENT PLAN SUMMARY**



City of Morro Bay  
One Water Morro Bay  
POTABLE WATER CAPITAL IMPROVEMENT PLAN SUMMARY

DRAFT - WORK IN PROGRESS (June 21, 2018)

Pump Station		Existing Size/Type	Proposed Size/Type	Proposed Amount	CIP Cost Estimate <sup>(1)(2)(3)(4)</sup> (\$)	Existing User Cost (\$)	Future User Cost (\$)	CIP Phasing (\$)						
								Near-Term						Long-Term
								2019	2020	2021	2022	2023	2024-2028	2029-2040
PWFF-31	PRV on Avalon Street and Ironwood Avenue	--	8	--	\$ 312,000	\$ 312,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 312,000
PWFF-32	PRV on Highway 41 and Ironwood Avenue	--	8	--	\$ 312,000	\$ 312,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 312,000
PWFF-33	PRV on Dunes Street and Shasta Avenue	--	8	--	\$ 312,000	\$ 312,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 312,000
PWFF-34	PRV on Main Street and Quintana Place	--	8	--	\$ 312,000	\$ 312,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 312,000
PWFF-35	Pipeline along Sunset Road	6	8	--	\$ 580,000	\$ 580,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 580,000
Transssmission & Distribution Main		Diameter (in)	Diameter (in)	Length (ft)	\$ 2,658,000	\$ 2,558,000	\$ 100,000	\$ 904,000	\$ 595,000	\$ -	\$ 371,000	\$ -	\$ 788,000	\$ -
PWP-1	Fill line for Blanca Tanks	4	8	2,210	\$ 750,000	\$ 735,000	\$ 15,000	\$ 750,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PWP-2	Fill line for Nutmeg Tank	4	8	1,280	\$ 371,000	\$ 364,000	\$ 7,000	\$ -	\$ -	\$ -	\$ 371,000	\$ -	\$ -	\$ -
PWP-3	Fill line for Elena Tanks	--	10	1,730	\$ 788,000	\$ 725,000	\$ 63,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 788,000	\$ -
PWP-4	Parallel pipeline on Juniper Avenue	--	8	2,050	\$ 595,000	\$ 583,000	\$ 12,000	\$ -	\$ 595,000	\$ -	\$ -	\$ -	\$ -	\$ -
PWP-5	Pipeline on Sequoia Street	--	8	530	\$ 154,000	\$ 151,000	\$ 3,000	\$ 154,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pump Station		Capacity (mgd)	Capacity (mgd)	Length (ft)	\$ 1,326,000	\$ 1,314,000	\$ 12,000	\$ -	\$ -	\$ 580,000	\$ -	\$ -	\$ -	\$ 746,000
PWPS-1	Elena Booster Pump Station Upgrade	0.44	0.50	--	\$ 580,000	\$ 568,000	\$ 12,000	\$ -	\$ -	\$ 580,000	\$ -	\$ -	\$ -	\$ -
PWPS-2	Kings Booster Pump Station Upgrade	--	2.16	--	\$ 746,000	\$ 746,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 746,000
Storage Reservoir		Capacity (MG)	Capacity (MG)	Length (ft)	\$ 4,353,000	\$ 4,353,000	\$ -	\$ -	\$ 332,000	\$ 332,000	\$ 1,326,000	\$ 1,326,000	\$ 1,037,000	\$ -
PWS-1	Nutmeg Tank Upgrade	0.14	1	--	\$ 3,316,000	\$ 3,316,000	\$ -	\$ -	\$ 332,000	\$ 332,000	\$ 1,326,000	\$ 1,326,000	\$ -	\$ -
PWS-2	Elena Tank Upgrade	0.12	0.15	--	\$ 1,037,000	\$ 1,037,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,037,000	\$ -
PRV Station		Diameter (in)	Diameter (in)	Length (ft)	\$ 312,000	\$ 306,000	\$ 6,000	\$ -	\$ -	\$ 312,000	\$ -	\$ -	\$ -	\$ -
PWV-1	PRV on Juniper Avenue	--	8	--	\$ 312,000	\$ 306,000	\$ 6,000	\$ -	\$ -	\$ 312,000	\$ -	\$ -	\$ -	\$ -
Rehabilitation and Replacement Projects					\$ 2,200,000	\$ 2,200,000	\$ -	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 500,000	\$ 1,200,000
PWRR-1	Pipeline R&R Program	1-16	> 6	--	\$ 2,200,000	\$ 2,200,000	\$ -	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 500,000	\$ 1,200,000
Other Projects					\$ 2,895,000	\$ 2,895,000	\$ -	\$ 60,000	\$ -	\$ -	\$ -	\$ 150,000	\$ 150,000	\$ 2,535,000
PWO-1	Water Master Plan Update	--	--	--	\$ 600,000	\$ 600,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 150,000	\$ 150,000	\$ 300,000
PWO-2	Re-Skin Desalination Plant Building	--	--	--	\$ 60,000	\$ 60,000	\$ -	\$ 60,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PWO-3	Control Upgrades at Desalination Plant	--	--	--	\$ 1,472,000	\$ 1,472,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,472,000
PWO-4	Add Screening at Desalination Plant	--	--	--	\$ 17,000	\$ 17,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17,000
PWO-5	Chlorination Upgrades	--	--	--	\$ 746,000	\$ 746,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 746,000
PWO-6	Desalination Plant Relocation	--			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CIP Total					\$ 26,086,000	\$ 25,968,000	\$ 118,000	\$ 1,064,000	\$ 1,027,000	\$ 1,324,000	\$ 1,797,000	\$ 1,576,000	\$ 4,977,000	\$ 11,586,000
Annual Cost					N/A	N/A	N/A	\$ 1,064,000	\$ 1,027,000	\$ 1,324,000	\$ 1,797,000	\$ 1,576,000	\$ 995,400	\$ 965,500

- Notes:
- (1) ENR 20 City Average Construction Cost Index for February 2018 is 10,889.
  - (2) Estimated Construction Cost includes a 30% contingency of the baseline construction cost.
  - (3) Total project costs includes a 10% markup for engineering, a 10% markup for construction management and a 7.5% markup for project administration of the estimated construction cost.
  - (4) Total Mark-Up is 65.8% of the baseline construction costs.





City of Morro Bay  
One Water Morro Bay  
WASTEWATER COLLECTION SYSTEM CAPITAL IMPROVEMENT PLAN SUMMARY

DRAFT - WORK IN PROGRESS (June 21, 2018)

Project	Existing Size/Type	Proposed Size/Type	Proposed Amount	CIP Cost Estimate <sup>(1)(2)(3)(4)</sup> (\$)	Existing User Cost (\$)	Future User Cost (\$)	CIP Phasing (\$)							
							Near-Term						Long-Term	
							2019	2020	2021	2022	2023	2024-2028	2029-2040	
Capacity Related Improvements				\$ 6,513,000	\$ 6,149,000	\$ 364,000	\$ 530,000	\$ -	\$ 1,371,000	\$ 587,000	\$ -	\$ 2,506,000	\$ 1,519,000	
Gravity Mains	Diameter (in)	Diameter (in)	Length (ft)	\$ 4,994,000	\$ 4,630,000	\$ 364,000	\$ 530,000	\$ -	\$ 1,371,000	\$ 587,000	\$ -	\$ 2,506,000	\$ -	
WWGM-1 Gravity Main along Atascadero Road	18	27	1,000	\$ 530,000	\$ 463,000	\$ 67,000	\$ 530,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
WWGM-2 Gravity Main along Main Street	15	24	2,900	\$ 1,371,000	\$ 1,194,000	\$ 177,000	\$ -	\$ -	\$ 1,371,000	\$ -	\$ -	\$ -	\$ -	
WWGM-3 Gravity Main along Main Street	12	18	1,600	\$ 544,000	\$ 544,000	\$ -	\$ -	\$ -	\$ -	\$ 544,000	\$ -	\$ -	\$ -	
WWGM-4A Gravity Main along San Joaquin Street	6	12	150	\$ 43,000	\$ 41,000	\$ 2,000	\$ -	\$ -	\$ -	\$ 43,000	\$ -	\$ -	\$ -	
WWGM-4B Gravity Main along Alder Avenue, and San Jacinto Street	6	10	1,200	\$ 328,000	\$ 301,000	\$ 27,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 328,000	\$ -	
WWGM-5 Gravity Main along Greenwood Avenue	6	12	1,850	\$ 537,000	\$ 537,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 537,000	\$ -	
WWGM-6 Gravity Main along Coral Avenue	10	12	1,900	\$ 552,000	\$ 552,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 552,000	\$ -	
WWGM-7 Gravity Main along Sienna Street	6	10	250	\$ 68,000	\$ 68,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 68,000	\$ -	
WWGM-8A Gravity Main along Main Street	10 & 12	15	2,600	\$ 819,000	\$ 728,000	\$ 91,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 819,000	\$ -	
WWGM-8B Gravity Main along Main Street	8 & 10	12	400	\$ 116,000	\$ 116,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 116,000	\$ -	
WWGM-9 Gravity Main under Highway 41	6	8/20	110	\$ 86,000	\$ 86,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 86,000	\$ -	
Lift Stations	Capacity (mgd)	Capacity (mgd)		\$ 1,439,000	\$ 1,439,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,439,000	
WWLS-1 Lift Station 1 Replacement	0.98	1.65	N/A	\$ 1,439,000	\$ 1,439,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,439,000	
Force Main	Diameter (in)	Diameter (in)	Length (ft)	\$ 80,000	\$ 80,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 80,000	
WWFM-1 Lift Station 1 Force Main	6	8	300	\$ 80,000	\$ 80,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 80,000	
Rehabilitation and Replacement Projects				\$ 10,818,000	\$ 10,818,000	\$ -	\$ 249,000	\$ 945,000	\$ -	\$ 602,000	\$ 602,000	\$ 3,010,000	\$ 5,410,000	
Gravity Mains	Diameter (in)	Diameter (in)	Length (ft)	\$ 8,298,000	\$ 8,298,000	\$ -	\$ -	\$ 680,000	\$ -	\$ 602,000	\$ 602,000	\$ 3,010,000	\$ 3,404,000	
WWRR-1A Gravity Main Beachcomber Drive	12	12	570	\$ 166,000	\$ 166,000	\$ -	\$ -	\$ 166,000	\$ -	\$ -	\$ -	\$ -	\$ -	
WWRR-1B Gravity Main Beachcomber Drive	10	10	960	\$ 262,000	\$ 262,000	\$ -	\$ -	\$ 262,000	\$ -	\$ -	\$ -	\$ -	\$ -	
WWRR-1C Gravity Main Beachcomber Drive	8	8	950	\$ 252,000	\$ 252,000	\$ -	\$ -	\$ 252,000	\$ -	\$ -	\$ -	\$ -	\$ -	
WWRR-2 Pipe R&R Program Upstream of LS-1	6-12	8-12	27,000	\$ 5,418,000	\$ 5,418,000	\$ -	\$ -	\$ -	\$ -	\$ 602,000	\$ 602,000	\$ 3,010,000	\$ 1,204,000	
WWRR-3 I/I Reduction Projects	4-18	> 6	Varies	\$ 2,200,000	\$ 2,200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,200,000	
Structures	Type	Type	Quantity	\$ 2,520,000	\$ 2,520,000	\$ -	\$ 249,000	\$ 265,000	\$ -	\$ -	\$ -	\$ -	\$ 2,006,000	
WWRR-4 Cap Replacement Upstream of LS-1	Cap	Manhole	31	\$ 514,000	\$ 514,000	\$ -	\$ 249,000	\$ 265,000	\$ -	\$ -	\$ -	\$ -	\$ -	
WWRR-5 Cap Replacement Program	Cap	Manhole	121	\$ 2,006,000	\$ 2,006,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,006,000	
Other Projects				\$ 840,000	\$ 840,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 210,000	\$ 210,000	\$ 420,000	
WVO-1 Sewer Master Plan Update	--	--	--	\$ 600,000	\$ 600,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 150,000	\$ 150,000	\$ 300,000	
WVO-2 Flow Monitoring Program	--	4 weeks	15 FM	\$ 240,000	\$ 240,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 60,000	\$ 60,000	\$ 120,000	
CIP Total				\$ 18,171,000	\$ 17,807,000	\$ 364,000	\$ 779,000	\$ 945,000	\$ 1,371,000	\$ 1,189,000	\$ 812,000	\$ 5,726,000	\$ 7,349,000	
Annual Cost				N/A	N/A	N/A	\$ 779,000	\$ 945,000	\$ 1,371,000	\$ 1,189,000	\$ 812,000	\$ 1,145,000	\$ 612,000	

Notes:

- (1) ENR 20 City Average Construction Cost Index for February 2018 is 10,889.  
(2) Estimated Construction Cost includes a 30% contingency of the baseline construction cost.  
(3) Total project costs includes a 10% markup for engineering, a 10% markup for construction management and a 7.5% markup for project administration of the estimated construction cost.  
(4) Total Mark-Up is 65.8% of the baseline construction costs.



# **Appendix B**

## **Base Case Scenario Debt Financing Projections**



Table B-1  
City of Morro Bay  
WIFIA Sources & Uses

Base Case Scenario

<b><u>Sources</u></b>		
WIFIA Loan		\$67,800,000
<b><u>Uses</u></b>		
WRF Project Funding <sup>1</sup>	49% of total project cost	\$60,175,000
Application/Credit Reimbursement Fee	estimated	300,000
Other Issuance Costs (est)	estimated	50,000
Accrued Interest During Construction <sup>2</sup>	verify with WIFIA	3,911,000
Debt-Funded Reserve Fund	likely required	3,360,000
Contingency/Rounding		4,000
Total Uses		67,800,000
<hr/> <p>1 49% of Total WRF Project Cost 2 Assumes steady gradual drawdown of loan funds over 2 years, plus 1 year add'l accrued interest.</p>		

Table B-2  
City of Morro Bay  
Draft WIFIA Loan Repayment Schedule

WIFIA Loan Amount	\$67,800,000
Repayment Term	35 Years
Interest Rate	3.25%

Payment Number	Fiscal Year Ending	Principal	Interest	Total Debt Service	Principal Balance
1	2023	\$769,582	\$2,203,500	\$2,973,082	\$67,030,418
2	2024	794,593	2,178,489	2,973,082	66,235,824
3	2025	820,418	2,152,664	2,973,082	65,415,407
4	2026	847,081	2,126,001	2,973,082	64,568,325
5	2027	874,611	2,098,471	2,973,082	63,693,714
6	2028	903,036	2,070,046	2,973,082	62,790,678
7	2029	932,385	2,040,697	2,973,082	61,858,293
8	2030	962,688	2,010,395	2,973,082	60,895,605
9	2031	1,442,975	1,979,107	3,422,082	59,452,630
10	2032	1,489,872	1,932,210	3,422,082	57,962,758
11	2033	1,538,292	1,883,790	3,422,082	56,424,466
12	2034	1,588,287	1,833,795	3,422,082	54,836,179
13	2035	1,639,906	1,782,176	3,422,082	53,196,273
14	2036	1,693,203	1,728,879	3,422,082	51,503,069
15	2037	1,748,232	1,673,850	3,422,082	49,754,837
16	2038	1,805,050	1,617,032	3,422,082	47,949,787
17	2039	1,863,714	1,558,368	3,422,082	46,086,073
18	2040	1,924,285	1,497,797	3,422,082	44,161,788
19	2041	1,986,824	1,435,258	3,422,082	42,174,964
20	2042	2,051,396	1,370,686	3,422,082	40,123,568
21	2043	2,118,066	1,304,016	3,422,082	38,005,502
22	2044	2,186,903	1,235,179	3,422,082	35,818,599
23	2045	2,257,978	1,164,104	3,422,082	33,560,621
24	2046	2,331,362	1,090,720	3,422,082	31,229,259
25	2047	2,407,131	1,014,951	3,422,082	28,822,128
26	2048	2,485,363	936,719	3,422,082	26,336,765
27	2049	2,566,137	855,945	3,422,082	23,770,628
28	2050	2,649,537	772,545	3,422,082	21,121,091
29	2051	2,735,647	686,435	3,422,082	18,385,444
30	2052	2,824,555	597,527	3,422,082	15,560,889
31	2053	2,916,353	505,729	3,422,082	12,644,536
32	2054	3,011,135	410,947	3,422,082	9,633,401
33	2055	3,108,997	313,086	3,422,082	6,524,404
34	2056	3,210,039	212,043	3,422,082	3,314,365
35	2057	3,314,365	107,717	3,422,082	0
Total		67,800,000	48,380,874	116,180,874	1,420,842,286

Note: Debt repayment is partially reduced over first 8 years to result in roughly level annual debt service on total combined debt.

Table B-3  
City of Morro Bay  
Bond Debt Service Estimates

Base Case Scenario

		30-Year Bonds w/22-Year Amort
<b>Funding Target</b>		\$24,700,000
<b>Issue Size</b>		
Project Funding	<u>Estimates</u>	24,700,000
Underwriter's Discount	0.70%	177,300
Issuance Costs		200,000
Bond Insurance	0.40%	202,700
Reserve Surety Bond	2.25%	42,100
Rounding		1,600
Total		25,323,700
<b>Financing Terms</b>		
Repayment Term		30
Amortization Term (years)		22
Interest Rate <sup>2</sup>	Planning Est.	4.70%
<b>Annual Debt Service</b>		
During 8-Year Interest-Only Period		1,190,000
During 22-Year Principal Amortization Period		1,871,000
Estimates shown for financial planning purposes, actual costs and rates may vary.		

Current Estimated Rates

WIFIA Rate (Est. 25-Year SLGS)

30-Year Bond Rate (est.)

SRF Rate

2017 CPI-U

June 7, 2018 Rates

3.05%

4.25%

1.80%

2.13%

Inflation Adjusted Rate

0.91%

2.08%

-0.32%

Table B-4  
City of Morro Bay  
Debt Service Amortization Schedules

Base Case Scenario

Fiscal Year Ending	SRF Planning Loan	WIFIA Loan	Revenue Bonds	Total Debt Service
Project \$	\$10,300,000	\$60,175,000	\$24,700,000	\$95,175,000
Term	10 Years	35 Years	30 Years	TIC
Avg Rate	1.70%	3.25%	4.70%	3.48%
2021	1,130,000		595,000	1,725,000
2022	1,130,000		1,190,000	2,320,000
2023	1,130,000	2,973,000	1,190,000	5,293,000
2024	1,130,000	2,973,000	1,190,000	5,293,000
2025	1,130,000	2,973,000	1,190,000	5,293,000
2026	1,130,000	2,973,000	1,190,000	5,293,000
2027	1,130,000	2,973,000	1,190,000	5,293,000
2028	1,130,000	2,973,000	1,190,000	5,293,000
2029	1,130,000	2,973,000	1,190,000	5,293,000
2030	1,130,000	2,973,000	1,190,000	5,293,000
2031		3,422,000	1,871,000	5,293,000
2032		3,422,000	1,871,000	5,293,000
2033		3,422,000	1,871,000	5,293,000
2034		3,422,000	1,871,000	5,293,000
2035		3,422,000	1,871,000	5,293,000
2036		3,422,000	1,871,000	5,293,000
2037		3,422,000	1,871,000	5,293,000
2038		3,422,000	1,871,000	5,293,000
2039		3,422,000	1,871,000	5,293,000
2040		3,422,000	1,871,000	5,293,000
2041		3,422,000	1,871,000	5,293,000
2042		3,422,000	1,871,000	5,293,000
2043		3,422,000	1,871,000	5,293,000
2044		3,422,000	1,871,000	5,293,000
2045		3,422,000	1,871,000	5,293,000
2046		3,422,000	1,871,000	5,293,000
2047		3,422,000	1,871,000	5,293,000
2048		3,422,000	1,871,000	5,293,000
2049		3,422,000	1,871,000	5,293,000
2050		3,422,000	1,871,000	5,293,000
2051		3,422,000	1,871,000	5,293,000
2052		3,422,000	1,871,000	5,293,000
2053		3,422,000		3,422,000
2054		3,422,000		3,422,000
2055		3,422,000		3,422,000
2056		3,422,000		3,422,000
2057		3,422,000		3,422,000

Table B-5  
City of Morro Bay  
Water Debt Service Allocation

Base Case Scenario

Fiscal Year Ending	SRF Planning Loan	WIFIA Loan	Revenue Bonds	Total Debt Service
Amount	\$10,300,000	\$60,175,000	\$24,700,000	\$95,175,000
Term	10 Years	35 Years	30 Years	
Avg Rate	1.70%	3.25%	4.70%	
Water %	28.8%	28.8%	41.5%	32.1%
Water \$	\$2,970,000	\$17,352,000	\$10,246,000	\$30,568,000
2021	326,000		247,000	573,000
2022	326,000		494,000	820,000
2023	326,000	857,000	494,000	1,677,000
2024	326,000	857,000	494,000	1,677,000
2025	326,000	857,000	494,000	1,677,000
2026	326,000	857,000	494,000	1,677,000
2027	326,000	857,000	494,000	1,677,000
2028	326,000	857,000	494,000	1,677,000
2029	326,000	857,000	494,000	1,677,000
2030	326,000	857,000	494,000	1,677,000
2031		987,000	776,000	1,763,000
2032		987,000	776,000	1,763,000
2033		987,000	776,000	1,763,000
2034		987,000	776,000	1,763,000
2035		987,000	776,000	1,763,000
2036		987,000	776,000	1,763,000
2037		987,000	776,000	1,763,000
2038		987,000	776,000	1,763,000
2039		987,000	776,000	1,763,000
2040		987,000	776,000	1,763,000
2041		987,000	776,000	1,763,000
2042		987,000	776,000	1,763,000
2043		987,000	776,000	1,763,000
2044		987,000	776,000	1,763,000
2045		987,000	776,000	1,763,000
2046		987,000	776,000	1,763,000
2047		987,000	776,000	1,763,000
2048		987,000	776,000	1,763,000
2049		987,000	776,000	1,763,000
2050		987,000	776,000	1,763,000
2051		987,000	776,000	1,763,000
2052		987,000	776,000	1,763,000
2053		987,000		987,000
2054		987,000		987,000
2055		987,000		987,000
2056		987,000		987,000
2057		987,000		987,000

Table B-6  
City of Morro Bay  
Sewer Debt Service Allocation

Base Case Scenario

Fiscal Year Ending	SRF Planning Loan	WIFIA Loan	Revenue Bonds	Total Debt Service
Amount	\$10,300,000	\$60,175,000	\$24,700,000	\$95,175,000
Term	10 Years	35 Years	30 Years	
Avg Rate	1.70%	3.25%	4.70%	
Sewer %	71.2%	71.2%	58.5%	67.9%
Sewer \$	\$7,330,000	\$42,823,000	\$14,454,000	\$64,607,000
2021	804,000		348,000	1,152,000
2022	804,000		696,000	1,500,000
2023	804,000	2,116,000	696,000	3,616,000
2024	804,000	2,116,000	696,000	3,616,000
2025	804,000	2,116,000	696,000	3,616,000
2026	804,000	2,116,000	696,000	3,616,000
2027	804,000	2,116,000	696,000	3,616,000
2028	804,000	2,116,000	696,000	3,616,000
2029	804,000	2,116,000	696,000	3,616,000
2030	804,000	2,116,000	696,000	3,616,000
2031		2,435,000	1,095,000	3,530,000
2032		2,435,000	1,095,000	3,530,000
2033		2,435,000	1,095,000	3,530,000
2034		2,435,000	1,095,000	3,530,000
2035		2,435,000	1,095,000	3,530,000
2036		2,435,000	1,095,000	3,530,000
2037		2,435,000	1,095,000	3,530,000
2038		2,435,000	1,095,000	3,530,000
2039		2,435,000	1,095,000	3,530,000
2040		2,435,000	1,095,000	3,530,000
2041		2,435,000	1,095,000	3,530,000
2042		2,435,000	1,095,000	3,530,000
2043		2,435,000	1,095,000	3,530,000
2044		2,435,000	1,095,000	3,530,000
2045		2,435,000	1,095,000	3,530,000
2046		2,435,000	1,095,000	3,530,000
2047		2,435,000	1,095,000	3,530,000
2048		2,435,000	1,095,000	3,530,000
2049		2,435,000	1,095,000	3,530,000
2050		2,435,000	1,095,000	3,530,000
2051		2,435,000	1,095,000	3,530,000
2052		2,435,000	1,095,000	3,530,000
2053		2,435,000		2,435,000
2054		2,435,000		2,435,000
2055		2,435,000		2,435,000
2056		2,435,000		2,435,000
2057		2,435,000		2,435,000

# **Appendix C**

## **Phase In Scenario Debt Financing Projections**

Table C-1  
City of Morro Bay  
WIFIA Sources & Uses

Phase In Scenario

<b>Sources</b>		
WIFIA Loan		\$67,800,000
<b>Uses</b>		
WRF Project Funding <sup>1</sup>	49% of total project cost	\$60,175,000
Application/Credit Reimbursement Fee	estimated	300,000
Other Issuance Costs (est)	estimated	50,000
Accrued Interest During Construction <sup>2</sup>	verify with WIFIA	3,911,000
Debt-Funded Reserve Fund	likely	3,360,000
Contingency/Rounding		4,000
Total Uses		67,800,000
<hr/>		
1 49% of Total WRF Project Cost		
2 Assumes steady gradual drawdown of loan funds over 2 years, plus 1 year add'l accrued interest.		



Table C-2  
City of Morro Bay  
Draft WIFIA Loan Repayment Schedule

WIFIA Loan Amount	\$67,800,000
Repayment Term	35 Years
Interest Rate	3.25%

Payment Number	Fiscal Year Ending	Principal	Interest	Total Debt Service	Principal Balance
1	2023	\$847,366	\$2,203,500	\$3,050,866	\$66,952,634
2	2024	874,905	2,175,961	3,050,866	66,077,729
3	2025	903,339	2,147,526	3,050,866	65,174,390
4	2026	932,698	2,118,168	3,050,866	64,241,692
5	2027	963,011	2,087,855	3,050,866	63,278,681
6	2028	994,309	2,056,557	3,050,866	62,284,372
7	2029	1,026,624	2,024,242	3,050,866	61,257,749
8	2030	1,059,989	1,990,877	3,050,866	60,197,760
9	2031	1,426,439	1,956,427	3,382,866	58,771,321
10	2032	1,472,798	1,910,068	3,382,866	57,298,523
11	2033	1,520,664	1,862,202	3,382,866	55,777,859
12	2034	1,570,086	1,812,780	3,382,866	54,207,773
13	2035	1,621,114	1,761,753	3,382,866	52,586,660
14	2036	1,673,800	1,709,066	3,382,866	50,912,860
15	2037	1,728,198	1,654,668	3,382,866	49,184,662
16	2038	1,784,365	1,598,502	3,382,866	47,400,297
17	2039	1,842,356	1,540,510	3,382,866	45,557,941
18	2040	1,902,233	1,480,633	3,382,866	43,655,707
19	2041	1,964,056	1,418,810	3,382,866	41,691,652
20	2042	2,027,887	1,354,979	3,382,866	39,663,764
21	2043	2,093,794	1,289,072	3,382,866	37,569,971
22	2044	2,161,842	1,221,024	3,382,866	35,408,129
23	2045	2,232,102	1,150,764	3,382,866	33,176,027
24	2046	2,304,645	1,078,221	3,382,866	30,871,381
25	2047	2,379,546	1,003,320	3,382,866	28,491,835
26	2048	2,456,881	925,985	3,382,866	26,034,954
27	2049	2,536,730	846,136	3,382,866	23,498,223
28	2050	2,619,174	763,692	3,382,866	20,879,050
29	2051	2,704,297	678,569	3,382,866	18,174,753
30	2052	2,792,187	590,679	3,382,866	15,382,566
31	2053	2,882,933	499,933	3,382,866	12,499,633
32	2054	2,976,628	406,238	3,382,866	9,523,005
33	2055	3,073,368	309,498	3,382,866	6,449,637
34	2056	3,173,253	209,613	3,382,866	3,276,384
35	2057	3,276,384	106,482	3,382,866	0
Total		67,800,000	47,944,311	115,744,311	1,407,409,571

Note: Debt repayment is partially reduced over first 8 years to result in roughly level annual debt service on total combined debt.

Table C-3  
City of Morro Bay  
Bond Debt Service Estimates

Phase In Scenario

		30-Year Bonds w/22-Year Amort
<b>Funding Target</b>		\$29,000,000
<b>Issue Size</b>		
Project Funding	<u>Estimates</u>	29,000,000
Underwriter's Discount	0.70%	207,900
Issuance Costs		200,000
Bond Insurance	0.40%	237,700
Reserve Surety Bond	2.25%	49,400
Rounding		1,600
Total		29,696,600
<b>Financing Terms</b>		
Repayment Term		30
Amortization Term (years)		22
Interest Rate <sup>2</sup>	Planning Est.	4.70%
<b>Annual Debt Service</b>		
During 8-Year Interest-Only Period		1,396,000
During 22-Year Principal Amortization Period		2,194,000
Estimates shown for financial planning purposes, actual costs and rates may vary.		

Current Estimated Rates

WIFIA Rate (Est. 25-Year SLGS)

30-Year Bond Rate

SRF Rate

2017 CPI-U

June 7, 2018 Rates

3.05%

4.25%

1.80%

2.13%

Table C-4  
City of Morro Bay  
Debt Service Amortization Schedules

Phase In Scenario

Fiscal Year Ending	SRF Planning Loan	WIFIA Loan	Revenue Bonds	Total Debt Service
Project \$ Term Avg Rate	\$10,300,000 10 Years 1.70%	\$60,175,000 35 Years 3.25%	\$29,000,000 30 Years 4.70%	\$99,475,000
2021	1,130,000		698,000	1,828,000
2022	1,130,000		1,396,000	2,526,000
2023	1,130,000	3,051,000	1,396,000	5,577,000
2024	1,130,000	3,051,000	1,396,000	5,577,000
2025	1,130,000	3,051,000	1,396,000	5,577,000
2026	1,130,000	3,051,000	1,396,000	5,577,000
2027	1,130,000	3,051,000	1,396,000	5,577,000
2028	1,130,000	3,051,000	1,396,000	5,577,000
2029	1,130,000	3,051,000	1,396,000	5,577,000
2030	1,130,000	3,051,000	1,396,000	5,577,000
2031		3,383,000	2,194,000	5,577,000
2032		3,383,000	2,194,000	5,577,000
2033		3,383,000	2,194,000	5,577,000
2034		3,383,000	2,194,000	5,577,000
2035		3,383,000	2,194,000	5,577,000
2036		3,383,000	2,194,000	5,577,000
2037		3,383,000	2,194,000	5,577,000
2038		3,383,000	2,194,000	5,577,000
2039		3,383,000	2,194,000	5,577,000
2040		3,383,000	2,194,000	5,577,000
2041		3,383,000	2,194,000	5,577,000
2042		3,383,000	2,194,000	5,577,000
2043		3,383,000	2,194,000	5,577,000
2044		3,383,000	2,194,000	5,577,000
2045		3,383,000	2,194,000	5,577,000
2046		3,383,000	2,194,000	5,577,000
2047		3,383,000	2,194,000	5,577,000
2048		3,383,000	2,194,000	5,577,000
2049		3,383,000	2,194,000	5,577,000
2050		3,383,000	2,194,000	5,577,000
2051		3,383,000	2,194,000	5,577,000
2052		3,383,000	2,194,000	5,577,000
2053		3,383,000		3,383,000
2054		3,383,000		3,383,000
2055		3,383,000		3,383,000
2056		3,383,000		3,383,000
2057		3,383,000		3,383,000

Table C-5  
City of Morro Bay  
Water Debt Service Allocation

Phase In Scenario

Fiscal Year Ending	SRF Planning Loan	WIFIA Loan	Revenue Bonds	Total Debt Service
Amount	\$10,300,000	\$60,175,000	\$29,000,000	\$99,475,000
Term	10 Years	35 Years	30 Years	
Avg Rate	1.70%	3.25%	4.70%	
Water %	28.8%	28.8%	39.5%	31.9%
Water \$	\$2,970,000	\$17,352,000	\$11,446,000	\$31,768,000
2021	326,000		275,000	601,000
2022	326,000		551,000	877,000
2023	326,000	880,000	551,000	1,757,000
2024	326,000	880,000	551,000	1,757,000
2025	326,000	880,000	551,000	1,757,000
2026	326,000	880,000	551,000	1,757,000
2027	326,000	880,000	551,000	1,757,000
2028	326,000	880,000	551,000	1,757,000
2029	326,000	880,000	551,000	1,757,000
2030	326,000	880,000	551,000	1,757,000
2031		976,000	866,000	1,842,000
2032		976,000	866,000	1,842,000
2033		976,000	866,000	1,842,000
2034		976,000	866,000	1,842,000
2035		976,000	866,000	1,842,000
2036		976,000	866,000	1,842,000
2037		976,000	866,000	1,842,000
2038		976,000	866,000	1,842,000
2039		976,000	866,000	1,842,000
2040		976,000	866,000	1,842,000
2041		976,000	866,000	1,842,000
2042		976,000	866,000	1,842,000
2043		976,000	866,000	1,842,000
2044		976,000	866,000	1,842,000
2045		976,000	866,000	1,842,000
2046		976,000	866,000	1,842,000
2047		976,000	866,000	1,842,000
2048		976,000	866,000	1,842,000
2049		976,000	866,000	1,842,000
2050		976,000	866,000	1,842,000
2051		976,000	866,000	1,842,000
2052		976,000	866,000	1,842,000
2053		976,000		976,000
2054		976,000		976,000
2055		976,000		976,000
2056		976,000		976,000
2057		976,000		976,000

Table C-6  
City of Morro Bay  
Sewer Debt Service Allocation

Phase In Scenario

Fiscal Year Ending	SRF Planning Loan	WIFIA Loan	Revenue Bonds	Total Debt Service
Amount	\$10,300,000	\$60,175,000	\$29,000,000	\$99,475,000
Term	10 Years	35 Years	30 Years	
Avg Rate	1.70%	3.25%	4.70%	
Sewer %	71.2%	71.2%	60.5%	68.1%
Sewer \$	\$7,330,000	\$42,823,000	\$17,554,000	\$67,707,000
2021	804,000		423,000	1,227,000
2022	804,000		845,000	1,649,000
2023	804,000	2,171,000	845,000	3,820,000
2024	804,000	2,171,000	845,000	3,820,000
2025	804,000	2,171,000	845,000	3,820,000
2026	804,000	2,171,000	845,000	3,820,000
2027	804,000	2,171,000	845,000	3,820,000
2028	804,000	2,171,000	845,000	3,820,000
2029	804,000	2,171,000	845,000	3,820,000
2030	804,000	2,171,000	845,000	3,820,000
2031		2,407,000	1,328,000	3,735,000
2032		2,407,000	1,328,000	3,735,000
2033		2,407,000	1,328,000	3,735,000
2034		2,407,000	1,328,000	3,735,000
2035		2,407,000	1,328,000	3,735,000
2036		2,407,000	1,328,000	3,735,000
2037		2,407,000	1,328,000	3,735,000
2038		2,407,000	1,328,000	3,735,000
2039		2,407,000	1,328,000	3,735,000
2040		2,407,000	1,328,000	3,735,000
2041		2,407,000	1,328,000	3,735,000
2042		2,407,000	1,328,000	3,735,000
2043		2,407,000	1,328,000	3,735,000
2044		2,407,000	1,328,000	3,735,000
2045		2,407,000	1,328,000	3,735,000
2046		2,407,000	1,328,000	3,735,000
2047		2,407,000	1,328,000	3,735,000
2048		2,407,000	1,328,000	3,735,000
2049		2,407,000	1,328,000	3,735,000
2050		2,407,000	1,328,000	3,735,000
2051		2,407,000	1,328,000	3,735,000
2052		2,407,000	1,328,000	3,735,000
2053		2,407,000		2,407,000
2054		2,407,000		2,407,000
2055		2,407,000		2,407,000
2056		2,407,000		2,407,000
2057		2,407,000		2,407,000

# **Appendix D**

**Financial Projections with Additional State Revolving Fund Financing**

Table D-1  
City of Morro Bay  
Water Reclamation Facility Projected Funding Sources

SRF Scenario

	Total	% of Ttl	Water	% of Source	Wastewater	% of Source
<b>WRF Total Project Costs</b>	\$122,807,000		\$35,412,000	28.8%	87,395,000	71.2%
<b>Projected Funding Sources</b>						
WIFIA Loan	60,175,000	49.0%	17,352,000	28.8%	42,823,000	71.2%
SRF Planning Loan	10,300,000	8.5%	2,970,000	28.8%	7,330,000	71.2%
SRF Loan	22,400,000	18.5%	10,146,000	45.3%	14,054,000	62.7%
Sewer New Cash Funding	18,369,000	15.2%	0	0.0%	18,369,000	100.0%
Water New Cash Funding	4,700,000	3.9%	4,700,000	100.0%	0	0.0%
Prior Cash Contributions	<u>5,063,000</u>	<u>4.2%</u>	<u>244,000</u>	<u>4.8%</u>	<u>4,819,000</u>	<u>95.2%</u>
Total	121,007,000	99.3%	35,412,000	29.3%	87,395,000	72.2%

Table D-2 City of Morro Bay - Sewer Cash Flow Projections					SRF Scenario
Years 1 - 5	Projected				
	2017/18	2018/19	2019/20	2020/21	2021/22
Monthly Single Family Sewer Charge	\$70.00	\$77.00	\$83.00	\$83.00	\$83.00
Monthly Single Family Surcharge			\$20.00	\$20.00	\$20.00
Beginning Sewer Accounts	5,346	5,351	5,356	5,361	5,366
Growth: Single Family Equivalents	5	5	5	5	5
Growth %	-	0.1%	0.1%	0.1%	0.1%
Sewer Development Impact Fee	\$5,445	\$5,550	\$5,660	\$5,770	\$5,890
Interest Earnings Rate	1.25%	1.75%	2.0%	2.0%	2.0%
Cost Escalation			4.0%	4.0%	4.0%
<b>Beginning Fund Reserves</b>	\$6,402,000	\$8,112,000	\$8,251,000	\$8,438,000	\$8,541,000
<b>REVENUES</b>					
Sewer Service Charges	6,100,000	6,716,000	7,246,000	7,253,000	7,260,000
Sewer WRF Facility Surcharges	0	0	1,737,000	1,737,000	1,737,000
Development Impact Fees	30,000	28,000	28,000	29,000	29,000
Interest Earnings	80,000	142,000	165,000	169,000	171,000
Rental Income/Other (Excl Penalties)	25,000	30,000	30,000	30,000	30,000
Subtotal	6,235,000	6,916,000	9,206,000	9,218,000	9,227,000
<u>WRF Debt Financing</u>					
SRF Planning Loan		5,900,000	4,400,000		
WIFIA Loan			32,100,000	28,075,000	
SRF Loan				7,400,000	15,000,000
<b>EXPENSES</b>					
<b>Operating &amp; Maintenance</b>	<u>Estimated</u>	<u>Projected</u>			
Sewer Collection	1,100,000	1,480,000	1,539,000	1,601,000	1,665,000
Wastewater Treatment Existing	2,000,000	2,210,000	2,298,000	2,390,000	1,247,000
Wastewater Treatment New WRF	-	-	-	-	1,500,000
Conveyance to New WRF	-	-	-	-	140,000
Less Cayucos SD Reimbursements	(495,000)	(553,000)	(575,000)	0	0
Subtotal	2,605,000	3,137,000	3,262,000	3,991,000	4,552,000
<b>Debt Service</b>					
WIFIA Loan	-	-	-	-	-
SRF Loan	-	-	-	-	-
Less Water Share of WRF Debt	-	-	-	-	-
Subtotal	0	0	0	0	0
<b>Capital Improvements</b>					
Sewer Cash Contribution to WRF	840,000	2,390,000	4,707,000	4,074,000	7,198,000
Sewer System Pay-Go CIP	630,000	1,200,000	1,000,000	1,000,000	1,000,000
Vehicle/Equipment Replacement	450,000	50,000	50,000	50,000	50,000
Subtotal	1,920,000	3,640,000	5,757,000	5,124,000	8,248,000
Total Sewer Expenses	4,525,000	6,777,000	9,019,000	9,115,000	12,800,000
<b>Revenues Less Expenses</b>	1,710,000	139,000	187,000	103,000	(3,573,000)
Transfer to SRF Debt Service Reserves					(854,000)
<b>Ending Fund Reserves</b>	8,112,000	8,251,000	8,438,000	8,541,000	4,114,000
SRF Debt Service Reserves	0	0	0	0	854,000
Debt Service Coverage	-	-	-	-	-
<b>WRF Project Funding</b>					
Debt Financing	0	5,900,000	36,500,000	35,475,000	15,000,000
Sewer Cash Contribution	840,000	2,390,000	4,707,000	4,074,000	7,198,000
Water Cash Contribution	0	200,000	1,900,000	1,500,000	1,100,000
Total	840,000	8,490,000	43,107,000	41,049,000	23,298,000



Table D-2 City of Morro Bay - Sewer Cash Flow Projections					SRF Scenario
Years 6 - 10	Projected				
	2022/23	2023/24	2024/25	2025/26	2026/27
Monthly Residential Sewer Charge	\$83.00	\$85.00	\$87.00	\$90.00	\$92.00
Monthly Single Family WRF Surcharge	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00
Beginning Sewer Accounts	5,371	5,376	5,381	5,386	5,391
Growth: Single Family Equivalents	5	5	5	5	5
Growth %	0.1%	0.1%	0.1%	0.1%	0.1%
Sewer Development Impact Fee	\$6,010	\$6,130	\$6,250	\$6,380	\$6,510
Interest Earnings Rate	2.0%	2.0%	2.0%	2.0%	2.0%
Cost Escalation	4.0%	4.0%	4.0%	4.0%	4.0%
<b>Beginning Fund Reserves</b>	\$4,114,000	\$4,342,000	\$4,540,000	\$4,697,000	\$4,894,000
<b>REVENUES</b>					
Sewer Service Charges	7,267,000	7,449,000	7,631,000	7,901,000	8,084,000
Sewer WRF Facility Surcharges	1,737,000	1,737,000	1,737,000	1,737,000	1,737,000
Development Impact Fees	30,000	31,000	31,000	32,000	33,000
Interest Earnings	88,000	92,000	96,000	100,000	104,000
Rental Income/Penalties/Other	30,000	30,000	30,000	30,000	30,000
Subtotal	9,152,000	9,339,000	9,525,000	9,800,000	9,988,000
<u>WRF Debt Financing</u>					
SRF Planning Loan					
WIFIA Financing					
SRF Loan					
<b>EXPENSES</b>					
<b>Operating &amp; Maintenance</b>					
Sewer Collection	1,732,000	1,801,000	1,873,000	1,948,000	2,026,000
Wastewater Treatment Existing	0	0	0	0	0
Wastewater Treatment New WRF	2,682,000	2,789,000	2,901,000	3,017,000	3,138,000
Conveyance to New WRF	277,000	288,000	300,000	312,000	324,000
Less Cayucos SD Reimbursements	0	0	0	0	0
Subtotal	4,691,000	4,878,000	5,074,000	5,277,000	5,488,000
<b>Debt Service</b>					
WIFIA Loan	3,272,000	3,272,000	3,272,000	3,272,000	3,272,000
SRF Loan	1,561,000	1,561,000	1,561,000	1,561,000	1,561,000
Less Water Share of WRF Debt	(1,650,000)	(1,650,000)	(1,650,000)	(1,650,000)	(1,650,000)
Subtotal	3,183,000	3,183,000	3,183,000	3,183,000	3,183,000
<b>Capital Improvements</b>					
Sewer Cash Contribution to WRF	0	0	0	0	0
Sewer System Pay-Go CIP	1,000,000	1,030,000	1,061,000	1,093,000	1,126,000
Vehicle/Equipment Replacement	50,000	50,000	50,000	50,000	50,000
Subtotal	1,050,000	1,080,000	1,111,000	1,143,000	1,176,000
Total Expenses	8,924,000	9,141,000	9,368,000	9,603,000	9,847,000
<b>Revenues Less Expenses</b>	228,000	198,000	157,000	197,000	141,000
Transfer to SRF Reserve Req't					
<b>Ending Fund Reserves</b>	4,342,000	4,540,000	4,697,000	4,894,000	5,035,000
Ending SRF Debt Service Reserves	854,000	854,000	854,000	854,000	854,000
Debt Service Coverage	1.40	1.40	1.40	1.42	1.41
<b>WRF Project Funding</b>					
WRF Project: Debt Financed	0	0	0	0	0
WRF Project: Sewer Cash Contribution	0	0	0	0	0
WRF Project: Water Cash Contribution	0	0	0	0	0
Subtotal WRF Project	0	0	0	0	0

**Table D-3 City of Morro Bay - Water Cash Flow Projections**
**SRF Scenario**

Years 1 - 5	Projected				
	2017/18	2018/19	2019/20	2020/21	2021/22
Fixed Monthly Water Charge	\$28.00	\$30.00	\$32.00	\$32.00	\$32.00
Fixed Monthly Single Family WRF Surcharge			\$14.00	\$14.00	\$14.00
Water Rate Adjustment %		7.1%	6.7%	0.0%	0.0%
Growth: Single Family Equivalents	5	5	5	5	5
Growth %	0.1%	0.1%	0.1%	0.1%	0.1%
Change in Water Sales		0.0%	0.0%	0.0%	0.0%
Water Development Impact Fee	\$5,392	\$5,500	\$5,610	\$5,720	\$5,830
Interest Earnings Rate	1.25%	1.75%	2.0%	2.0%	2.0%
State Water Project Cost Escalation			4.0%	4.0%	4.0%
Operating Cost Escalation			4.0%	4.0%	4.0%
<b>Beginning Fund Reserves</b>	\$3,132,000	\$4,456,000	\$4,637,000	\$4,817,000	\$4,952,000
<b>REVENUES</b>	<u>Estimated</u>	<u>Projected</u>			
Water Service Charges	5,280,000	5,700,000	6,086,000	6,092,000	6,098,000
Water WRF Facility Surcharges	0	0	1,447,000	1,447,000	1,447,000
Development Impact Fees	30,000	28,000	28,000	29,000	29,000
Interest Earnings	39,000	78,000	93,000	96,000	99,000
Other (Excludes Penalties)	16,000	20,000	20,000	20,000	20,000
Subtotal	5,365,000	5,826,000	7,674,000	7,684,000	7,693,000
<b>EXPENSES</b>					
<b>Operating &amp; Maintenance</b>	<u>Estimated</u>	<u>Projected</u>			
Water System Operations	1,591,000	2,130,000	2,215,000	2,304,000	2,396,000
State Water Project Payments	1,535,000	1,595,000	1,659,000	1,725,000	1,794,000
Share of CCWA 2016 Bonds (Thru Oct-2021)	665,000	670,000	670,000	670,000	670,000
Recycled Water Operations	-	-	-	-	110,000
Subtotal	3,791,000	4,395,000	4,544,000	4,699,000	4,970,000
<b>Debt Service</b>					
WIFIA Loan: Water Share	-	-	-	-	-
SRF Loan: Water Share	-	-	-	0	0
Subtotal	0	0	0	0	0
<b>Capital Improvements</b>					
Water System Pay-Go CIP	250,000	1,000,000	1,000,000	1,300,000	1,800,000
Water Cash Contribution to WRF	0	200,000	1,900,000	1,500,000	1,100,000
Vehicle/Equipment Replacement	0	50,000	50,000	50,000	50,000
Subtotal	250,000	1,250,000	2,950,000	2,850,000	2,950,000
Total Expenses	4,041,000	5,645,000	7,494,000	7,549,000	7,920,000
<b>Revenues Less Expenses</b>	1,324,000	181,000	180,000	135,000	(227,000)
Transfer to SRF Debt Service Reserves					(707,000)
<b>Ending Fund Reserves</b>	4,456,000	4,637,000	4,817,000	4,952,000	4,018,000
SRF Debt Service Reserves	0	0	0	0	707,000
CCWA Bond Debt Service Coverage	1.72	1.63	2.34	2.25	2.11
City Debt Service Coverage	-	-	-	-	-

**Table D-3 City of Morro Bay - Water Cash Flow Projections**
**SRF Scenario**

Years 6 - 10	Projected				
	2022/23	2023/24	2024/25	2025/26	2026/27
Fixed Monthly Residential Water Charge	\$32.00	\$32.00	\$32.00	\$33.00	\$34.00
Fixed Monthly Single Family WRF Surcharge	\$14.00	\$14.00	\$14.00	\$14.00	\$14.00
Water Rate Adjustment %	0.0%	0.0%	0.0%	3.1%	3.0%
Growth: Single Family Equivalents	5	5	5	5	5
Growth %	0.1%	0.1%	0.1%	0.1%	0.1%
Change in Water Sales	0.0%	0.0%	0.0%	0.0%	0.0%
Water Development Impact Fee	\$5,950	\$6,070	\$6,190	\$6,310	\$6,440
Interest Earnings Rate	2.0%	2.0%	2.0%	2.0%	2.0%
State Water Project Cost Escalation	4.0%	4.0%	4.0%	4.0%	4.0%
Operating Cost Escalation	4.0%	4.0%	4.0%	4.0%	4.0%
<b>Beginning Fund Reserves</b>	\$4,018,000	\$3,827,000	\$4,054,000	\$4,072,000	\$4,058,000
<b>REVENUES</b>					
Water Service Charges	6,104,000	6,110,000	6,116,000	6,313,000	6,510,000
Water WRF Facility Surcharges	1,447,000	1,447,000	1,447,000	1,447,000	1,447,000
Development Impact Fees	30,000	30,000	31,000	32,000	32,000
Interest Earnings	86,000	82,000	87,000	87,000	87,000
Other (Excludes Penalties)	20,000	20,000	20,000	20,000	20,000
Subtotal	7,687,000	7,689,000	7,701,000	7,899,000	8,096,000
<b>EXPENSES</b>					
<b>Operating &amp; Maintenance</b>					
Water System Personnel	2,492,000	2,592,000	2,696,000	2,804,000	2,916,000
State Water Project Payments	1,866,000	1,941,000	2,019,000	2,100,000	2,184,000
Share of CCWA 2016 Bonds (Thru Oct-2021)	0	0	0	0	0
Recycled Water Operations	220,000	229,000	238,000	248,000	258,000
Subtotal	4,578,000	4,762,000	4,953,000	5,152,000	5,358,000
<b>Debt Service</b>					
WRF WIFIA Loan: Water Share	943,000	943,000	943,000	943,000	943,000
SRF Loan: Water Share	707,000	707,000	707,000	707,000	707,000
Subtotal	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000
<b>Capital Improvements</b>					
Water System Pay-Go CIP	1,600,000	1,000,000	1,030,000	1,061,000	1,093,000
Water Cash Contribution to WRF	0	0	0	0	0
Vehicle/Equipment Replacement	50,000	50,000	50,000	50,000	50,000
Subtotal	1,650,000	1,050,000	1,080,000	1,111,000	1,143,000
Total Expenses	7,878,000	7,462,000	7,683,000	7,913,000	8,151,000
<b>Revenues Less Expenses</b>	(191,000)	227,000	18,000	(14,000)	(55,000)
Transfer to SRF Reserve Req't					
<b>Ending Fund Reserves</b>	3,827,000	4,054,000	4,072,000	4,058,000	4,003,000
Ending SRF Debt Service Reserves	707,000	707,000	707,000	707,000	707,000
CCWA Bond Debt Service Coverage	-	-	-	-	-
Debt Service Coverage	1.88	1.77	1.67	1.66	1.66

# **Appendix E**

**Financial Projections with No Recycled Water**

Table E-1  
City of Morro Bay  
Water Reclamation Facility Project Cost Estimate

No Recycled Water Scenario

	Construction Costs <sup>1</sup>	Soft Costs	Project Reserves <sup>2</sup>	Total Cost
<b>Projected Capital Costs</b>				
<i>Includes permitting, design, procurement, construction, and management.</i>				
Water Reclamation Facility	\$55,970,000	\$7,675,000	\$2,799,000	\$66,444,000
Conveyance Facilities	21,086,000	2,820,000	2,343,000	26,249,000
General Program Implementation	<u>0</u>	<u>4,460,000</u>	<u>0</u>	<u>4,460,000</u>
Subtotal	77,056,000	14,955,000	5,142,000	97,153,000
Prior Project Expenditures	0	5,063,000		5,063,000
Total	77,056,000	20,018,000		102,216,000

Source: Carollo Engineers, WRF Program Revised Cost Estimates as of 6/20/18.

1 Construction costs Include estimated cost inflation to construction mid-point where applicable.

2 Project Reserves are placeholder estimates for additional project funding requirements (e.g. outside project scope) with funding subject to City control.

Table E-2  
City of Morro Bay  
Water Reclamation Facility Projected Funding Sources

No Recycled Water Scenario

	Total	% of Ttl	Water	% of Source	Wastewater	% of Source
<b>WRF Total Project Costs</b>	\$102,216,000		\$244,000	0.2%	101,972,000	99.8%
<b>Projected Funding Sources</b>						
WIFIA Loan	0	0.0%			0	100.0%
SRF Planning Loan	10,300,000	10.1%			10,300,000	100.0%
Revenue Bonds	73,800,000	72.2%			73,800,000	100.0%
Sewer New Cash Funding	13,053,000	12.8%			13,053,000	100.0%
Water New Cash Funding	0	0.0%			0	0.0%
Prior Cash Contributions	<u>5,063,000</u>	<u>5.0%</u>	<u>244,000</u>	<u>4.8%</u>	<u>4,819,000</u>	<u>95.2%</u>
Total	102,216,000	100.0%	244,000	0.2%	101,972,000	99.8%

**Table E-3 City of Morro Bay - Sewer Cash Flow Projections**
**No Recycling**

Years 1 - 5	Projected				
	2017/18	2018/19	2019/20	2020/21	2021/22
Monthly Single Family Sewer Charge	\$70.00	\$77.00	\$83.00	\$83.00	\$83.00
Monthly Single Family Surcharge			\$44.00	\$44.00	\$44.00
Beginning Sewer Accounts	5,346	5,351	5,356	5,361	5,366
Growth: Single Family Equivalents	5	5	5	5	5
Growth %	-	0.1%	0.1%	0.1%	0.1%
Sewer Development Impact Fee	\$5,445	\$5,550	\$5,660	\$5,770	\$5,890
Interest Earnings Rate	1.25%	1.75%	2.0%	2.0%	2.0%
Cost Escalation			4.0%	4.0%	4.0%
<b>Beginning Fund Reserves</b>	\$6,402,000	\$8,112,000	\$8,231,000	\$8,346,000	\$8,464,000
<b>REVENUES</b>					
Sewer Service Charges	6,100,000	6,716,000	7,246,000	7,253,000	7,260,000
Sewer WRF Facility Surcharges	0	0	3,828,000	3,828,000	3,828,000
Development Impact Fees	30,000	28,000	28,000	29,000	29,000
Interest Earnings	80,000	142,000	165,000	167,000	169,000
Rental Income/Other (Excl Penalties)	25,000	30,000	30,000	30,000	30,000
Subtotal	6,235,000	6,916,000	11,297,000	11,307,000	11,316,000
<u>WRF Debt Financing</u>					
SRF Planning Loan		4,500,000	5,800,000		
WIFIA Loan			0	0	
Bond Proceeds			23,800,000	33,200,000	16,800,000
<b>EXPENSES</b>					
<b>Operating &amp; Maintenance</b>	<u>Estimated</u>	<u>Projected</u>			
Sewer Collection	1,100,000	1,480,000	1,539,000	1,601,000	1,665,000
Wastewater Treatment Existing	2,000,000	2,210,000	2,298,000	2,390,000	1,247,000
Wastewater Treatment New WRF	-	-	-	-	1,500,000
Conveyance to New WRF	-	-	-	-	140,000
Less Cayucos SD Reimbursements	(495,000)	(553,000)	(575,000)	0	0
Subtotal	2,605,000	3,137,000	3,262,000	3,991,000	4,552,000
<b>Debt Service</b>					
SRF Planning Loan	-	-	-	1,130,000	1,130,000
WIFIA Loan	-	-	-	-	-
Revenue Bonds (structured around SRF)	-	-	2,082,000	4,164,000	4,164,000
Less Water Share of WRF Debt	-	-	-	0	0
Subtotal	0	0	2,082,000	5,294,000	5,294,000
<b>Capital Improvements</b>					
Sewer Cash Contribution to WRF	840,000	2,610,000	4,788,000	854,000	4,801,000
Sewer System Pay-Go CIP	630,000	1,000,000	1,000,000	1,000,000	1,000,000
Vehicle/Equipment Replacement	450,000	50,000	50,000	50,000	50,000
Subtotal	1,920,000	3,660,000	5,838,000	1,904,000	5,851,000
Total Expenses	4,525,000	6,797,000	11,182,000	11,189,000	15,697,000
<b>Revenues Less Expenses</b>	1,710,000	119,000	115,000	118,000	(4,381,000)
<b>Ending Fund Reserves</b>	8,112,000	8,231,000	8,346,000	8,464,000	4,083,000
Debt Service Coverage	-	-	3.86	1.38	1.28

**Table E-3 City of Morro Bay - Sewer Cash Flow Projections**
**No Recycling**

Years 6 - 10	Projected				
	2022/23	2023/24	2024/25	2025/26	2026/27
Monthly Residential Sewer Charge	\$83.00	\$85.00	\$87.00	\$90.00	\$92.00
Monthly Single Family WRF Surcharge	\$44.00	\$44.00	\$44.00	\$44.00	\$44.00
Beginning Sewer Accounts	5,371	5,376	5,381	5,386	5,391
Growth: Single Family Equivalents	5	5	5	5	5
Growth %	0.1%	0.1%	0.1%	0.1%	0.1%
Sewer Development Impact Fee	\$6,010	\$6,130	\$6,250	\$6,380	\$6,510
Interest Earnings Rate	2.0%	2.0%	2.0%	2.0%	2.0%
Cost Escalation	4.0%	4.0%	4.0%	4.0%	4.0%
<b>Beginning Fund Reserves</b>	\$4,083,000	\$4,290,000	\$4,467,000	\$4,603,000	\$4,778,000
<b>REVENUES</b>					
Sewer Service Charges	7,267,000	7,449,000	7,631,000	7,901,000	8,084,000
Sewer WRF Facility Surcharges	3,828,000	3,828,000	3,828,000	3,828,000	3,828,000
Development Impact Fees	30,000	31,000	31,000	32,000	33,000
Interest Earnings	87,000	91,000	95,000	98,000	101,000
Rental Income/Penalties/Other	30,000	30,000	30,000	30,000	30,000
Subtotal	11,242,000	11,429,000	11,615,000	11,889,000	12,076,000
<u>WRF Debt Financing</u>					
SRF Planning Loan					
WIFIA Financing					
Bond Financing					
<b>EXPENSES</b>					
<b>Operating &amp; Maintenance</b>					
Sewer Collection	1,732,000	1,801,000	1,873,000	1,948,000	2,026,000
Wastewater Treatment Existing	0	0	0	0	0
Wastewater Treatment New WRF	2,682,000	2,789,000	2,901,000	3,017,000	3,138,000
Conveyance to New WRF	277,000	288,000	300,000	312,000	324,000
Less Cayucos SD Reimbursements	0	0	0	0	0
Subtotal	4,691,000	4,878,000	5,074,000	5,277,000	5,488,000
<b>Debt Service</b>					
SRF Planning Loan	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000
WIFIA Financing	0	0	0	0	0
Revenue Bonds (structured around SRF)	4,164,000	4,164,000	4,164,000	4,164,000	4,164,000
Less Water Share of WRF Debt	0	0	0	0	0
Subtotal	5,294,000	5,294,000	5,294,000	5,294,000	5,294,000
<b>Capital Improvements</b>					
Sewer Cash Contribution to WRF	0	0	0	0	0
Sewer System Pay-Go CIP	1,000,000	1,030,000	1,061,000	1,093,000	1,126,000
Vehicle/Equipment Replacement	50,000	50,000	50,000	50,000	50,000
Subtotal	1,050,000	1,080,000	1,111,000	1,143,000	1,176,000
Total Expenses	11,035,000	11,252,000	11,479,000	11,714,000	11,958,000
<b>Revenues Less Expenses</b>	207,000	177,000	136,000	175,000	118,000
<b>Ending Fund Reserves</b>	4,290,000	4,467,000	4,603,000	4,778,000	4,896,000
Debt Service Coverage	1.24	1.24	1.24	1.25	1.24



**Table E-4 City of Morro Bay - Water Cash Flow Projections**
**No Recycling**

Years 1 - 5	Projected				
	2017/18	2018/19	2019/20	2020/21	2021/22
Fixed Monthly Water Charge	\$28.00	\$30.00	\$30.00	\$30.00	\$30.00
Fixed Monthly Single Family WRF Surcharge					
Water Rate Adjustment %		7.1%	0.0%	0.0%	0.0%
Growth: Single Family Equivalents	5	5	5	5	5
Growth %	0.1%	0.1%	0.1%	0.1%	0.1%
Change in Water Sales		0.0%	0.0%	0.0%	0.0%
Water Development Impact Fee	\$5,392	\$5,500	\$5,610	\$5,720	\$5,830
Interest Earnings Rate	1.25%	1.75%	2.0%	2.0%	2.0%
State Water Project Cost Escalation			4.0%	4.0%	4.0%
Operating Cost Escalation			4.0%	4.0%	4.0%
<b>Beginning Fund Reserves</b>	\$3,132,000	\$4,456,000	\$4,837,000	\$5,093,000	\$4,905,000
<b>REVENUES</b>	<u>Estimated</u>	<u>Projected</u>			
Water Service Charges	5,280,000	5,700,000	5,705,000	5,710,000	5,715,000
Water WRF Facility Surcharges	0	0	0	0	0
Development Impact Fees	30,000	28,000	28,000	29,000	29,000
Interest Earnings	39,000	78,000	97,000	102,000	98,000
Other (Excludes Penalties)	16,000	20,000	20,000	20,000	20,000
Subtotal	5,365,000	5,826,000	5,850,000	5,861,000	5,862,000
<b>EXPENSES</b>					
<b>Operating &amp; Maintenance</b>	<u>Estimated</u>	<u>Projected</u>			
Water System Operations	1,591,000	2,130,000	2,215,000	2,304,000	2,396,000
State Water Project Payments	1,535,000	1,595,000	1,659,000	1,725,000	1,794,000
Share of CCWA 2016 Bonds (Thru Oct-2021)	665,000	670,000	670,000	670,000	670,000
Recycled Water Operations	-	-	-	-	-
Subtotal	3,791,000	4,395,000	4,544,000	4,699,000	4,860,000
<b>Debt Service</b>					
SRF Planning Loan: Water Share	-	-	-	0	0
WRF WIFIA Loan: Water Share	-	-	-	-	-
WRF Revenue Bonds: Water Share	-	-	-	0	0
Subtotal	0	0	0	0	0
<b>Capital Improvements</b>					
Water System Pay-Go CIP	250,000	1,000,000	1,000,000	1,300,000	1,800,000
Water Cash Contribution to WRF	0	0	0	0	0
Vehicle/Equipment Replacement	0	50,000	50,000	50,000	50,000
Subtotal	250,000	1,050,000	1,050,000	1,350,000	1,850,000
Total Expenses	4,041,000	5,445,000	5,594,000	6,049,000	6,710,000
<b>Revenues Less Expenses</b>	1,324,000	381,000	256,000	(188,000)	(848,000)
<b>Ending Fund Reserves</b>	4,456,000	4,837,000	5,093,000	4,905,000	4,057,000
CCWA Bond Debt Service Coverage	1.72	1.63	1.56	1.49	1.41
City Debt Service Coverage	-	-	-	-	-

**Table E-4 City of Morro Bay - Water Cash Flow Projections**
**No Recycling**

Years 6 - 10	Projected				
	2022/23	2023/24	2024/25	2025/26	2026/27
Fixed Monthly Residential Water Charge	\$30.00	\$30.00	\$30.00	\$31.00	\$32.00
Fixed Monthly Single Family WRF Surcharge					
Water Rate Adjustment %	0.0%	0.0%	0.0%	3.3%	3.2%
Growth: Single Family Equivalents	5	5	5	5	5
Growth %	0.1%	0.1%	0.1%	0.1%	0.1%
Change in Water Sales	0.0%	0.0%	0.0%	0.0%	0.0%
Water Development Impact Fee	\$5,950	\$6,070	\$6,190	\$6,310	\$6,440
Interest Earnings Rate	2.0%	2.0%	2.0%	2.0%	2.0%
State Water Project Cost Escalation	4.0%	4.0%	4.0%	4.0%	4.0%
Operating Cost Escalation	4.0%	4.0%	4.0%	4.0%	4.0%
<b>Beginning Fund Reserves</b>	\$4,057,000	\$3,906,000	\$4,182,000	\$4,257,000	\$4,311,000
<b>REVENUES</b>					
Water Service Charges	5,720,000	5,725,000	5,730,000	5,926,000	6,123,000
Water WRF Facility Surcharges	0	0	0	0	0
Development Impact Fees	30,000	30,000	31,000	32,000	32,000
Interest Earnings	87,000	84,000	89,000	91,000	92,000
Other (Excludes Penalties)	20,000	20,000	20,000	20,000	20,000
Subtotal	5,857,000	5,859,000	5,870,000	6,069,000	6,267,000
<b>EXPENSES</b>					
<b>Operating &amp; Maintenance</b>					
Water System Operations	2,492,000	2,592,000	2,696,000	2,804,000	2,916,000
State Water Project Payments	1,866,000	1,941,000	2,019,000	2,100,000	2,184,000
Share of CCWA 2016 Bonds (Thru Oct-2021)	0	0	0	0	0
Recycled Water Operations	0	0	0	0	0
Subtotal	4,358,000	4,533,000	4,715,000	4,904,000	5,100,000
<b>Debt Service</b>					
SRF Planning Loan: Water Share	0	0	0	0	0
WRF WIFIA Loan: Water Share	0	0	0	0	0
WRF Revenue Bonds: Water Share	0	0	0	0	0
Subtotal	0	0	0	0	0
<b>Capital Improvements</b>					
Water System Pay-Go CIP	1,600,000	1,000,000	1,030,000	1,061,000	1,093,000
Water Cash Contribution to WRF	0	0	0	0	0
Vehicle/Equipment Replacement	50,000	50,000	50,000	50,000	50,000
Subtotal	1,650,000	1,050,000	1,080,000	1,111,000	1,143,000
Total Expenses	6,008,000	5,583,000	5,795,000	6,015,000	6,243,000
<b>Revenues Less Expenses</b>	(151,000)	276,000	75,000	54,000	24,000
<b>Ending Fund Reserves</b>	3,906,000	4,182,000	4,257,000	4,311,000	4,335,000
CCWA Bond Debt Service Coverage	-	-	-	-	-
Debt Service Coverage	-	-	-	-	-