



City of Morro Bay
Water Reclamation Facility Plan

Construction Plan
SPECIAL CONDITIONS NO. 2

FINAL | October 2019





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Abbreviations

BMPs	best management practices
BOD	biochemical oxygen demand
CCC	California Coastal Commission
CDP	Coastal Development Permit
City's	City of Morro Bay
CWA	Clean Water Act
DB	design-build
EIR	Environmental Impact Report
FBV	Filanc/Black & Veatch
mgd	million gallons per day
NOI	Notice of Intent
RWQCB	Regional Water Quality Control Board
TSS	total suspended solids
WRF	Water Reclamation Facility
WRF BDR	Water Reclamation Facility Basis of Design Report
WRF BODM	Water Reclamation Facility Basis of Design Memorandum
WRF SWPPP	Water Reclamation Facility Stormwater Pollution Prevention Plan
WRFCAC	Water Reclamation Facility Citizens Advisory Committee

Section 1

PROJECT BACKGROUND

On July 11, 2019, the California Coastal Commission (CCC) approved Coastal Development Permit (CDP) 3-19-0463 for the City of Morro Bay's (City's) Water Reclamation Facility (WRF) Project. On July 19, 2019, the City received the Notice of Intent (NOI) for the CDP, which contains sixteen special conditions. Four special conditions must be met prior to issuance of the CDP or prior to construction of the WRF including:

- Special Condition No. 1 - Final Plans and Specifications.
- Special Condition No. 2 - Construction Plan.
- Special Condition No. 6 - Recycled Water Management Plan.
- Special Condition No. 13 – Other Authorizations.

The existing Morro Bay-Cayucos wastewater treatment plant is located at 160 Atascadero Road in Morro Bay and is jointly owned and operated by the City of Morro Bay (City) and the Cayucos Sanitary District. The wastewater treatment plant was originally built in 1954 in a low-lying area near the confluence of Morro Creek with the Pacific Ocean, and it provides wastewater treatment services to the City and to the unincorporated community of Cayucos approximately six miles to the north. The wastewater treatment plant was built before modern state and federal water quality standards, and does not meet federal Clean Water Act (CWA) standards for full secondary treatment. Instead, the wastewater treatment plant has been operating under a CWA waiver for full secondary treatment requirements for biochemical oxygen demand (BOD) and total suspended solids (TSS) since 1984. In 2018, the City received a time schedule order from the Central Coast Regional Water Quality Control Board (RWQCB) requiring compliance with full CWA secondary treatment requirements by February 28, 2023.

Because of the age of the existing wastewater treatment plant, its failure to meet core CWA water quality standards and the possibility of potential fines/penalties for failure to meet the RWQCB's mandate for CWA compliance by 2023, the City has been pursuing a new upgraded wastewater treatment facility for more than a decade. The City and the Cayucos Sanitary District initially proposed to redevelop the wastewater treatment plant at its current site, but the Coastal Development Permit (CDP) was appealed to the California Coastal Commission (CCC), and ultimately in 2013, the CCC denied the City's redevelopment-in-place proposal on the basis of inconsistencies regarding avoiding coastal hazards, land use priorities, recycled water provisions and public view protections.

Following the CDP denial and given the CCC's direction to the City and the Cayucos Sanitary District on the appropriate path to upgraded wastewater and water reclamation functions, the City developed a Water Reclamation Facility Citizens Advisory Committee (WRFCAC), identified 17 potential sites for plant relocation, and developed criteria for a potential water reclamation facility project, including coastal hazards avoidance through plant relocation inland, water quality improvement through compliance with applicable water quality standards, and water supply security through recycled water provision. Over the past six and a half years, through

significant public input that shaped this project, including making critical decisions in public forums regarding WRF siting (e.g., in town vs. outside of town), components/operations, recycled water end uses (e.g., agricultural uses only or full potable reuse), funding (e.g., through two City-wide votes to raise utility fees to pay for the project), and process (i.e., two public hearings to approve the project Environmental Impact Report and two affirmative votes by the Morro Bay City Council and County Board of Supervisors to authorize a consolidated CDP approval process).

This proposed Project meets Coastal Act consistency on many fronts—for the protection and enhancement of coastal resources, for providing essential public services to Morro Bay residents and visitors, and for providing adaptation and resiliency in an era of increased hazards exacerbated by climate change. The Commission directed the City to propose a project of this type back in 2013, finding that a project that perpetuated the City's water and wastewater status quo was not appropriate or consistent with the Coastal Act. The City responded to the CCC's directive, and the proposed project is the end result that addresses the Coastal Act concerns previously raised by the CCC in a way that provides a more sustainable wastewater and water supply future for the City.

Section 2

PROJECT COMPONENTS

The City's WRF project involves replacing the City's existing wastewater treatment plant with an advanced water purification facility that will meet state regulations, protect the environment, and contribute a safe and reliable water source for Morro Bay's homes and businesses. The project will create a drought buffer and will be capable of providing up to 80 percent of the City's water needs in the future.

The Project includes construction of a new one million gallon per day (mgd) advanced treatment facility on South Bay Boulevard north of Highway 1, two new lift stations, approximately 3.5 miles of pipelines and wells to inject the purified water into the groundwater aquifer, which can be extracted for reuse through the City's existing infrastructure. The current schedule includes construction beginning in 2019 and project completion by 2023.

Section 3

DOCUMENT PURPOSE

This document describes the proposed measures to be taken by the City to address the requirements of Special Conditions No. 2 – Construction Plan listed in the NOI to Issue CDP 3- 19- 0463 for the City's WRF Project.

The City is taking a phased approach to meeting Special Condition No. 1 for the CDP. As described above, the Project is being delivered via three distinct construction efforts: WRF,

Conveyance Facilities (i.e., pipelines and pump stations), and Recycled Water Facilities (i.e., injection wells). The Final Plans and Specifications described herein are specific to the WRF, which will begin construction in October 2019. Following the WRF, the next Project element that will begin construction is the Conveyance Facilities. The City will submit the Conveyance Facilities Final Plans and Specifications to the Executive Director for review and approval in the spring of 2020. The City will submit separate Recycled Water Facilities Final Plans and Specifications to the Executive Director at the appropriate time when that design has been completed. Construction of the Conveyance Facilities and Recycled Water Facilities will not begin until the Executive Director reviews and approves the designs and authorizes construction.

Section 4

REFERENCE DOCUMENTS

The following documents are referenced in the Special Conditions 1 Report.

1. Costal Development Permit Plans from Filanc/Black & Veatch (FBV) dated July 30, 2019 (Plans).
2. Basis of Design Memorandum from FBV dated May 02, 2019 (WRF BODM)
3. Morro Bay Water Reclamation Facility Draft Environmental Impact Report dated March 2018 (EIR)
4. Morro Bay Water Reclamation Facility Hydrology Report and Post Construction Stormwater Control Plan dated 31 July 31, 2019 (WRF Hydrology Report)
5. Stormwater Pollution Prevention Plan for Morro Bay Water Reclamation Facility dated June 21, 2019 (WRF SWPPP)

Section 5

WRF CONSTRUCTION PLAN

The following Construction Plan is specific to the WRF, and it addresses each requirement in Special Condition No. 2.

5.1 Grading

Figure 1 – WRF Grading Plan, sheets 10-C-002, 10-C-101, 10-C-102, 10-C-103, and 10-C-104 of the Plans, shows the site grading plan for the WRF. The grading of the WRF site will minimize impacts to the natural drainage patterns and surrounding landscapes. Table 1 shows the onsite grading design criteria outlined in the WRF Basis of Design Memorandum that will be followed during construction. The site rough grading will excavate the existing topography to an elevation approximately 1 foot below the finished grade. Figure 2 – WRF Civil Paving Plan, sheets 11-C-001, 11-C-101, 11-C-102, 11-C-103, 11-C-104, and 11-C-105; and Figure 3 WRF Landscape Exhibit, sheet 11-C-001 show the finished grade elevations of the pavement, crushed rock, and

landscaped areas of the WRF Site. Figure 1 shows the grading of permanent stormwater detention basins to capture site stormwater runoff. Earthwork fill volume is balanced onsite by utilizing the northwest hillside fill area as shown on sheets 10-C-002, 10-C-101, 10-C-102, 10-C-103, and 10-C-104 (Figure 1). This area can be cut or filled as needed to balance final earthwork quantities during construction. Figure 4 - Site Civil Sections, sheets 10-C-301 and 10-C-302 in the Plans, includes profiles that show the depths of excavation for the finished grade and over excavation for WRF structure foundations.

Table 1 On-Site Grading Design Criteria

Grading Element	Design Criteria
Building Access Area	2% or less
Operational Maneuvering Areas	4% or less
Cross Slope on Roads	5% or less (preferably 4%)
Running Slope on Site Roads	8% or less
Graded Slopes	2:1 slopes
Slopes in Detention Basins	3: 1 slopes

5.2 Construction Areas

Figure 5 – Construction Area, sheets 10-C-001 and 10-C-101 of the Plans, shows the limits of the project construction activities. Construction activities will not encroach or affect areas outside of these limits. The grading limits shown on sheet 10-C-001 is the same as the 15-acre development envelope for the project. The construction trailer and laydown area are shown in Figure 1 on sheets 10-C-001 and 10-C-101. Figure 6 – Water Pollution Control Drawings, sheets WPCD-1, WPCD-2, WPCD-3, WPCD-4, WPCD-5, WPCD-6, and WPCD show that the construction trailer and laydown will have fiber rolls and a perimeter silt fence storm water best management practices (BMPs) installed to protect the existing surrounding area from stormwater runoff from the site. Figure 6 shows the stormwater BMPs that will be installed and maintained throughout construction activities for the entire WRF site. The entire work zone shown in Figure 5 will have a silt fence perimeter and all exposed slopes will be protected with fiber rolls and drain outlet protection. Sheets 10-C-101 through 10-C-103¹ in Figure 1 show a 50 foot offset from the stream bank just south of the WRF Site, the design-build (DB) team will not encroach within 50 feet of the top of the stream bank during construction activities. Any storm runoff from the site that drains into the adjacent creek will be converted to sheet flow via outlet drain rip-rap and will pass through a perimeter silt fence to filter sediment.

5.3 Construction Methods and Timing

As stated above, construction will not be performed within 50 feet of the top of the bank of the dry creek east of the WRF site shown in Figure 1, and Figure 6 shows the BMPs that will be used to prevent stormwater pollution.

¹ The Coastal Development Permit Plans incorrectly identifies the 50-foot offset as being a buffer to a wetland area. This note will be corrected in the Final Plans to correctly identify it as a 50-foot buffer from the top of the stream bank.

No mitigation is needed for direct or reflective glare at nighttime from construction lighting. Construction activities will take place during normal working hours and nighttime work is not anticipated for construction of the WRF.

5.4 Traffic Control Plan

Figure 5 shows the location of the WRF site on sheets 10-C-001 and 10-C-101. The Project construction limits are not within any public roads, so public roads will not be directly impacted during construction of the WRF. Consequently, no traffic control plans will be required for WRF construction activities. The only impact to traffic is shown on sheet 2 in Figure 6 from occasional street sweeping on South Bay Boulevard directly North of Highway 1 to clean-up any tracked soil developed by vehicles entering and exiting the construction site. The construction site entrance will be furnished with a stabilized crushed rock entrance to mitigate any increased erosion or soil tracking.

5.5 Property Owner's Consent

Any utility easements, existing easements, and property lines are shown on Figure 2. Temporary Construction easement for construction trailers and laydown areas are also shown on sheets 11-C-101 through 11-C-105 of Figure 2. Crossing private property is not required to enter the site. Figure 2 sheet 11-C-001 shows access is provided off of public right of way at South Bay Boulevard.

5.6 Best Management Practices

Figure 6 shows the construction stormwater BMP's that are to be used in the WRF construction. The entire construction area will have a perimeter silt fence. All exposed slopes will have fiber rolls installed and areas that have outlet drains to slopes will be protected with rip rap to introduce pipe flow to sheet flow to eliminate hillside erosion. The material stockpile, construction trailer, and laydown area will have a silt fence perimeter installed. The material stockpile area will have a fiber roll perimeter installed during construction. Occasional street sweeping on South Bay Boulevard directly North of Highway 1 to clean-up any tracked soil developed by vehicles entering and exiting the construction site. As outlined in the WRF SWPPP, Temporary BMP WE-1 will monitor and control airborne dust. Use of water trucks or sprinklers will be used whenever wind speeds exceed 15 mph and whenever dust is present from construction activities. Dust control from the material stock pile area and exposed hill sides will be accomplished from water application and from BMP EC-5 - soil binders.

5.7 Post-Construction

Figure 3 shows areas that are to be hydroseeded and landscaped on the WRF site. There are no existing roads or sidewalks within the construction limits for the WRF. The site is currently undeveloped and BMPs are in place to protect surrounding areas and the construction site from construction runoff as described in Figure 6. Figure 1, sheets 10-C-101 through 10-C-104 shows the hillside that will be excavated at the WRF will have permanent concrete swales constructed to route stormwater around and beneath the site and to be reintroduced as sheet flow via discharge spreaders located on the eastern slope of the WRF.

5.8 Construction Site Documents

A signed copy of the CDP and approved Construction Plan will be available at the WRF construction site at all times during construction and will be made available to all members of the DB team. A public copy of the signed CDP and approved construction plan will be made available for review at the City of Morro Bay Public Works Office located at 955 Shasta Avenue, Morro Bay, CA 93442. A signed copy of the CDP and approved construction plan will be provided and maintained for record at the California Coastal Commission's Central Coast Office located at 725 Front Street #300, Santa Cruz, CA 95060. The City will also make both the signed CDP and approved Construction Plan on the Project website (www.morrobaywrf.com).

5.9 Construction Manager

The City of Morro Bay has retained a construction oversight lead as a member of the Program Management team for the Project who will oversee the DB team's efforts and act as the main point of contact for the Project and be lead coordinator for correspondence with regards to the Project. The construction oversight lead will be present onsite for all construction activities for the WRF. The construction oversight lead will be available 24 hours a day during the duration of construction. If any complaints or inquiries are received by the construction oversight lead, the contact information shall be recorded and investigate the complaints. Any critical or significant complaints will be reported to the Executive Director as soon as possible. A summary of any complaints and related actions will be provided to the Executive Director on a weekly basis. The contact information for the construction oversight lead is:

Stephen Mimiaga, P.E.

Mimiaga Engineering Group (subconsultant to Carollo Engineers, Inc.)

smimiaga@mimiaga-engineering.com

(805) 231-1502

5.10 Notifications

The DB team and the City will notify the Coastal commission a minimum of three (3) working days in advance of construction and immediately upon completion of construction.

FIGURE 1 - GRADING PLAN

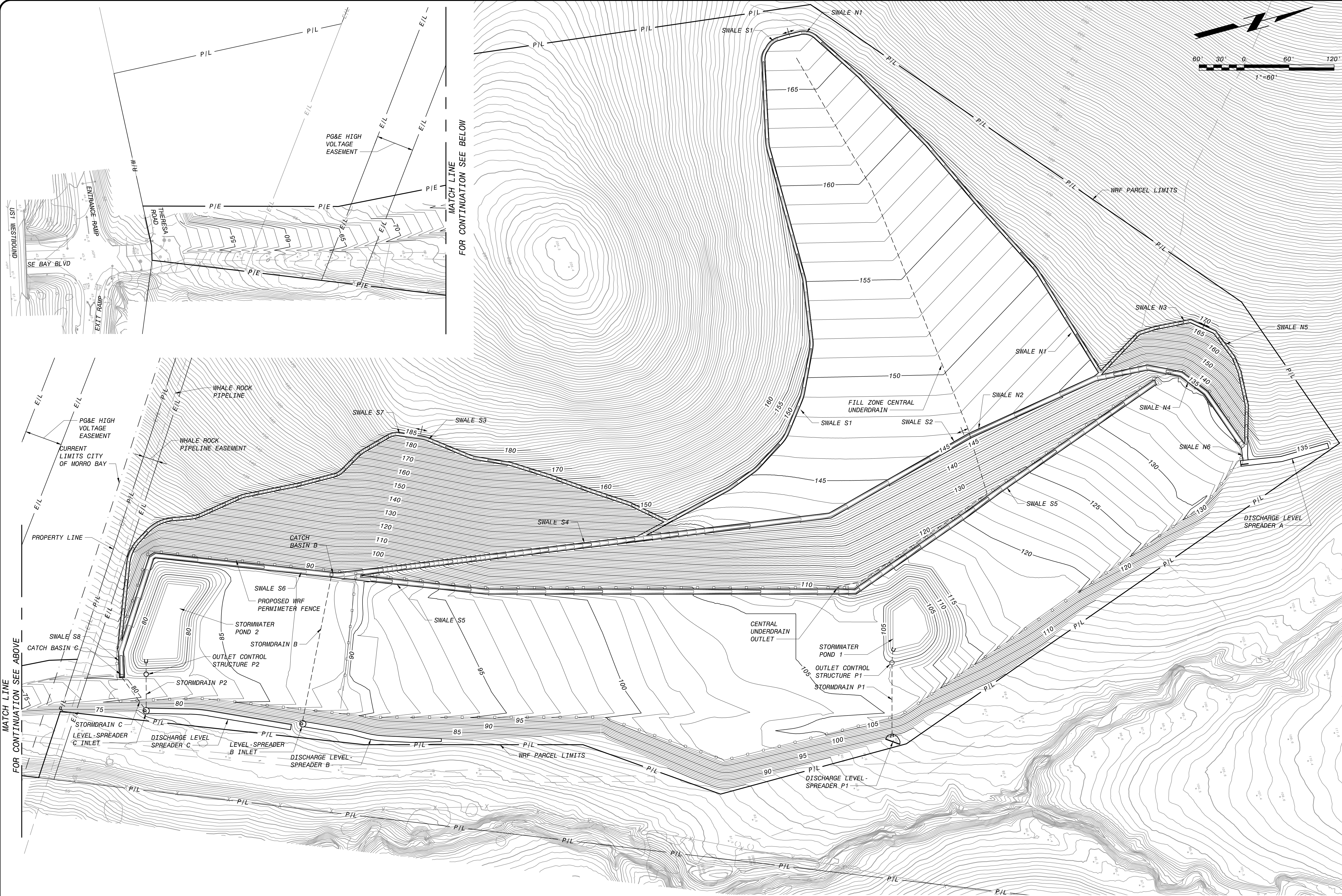


FIGURE 1 - GRADING PLAN

COASTAL DEVELOPMENT PERMIT PLANS


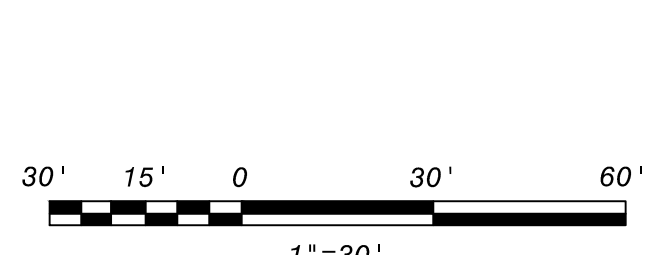
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FIGURE 1 - GRADING PLAN

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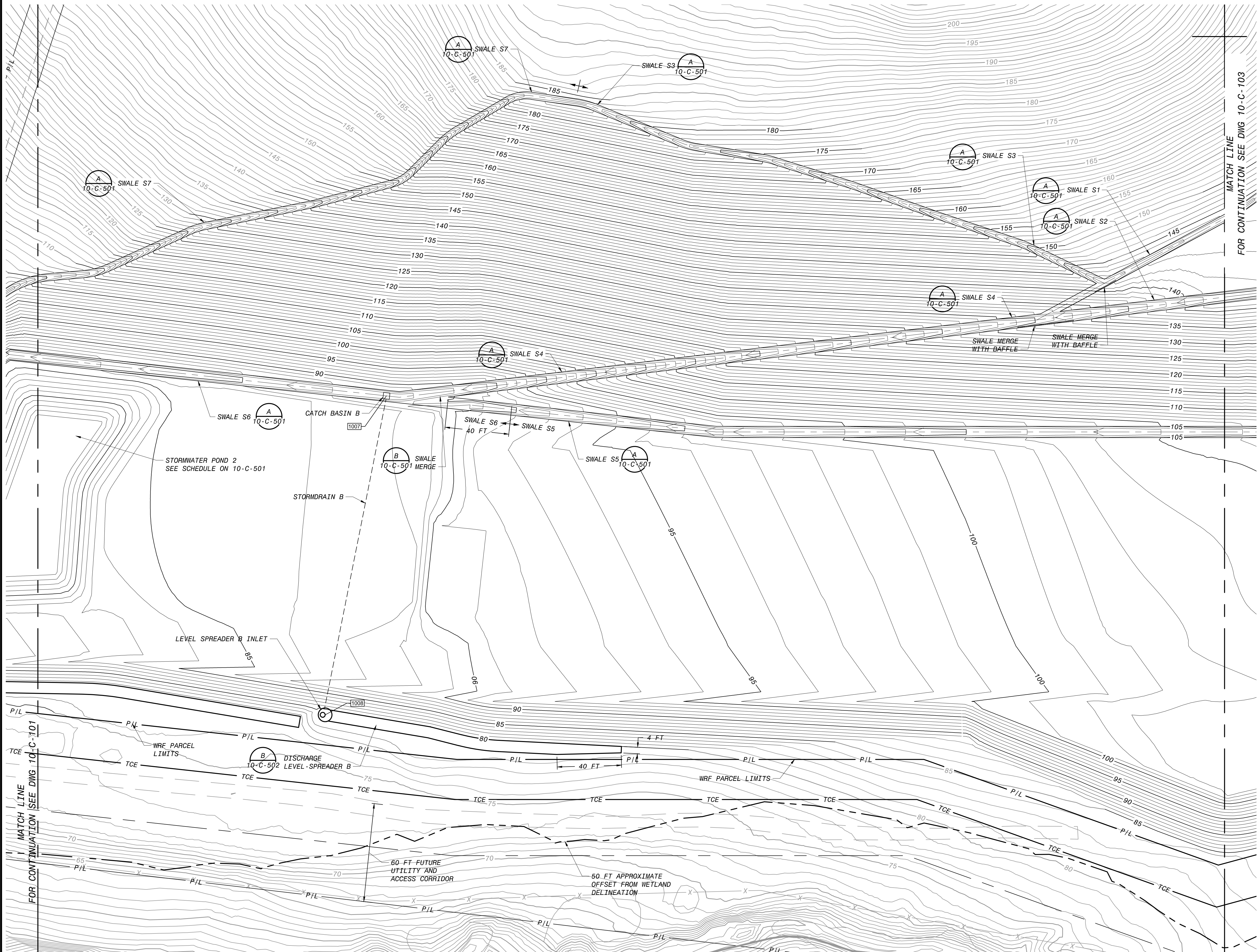
- NOTES:
1. THE WRF PLANT AREA GRADE IS SHOWN APPROXIMATELY 1 FT LOWER THAN FINISHED GRADE. THAT GRADE WILL BE FINISHED PER THE GRADING AND PAVING DRAWINGS. ALL OTHER GRADES ON THIS DRAWING ARE FINISHED GRADES.
 2. THE TOP OF THE HILLSIDE FILL AREA IS SHOWN FOR BALANCED SITE. THIS AREA CAN BE LOWERED OR RAISED AS NEEDED TO ADJUST FINAL FILL QUANTITY. CONSULT WITH ENGINEERING FOR DETAILS.
 3. SEE DETAIL SHEETS FOR CONSTRUCTION DETAILS ON SWALES, CULVERTS, CATCH BASINS, INLETS, CONTROL STRUCTURES, HEADWALLS, OUTLETS, AND DISCHARGE LEVEL SPREADERS.
 4. NOTE NOT USED.
 5. FILL ZONES SHALL BE BENCHED INTO BEDROCK AND DRAIN PIPING SHALL BE INSTALLED PER THE REQUIREMENTS IN THE GEOTECHNICAL REPORT.



CITY OF MORRO BAY MORRO BAY WATER RECLAMATION FACILITY (WRF)		SITE - AREA 1 CIVIL SITE PREP GRADING AND DRAINAGE PLAN	
DESIGNED: EVB		PROJECT NO. 400530	
DETAILED: SIM		10-C-101	
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APPROVED:		OF	
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- NOTES:
1. THE WRF PLANT AREA GRADE IS SHOWN APPROXIMATELY 1 FT LOWER THAN FINISHED GRADE. THAT GRADE WILL BE FINISHED PER THE GRADING AND PAVING DRAWINGS. ALL OTHER GRADES ON THIS DRAWING ARE FINISHED GRADES.
 2. THE TOP OF THE HILLSIDE FILL AREA IS SHOWN FOR BALANCED SITE. THIS AREA CAN BE LOWERED OR RAISED AS NEEDED TO ADJUST FINAL FILL QUANTITY. CONSULT WITH ENGINEERING FOR DETAILS.
 3. SEE DETAIL SHEETS FOR CONSTRUCTION DETAILS ON SWALES, CULVERTS, CATCH BASINS, INLETS, CONTROL STRUCTURES, HEADWALLS, OUTLETS, AND DISCHARGE LEVEL SPREADERS.
 4. NOTE NOT USED.
 5. FILL ZONES SHALL BE BENCHED INTO BEDROCK AND DRAIN PIPING SHALL BE INSTALLED PER THE REQUIREMENTS IN THE GEOTECHNICAL REPORT.

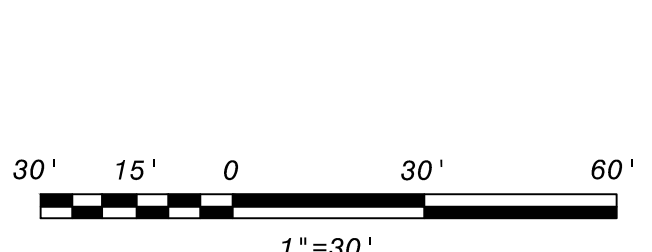


FIGURE 1 - GRADING PLAN

COASTAL DEVELOPMENT PERMIT PLANS

BLACK & VEATCH		JOINT VENTURE		FILANC	
CITY OF MORRO BAY MORRO BAY WATER RECLAMATION FACILITY (WRF)		SITE - AREA 2 CIVIL		SITE PREP GRADING DRAINAGE PLAN	
DESIGNED: EVB DETAILED: SMH CHECKED: APPROVED: DATE:					
0 15' 30' 45' 60' IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE					
PROJECT NO. 400530					
10-C-102 SHEET OF					

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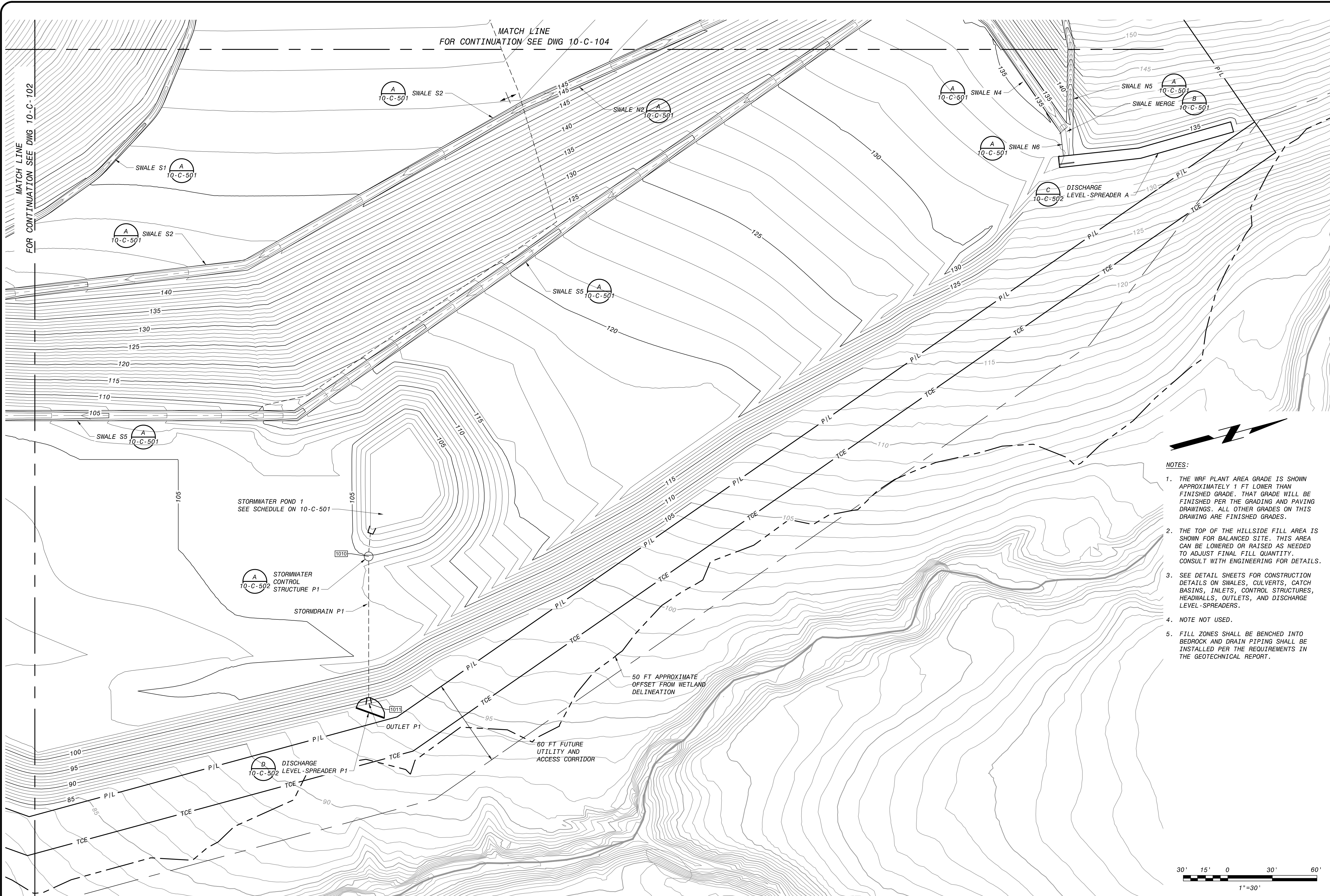


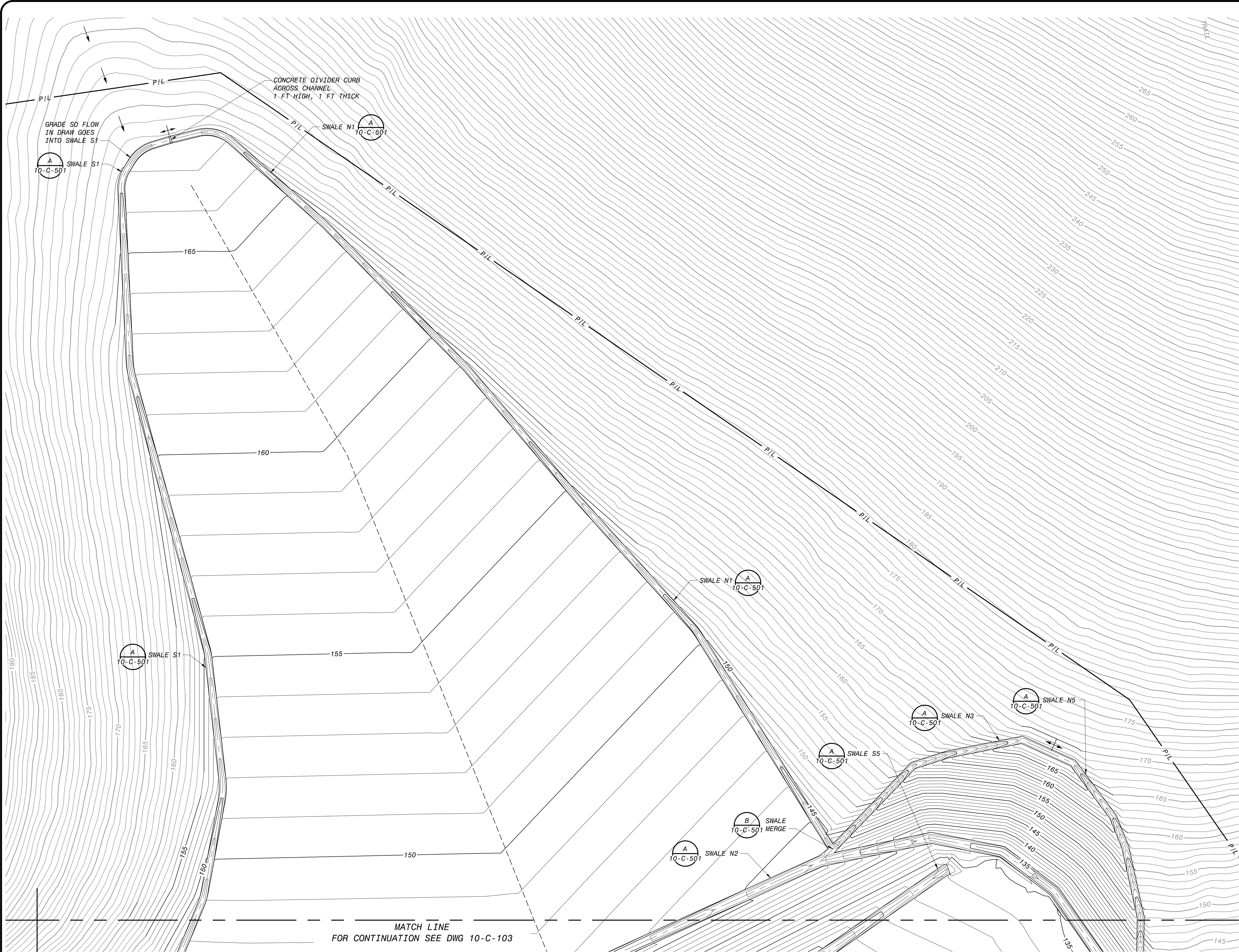
FIGURE 1 - GRADING PLAN

COASTAL DEVELOPMENT PERMIT PLANS

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 4. NOTE NOT USED.
 5. FILL ZONES SHALL BE BENCHED INTO BEDROCK AND DRAIN PIPING SHALL BE INSTALLED PER THE REQUIREMENTS IN THE GEOTECHNICAL REPORT.

DESIGNED: EVB	
DETAILED: SIM	
CHECKED:	
APPROVED:	
DATE:	
0 1/2 1	
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
PROJECT NO. 400530	
10-C-103	
SHEET OF	
CITY OF MORRO BAY MORRO BAY WATER RECLAMATION FACILITY (WRF)	
SITE - AREA 3 CIVIL SITE PREP GRADING DRAINAGE PLAN	
BLACK & VEATCH JOINT VENTURE FILANC	
7/30/2019 60% SUBMITTAL	DATE
B EVB RTB EVB	NO. BY CHK APP
REVIEWS AND RECORD OF USE	

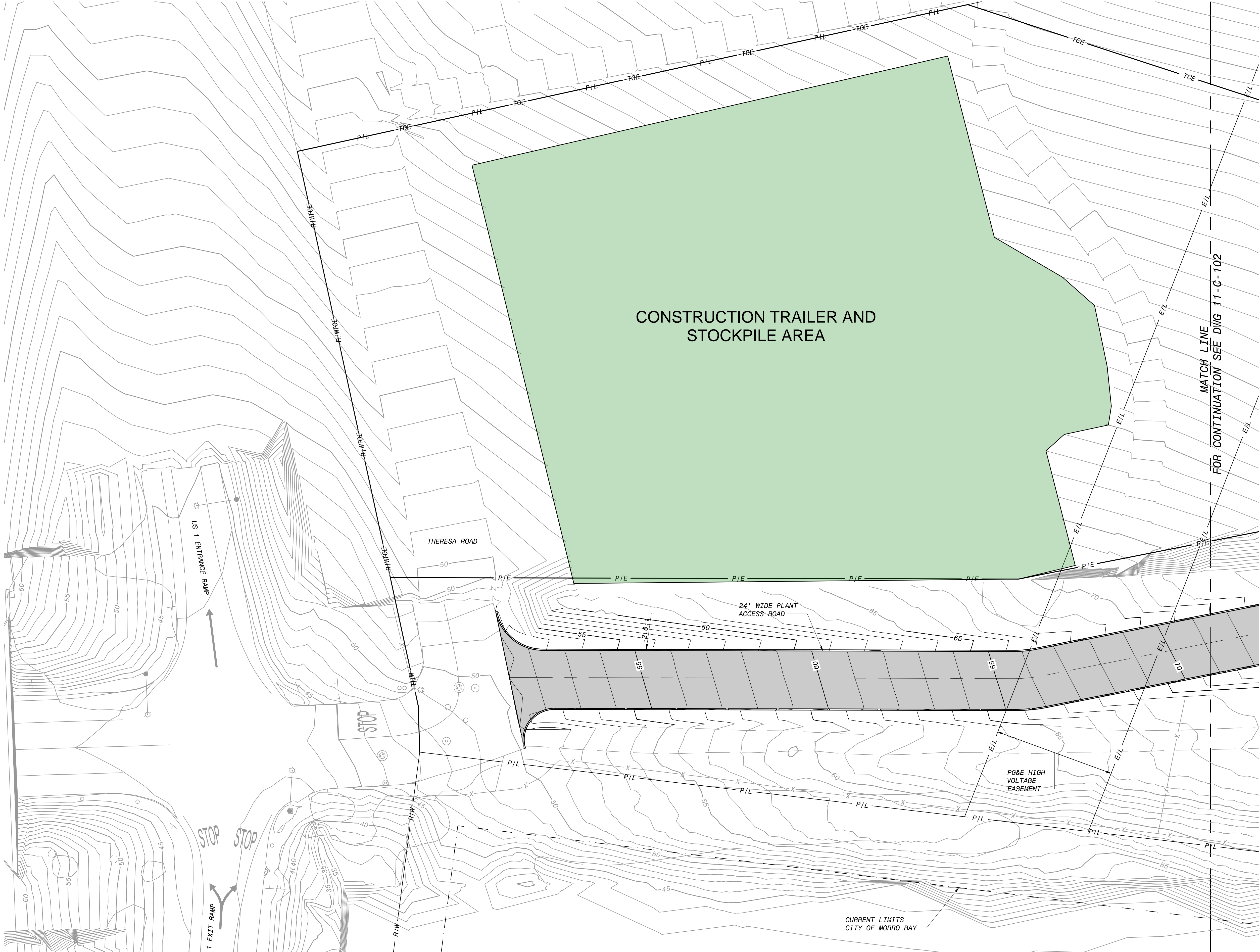
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DETAILED: SIM			
CHECKED:			
APPROVED:			
DATE:		DATE	
0 1/2 1		DATE	
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE		DATE	
PROJECT NO. 400530		DATE	
10-C-104 SHEET OF		DATE	
CITY OF MORRO BAY MORRO BAY WATER RECLAMATION FACILITY (WRF)		DATE	
SITE - AREA 4 CIVIL SITE PREP GRADING DRAINAGE PLAN		DATE	
JOINT VENTURE		DATE	
BLACK & VEATCH		DATE	
FILANC		DATE	
BLACK & VEATCH		DATE	
REV		DATE	
NO.		DATE	
BY		DATE	
CHK		DATE	
APP		DATE	
B		DATE	
EVB		DATE	
RTB		DATE	
EVB		DATE	

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NOTES:

1. OFFSITE AND HILLSIDE DRAINAGE IS CAPTURED VIA PERIMETER SWALES AND DIVERTED AROUND THE WRF PLANT SITE. THIS IS DONE TO SEGREGATE UNDEVELOPED AREA FLOWS FROM DEVELOPED WRF AREA FLOWS TO BETTER CONTROL STORMWATER QUALITY AND FLOW. SEE SITE PREPARATION DRAWINGS (AREA 10) AND DRAINAGE REPORT FOR DETAILS ABOUT THIS SYSTEM.
2. WRF PLANT AREA STORMWATER PONDS AND OUTLET CONTROL STRUCTURES ARE TO BE CONSTRUCTED WITH EARLY (SITE PREPARATION) WORK. SEE SITE PREPARATION DRAWINGS (AREA 10) AND DRAINAGE REPORT FOR DETAILS ABOUT THIS SYSTEM.
3. SEE STRUCTURAL DRAWINGS FOR SPECIFIC LOCATION OF INDICATED BUILDING COORDINATE POINTS.
4. ADA ACCESS ZONE. SLOPE PAVING FROM 1/4" BELOW INTERIOR ELEVATION AWAY AT NO MORE THAN 2% FOR 60" OUTWARD FROM BUILDING AND 42" FROM BOTH SIDES OF DOOR.
5. VEHICLE ACCESS ZONE. SLOPE PAVING FROM 1/4" BELOW INTERIOR ELEVATION AWAY AT NO MORE THAN 5% FOR 60" OUTWARD FROM BUILDING.

MATCH LINE
FOR CONTINUATION SEE DWG 11-C-102

FIGURE 2 - CIVIL PAVING PLAN

COASTAL DEVELOPMENT PERMIT PLANS



JOINT VENTURE



CITY OF MORRO BAY
MORRO BAY WATER
RECLAMATION FACILITY (WRF)

SITE - ACCESS ROAD AREA
CIVIL
GRADING AND PAVING PLAN

DESIGNED: EVB
DETAILED: SIM
CHECKED:
APPROVED:
DATE:

0 1/2 1
IF THIS BAR DOES NOT
MEASURE 1" THEN DRAWING IS
NOT TO FULL SCALE

PROJECT NO.
400530

11-C-101
SHEET
OF

REVISIONS AND RECORD OF USE

DATE

7/30/2019

60% SUBMITTAL

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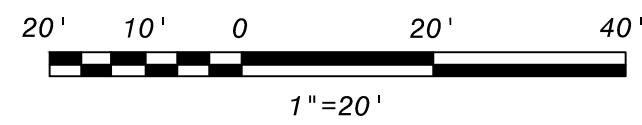
NO. BY CHK APP

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NO. BY CHK APP

FIGURE 2 - CIVIL PAVING PLAN

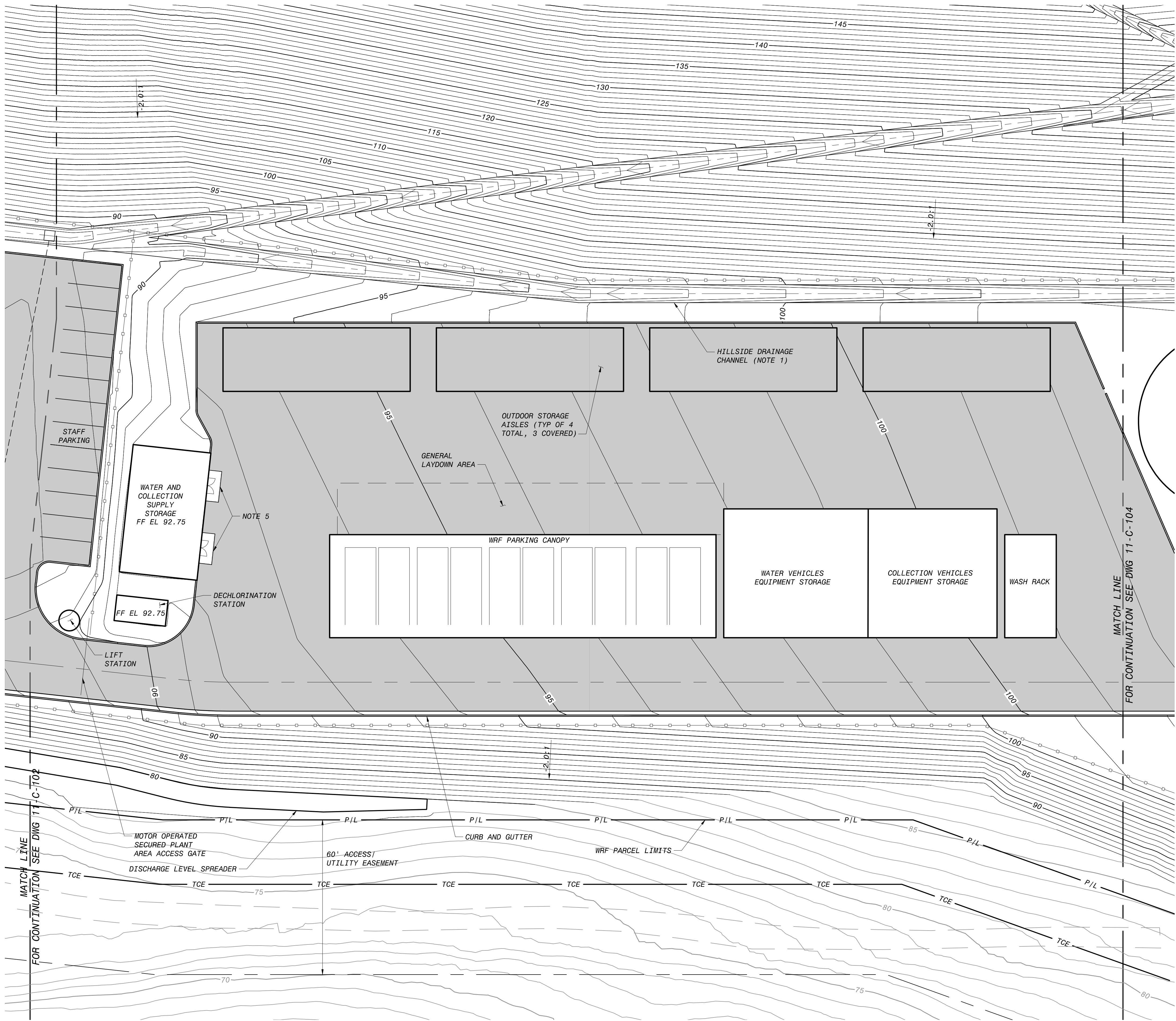


NOTES:

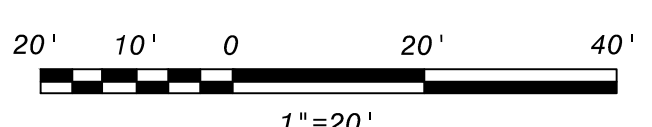
1. OFFSITE AND HILLSIDE DRAINAGE IS CAPTURED VIA PERIMETER SWALES AND DIVERTED AROUND THE WRF PLANT SITE. THIS IS DONE TO SEGREGATE UNDEVELOPED AREA FLOWS FROM DEVELOPED WRF AREA FLOWS TO BETTER CONTROL STORMWATER QUALITY AND FLOW. SEE SITE PREPARATION DRAWINGS (AREA 10) AND DRAINAGE REPORT FOR DETAILS ABOUT THIS SYSTEM.
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5. VEHICLE ACCESS ZONE. SLOPE PAVING FROM 1/4" BELOW INTERIOR ELEVATION AWAY AT NO MORE THAN 5% FOR 60" OUTWARD FROM BUILDING.

CITY OF MORRO BAY MORRO BAY WATER RECLAMATION FACILITY (WRF)		JOINT VENTURE BLACK & VEATCH FILANC	
SITE - SOUTH OPERATIONS AREA CIVIL GRADING AND PAVING PLAN		REVISIONS AND RECORD OF USE	
DESIGNED: EVB DETAILED: SIMM CHECKED: APPROVED: DATE:		NO. BY CHK APP	
PROJECT NO. 400530		DATE	
11-C-102 SHEET OF		7/30/2019 60% SUBMITTAL	

FIGURE 2 - CIVIL PAVING PLAN



- NOTES:
1. OFFSITE AND HILLSIDE DRAINAGE IS CAPTURED VIA PERIMETER SWALES AND DIVERTED AROUND THE WRF PLANT SITE. THIS IS DONE TO SEGREGATE UNDEVELOPED AREA FLOWS FROM DEVELOPED WRF AREA FLOWS TO BETTER CONTROL STORMWATER QUALITY AND FLOW. SEE SITE PREPARATION DRAWINGS (AREA 10) AND DRAINAGE REPORT FOR DETAILS ABOUT THIS SYSTEM.
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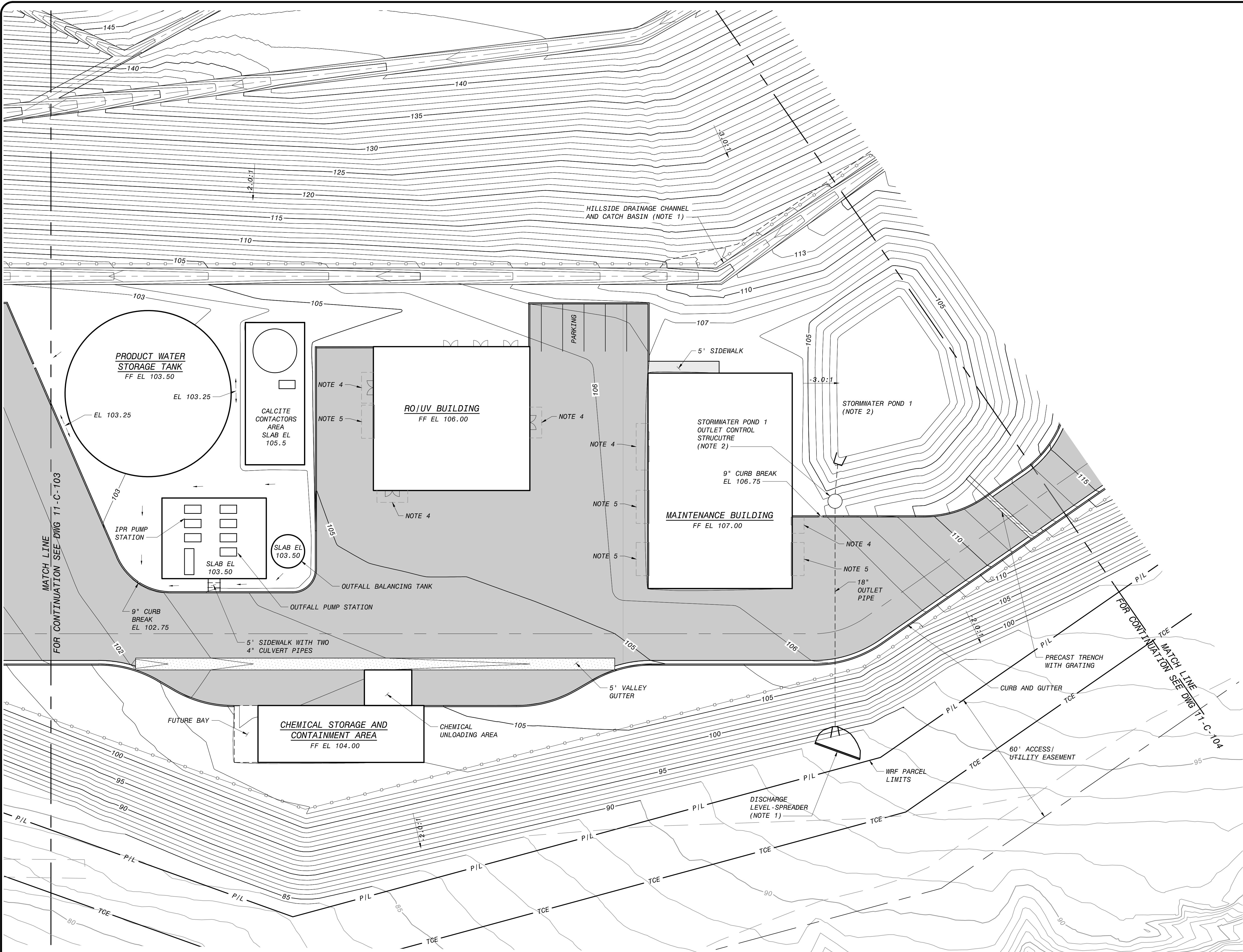
BLACK & VEATCH
JOINT VENTURE
FILANC **BLACK & VEATCH**

CITY OF MORRO BAY
MORRO BAY WATER
RECLAMATION FACILITY (WRF)
SITE - NORTH OPERATIONS AREA
CIVIL
GRADING AND PAVING PLAN

DESIGNED: EVB
DETAILED: SIMM
CHECKED:
APPROVED:
DATE:
0 1/2 1 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE
PROJECT NO. 400530
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NOTES:

1. OFFSITE AND HILLSIDE DRAINAGE IS CAPTURED VIA PERIMETER SWALES AND DIVERTED AROUND THE WRF PLANT SITE. THIS IS DONE TO SEGREGATE UNDEVELOPED AREA FLOWS FROM DEVELOPED WRF AREA FLOWS TO BETTER CONTROL STORMWATER QUALITY AND FLOW. SEE SITE PREPARATION DRAWINGS (AREA 10) AND DRAINAGE REPORT FOR DETAILS ABOUT THIS SYSTEM.
2. WRF PLANT AREA STORMWATER PONDS AND OUTLET CONTROL STRUCTURES ARE TO BE CONSTRUCTED WITH EARLY (SITE PREPARATION) WORK. SEE SITE PREPARATION DRAWINGS (AREA 10) AND DRAINAGE REPORT FOR DETAILS ABOUT THIS SYSTEM.
3. SEE STRUCTURAL DRAWINGS FOR SPECIFIC LOCATION OF INDICATED BUILDING COORDINATE POINTS.
4. ADA ACCESS ZONE. SLOPE PAVING FROM 1/4" BELOW INTERIOR ELEVATION AWAY AT NO MORE THAN 2% FOR 60" OUTWARD FROM BUILDING AND 42" FROM BOTH SIDES OF DOOR.
5. VEHICLE ACCESS ZONE. SLOPE PAVING FROM 1/4" BELOW INTERIOR ELEVATION AWAY AT NO MORE THAN 5% FOR 60" OUTWARD FROM BUILDING.

BLACK & VEATCH

JOINT VENTURE

FILANC BLACK & VEATCH

CITY OF MORRO BAY
MORRO BAY WATER
RECLAMATION FACILITY (WRF)

SITE - SOUTH PROCESS AREA
CIVIL
GRADING AND PAVING PLAN

DESIGNED: EVB
DETAILED: SIMM
CHECKED:
APPROVED:
DATE:

0 1/2 1
IF THIS BAR DOES NOT
MEASURE 1" THEN DRAWING IS
NOT TO FULL SCALE

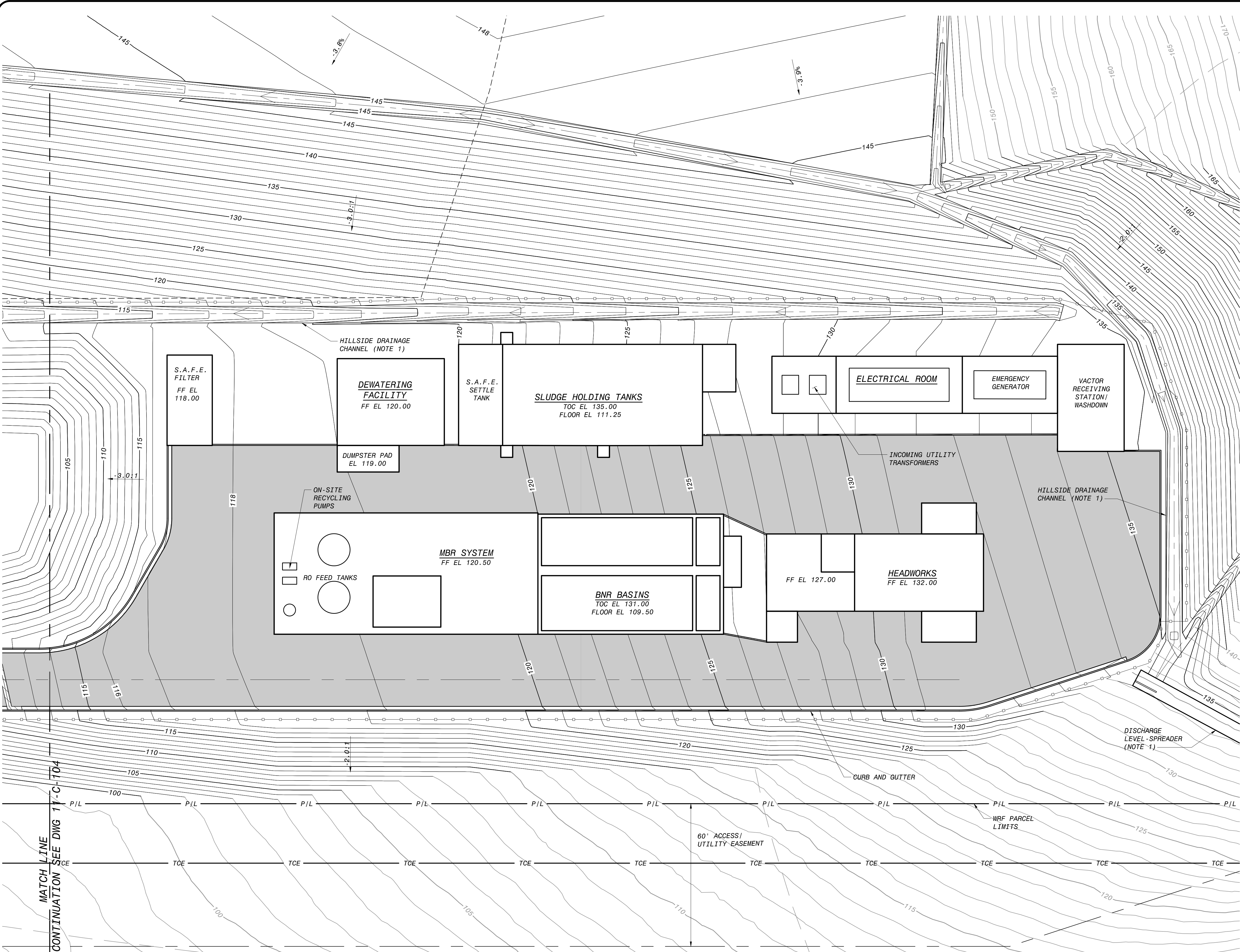
PROJECT NO.
400530

11-C-104
SHEET
OF

FIGURE 2 - CIVIL PAVING PLAN

COASTAL DEVELOPMENT PERMIT PLANS

FIGURE 2 - CIVIL PAVING PLAN



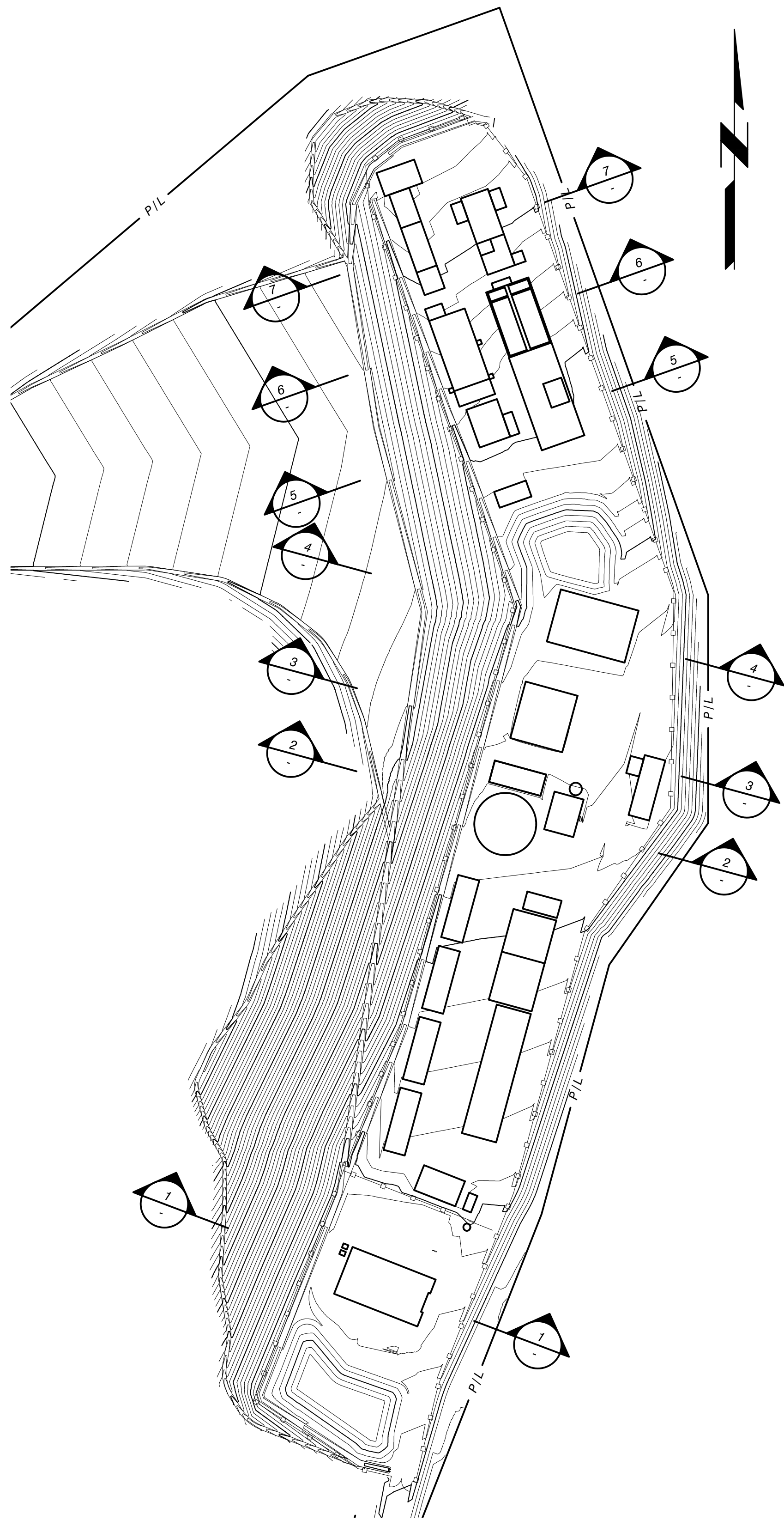
NOTES:

1. OFFSITE AND HILLSIDE DRAINAGE IS CAPTURED VIA PERIMETER SWALES AND DIVERTED AROUND THE WRF PLANT SITE. THIS IS DONE TO SEGREGATE UNDEVELOPED AREA FLOWS FROM DEVELOPED WRF AREA FLOWS TO BETTER CONTROL STORMWATER QUALITY AND FLOW. SEE SITE PREPARATION DRAWINGS (AREA 10) AND DRAINAGE REPORT FOR DETAILS ABOUT THIS SYSTEM.
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3. SEE STRUCTURAL DRAWINGS FOR SPECIFIC LOCATION OF INDICATED BUILDING COORDINATE POINTS.
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CITY OF MORRO BAY MORRO BAY WATER RECLAMATION FACILITY (WRF)		JOINT VENTURE BLACK & VEATCH FILANC	
SITE - NORTH PROCESS AREA CIVIL GRADING AND PAVING PLAN		REVISED AND RECORD OF USE	
DESIGNED: EVB		NO. BY	
DETAILED: SIM		CHK APP	
CHECKED:		DATE	
APPROVED:		7/30/2019	
DATE:		60% SUBMITTAL	
0 10' 20' 40'		7/30/2019	
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE		DATE	
PROJECT NO. 400530		REVISED AND RECORD OF USE	
11-C-105		NO. BY	
SHEET OF		CHK APP	

FIGURE 2 - CIVIL PAVING PLAN

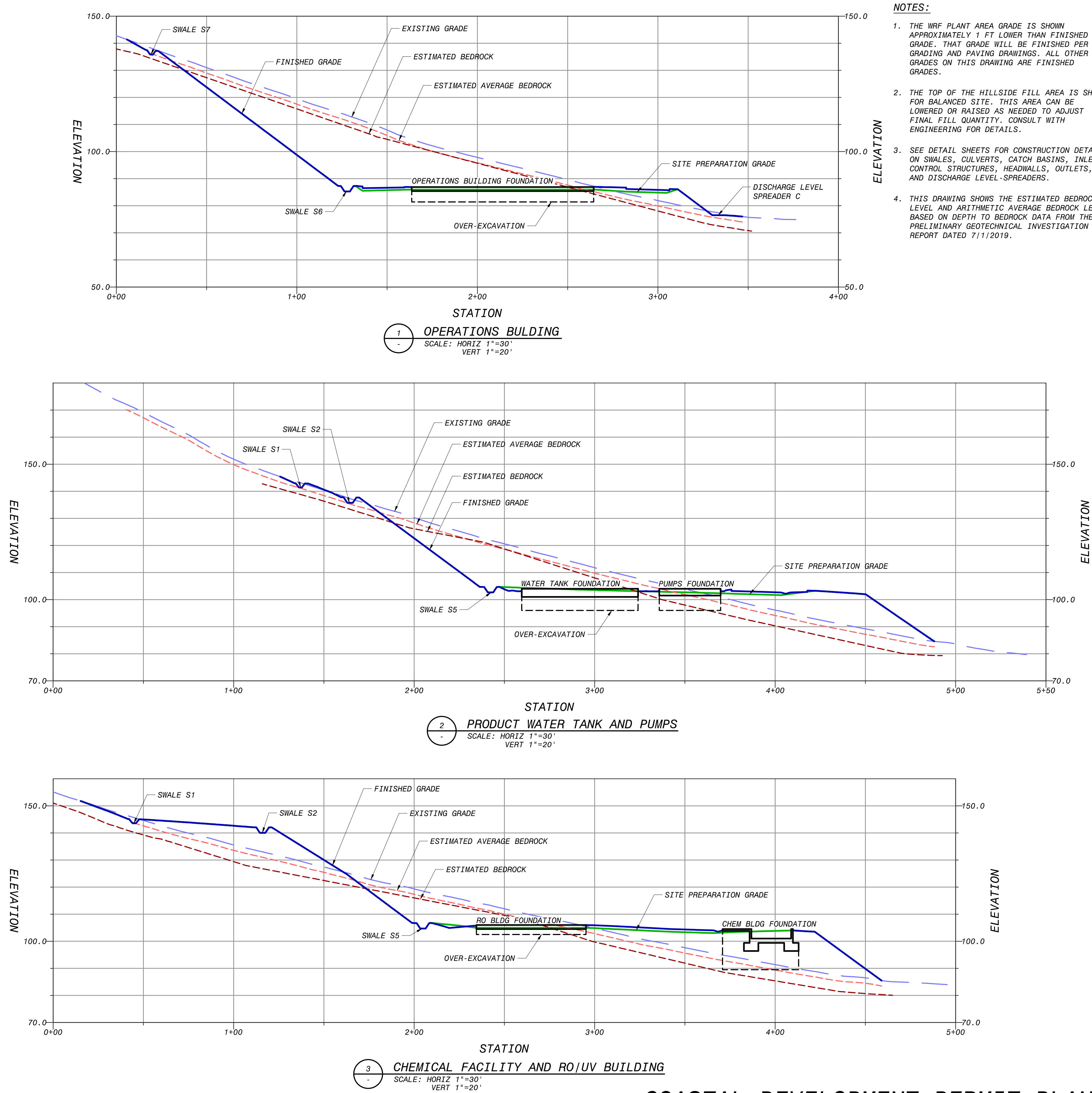
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SECTION KEY PLAN
SCALE 1"=100'

LEGEND

- EXISTING GRADE
- ESTIMATED BEDROCK
- AVERAGE ESTIMATED BEDROCK
- FINISHED GRADE
- SITE PREPARATION GRADE
- OVER-EXCAVATION UNDER STRUCTURES



NOTES:

1. THE WRF PLANT AREA GRADE IS SHOWN APPROXIMATELY 1 FT LOWER THAN FINISHED GRADE. THAT GRADE WILL BE FINISHED PER THE GRADING AND PAVING DRAWINGS. ALL OTHER GRADES ON THIS DRAWING ARE FINISHED GRADES.
2. THE TOP OF THE HILLSIDE FILL AREA IS SHOWN FOR BALANCED SITE. THIS AREA CAN BE LOWERED OR RAISED AS NEEDED TO ADJUST FINAL FILL QUANTITY. CONSULT WITH ENGINEERING FOR DETAILS.
3. SEE DETAIL SHEETS FOR CONSTRUCTION DETAILS ON SWALES, CULVERTS, CATCH BASINS, INLETS, CONTROL STRUCTURES, HEADWALLS, OUTLETS, AND DISCHARGE LEVEL-SPREADERS.
4. THIS DRAWING SHOWS THE ESTIMATED BEDROCK LEVEL AND ARITHMETIC AVERAGE BEDROCK LEVEL BASED ON DEPTH TO BEDROCK DATA FROM THE PRELIMINARY GEOTECHNICAL INVESTIGATION REPORT DATED 7/1/2019.

BLACK & VEATCH
JOINT VENTURE
FILANC
BLACK & VEATCH

CITY OF MORRO BAY
MORRO BAY WATER
RECLAMATION FACILITY (WRF)
SITE - OVERALL
CIVIL
SITE PREP SECTIONS 1

DESIGNED: EVB
DETAILED: SIM
CHECKED:
APPROVED:
DATE:

0 1/2 1
IF THIS BAR DOES NOT
MEASURE 1" THEN DRAWING IS
NOT TO FULL SCALE

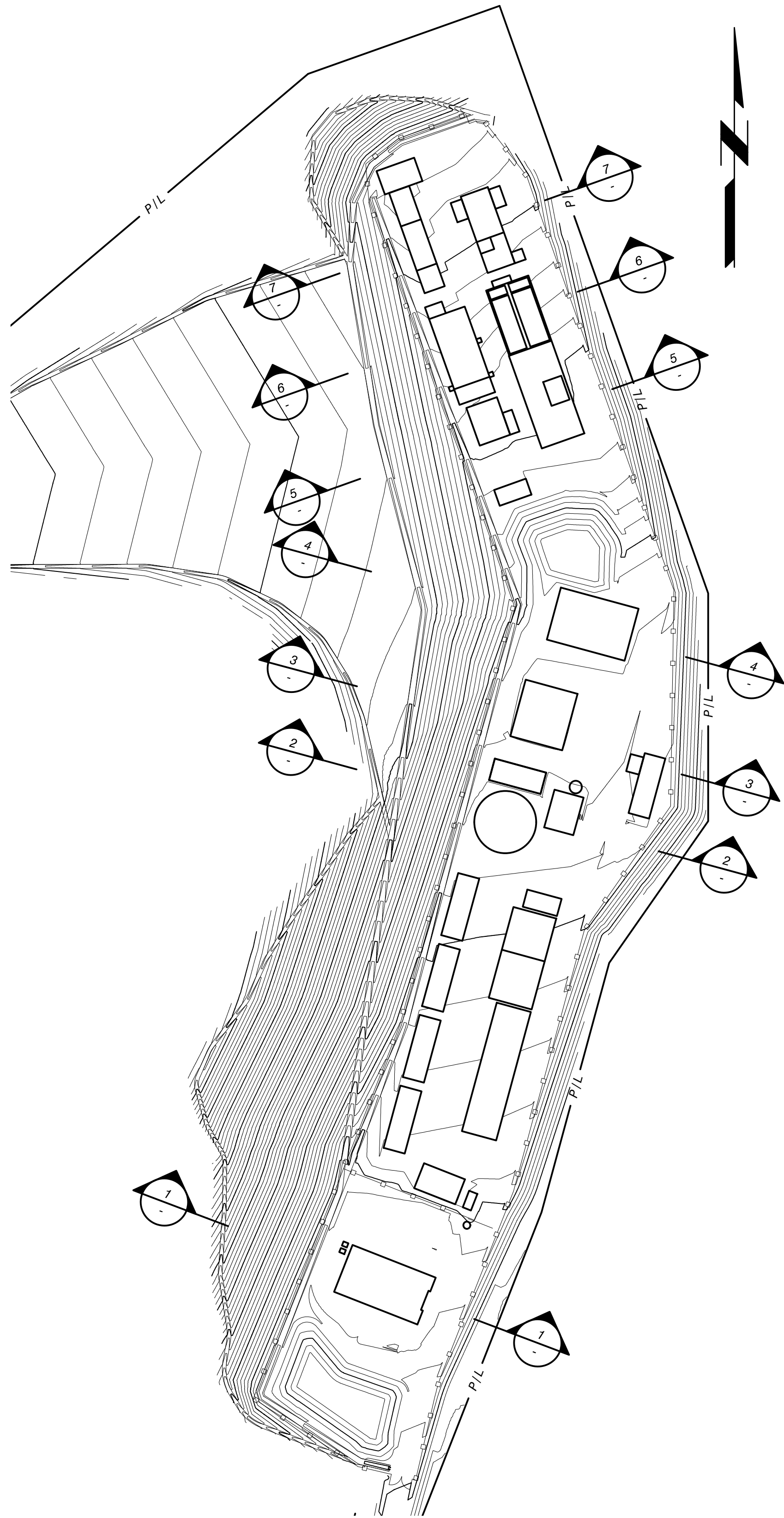
PROJECT NO.
400530

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SHEET
OF

COASTAL DEVELOPMENT PERMIT PLANS

FIGURE 4 - SITE CIVIL SECTIONS

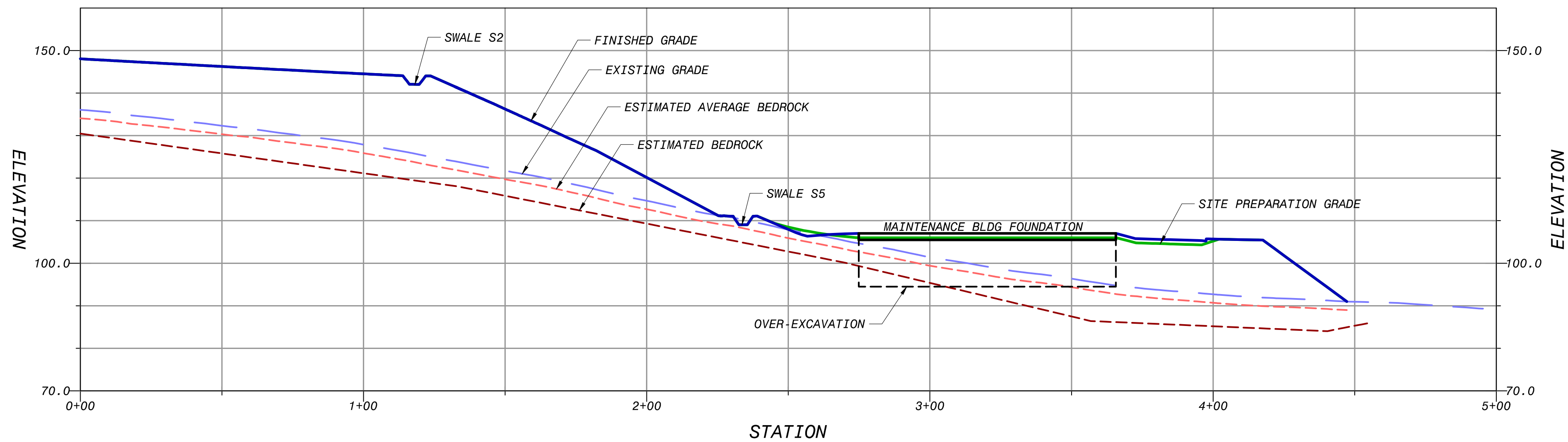
FIGURE 4 - SITE CIVIL SECTIONS



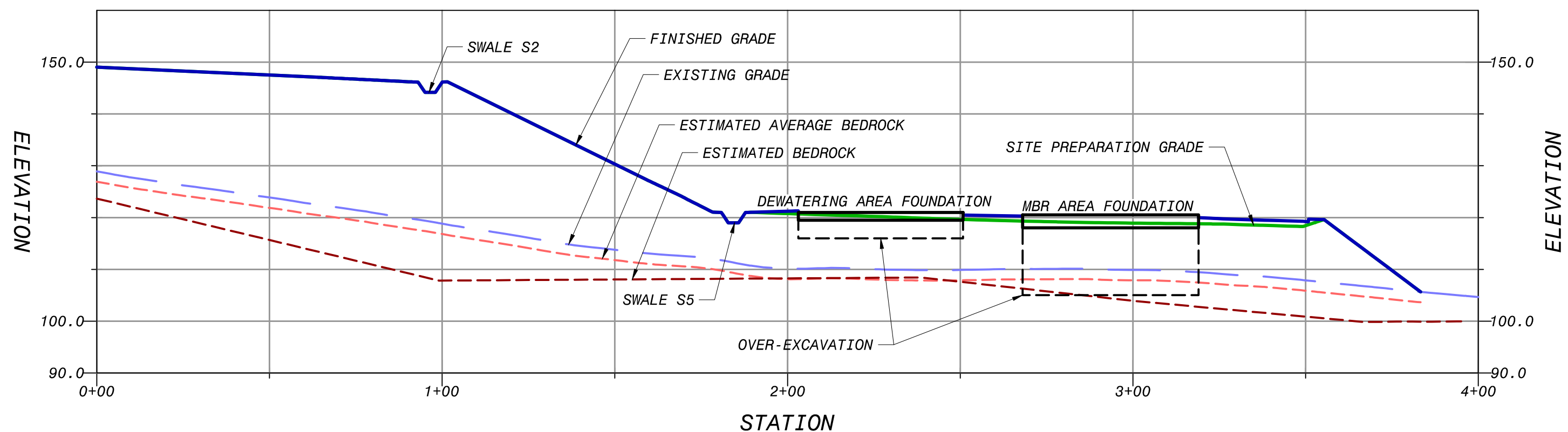
SECTION KEY PLAN
SCALE 1"=100'

LEGEND

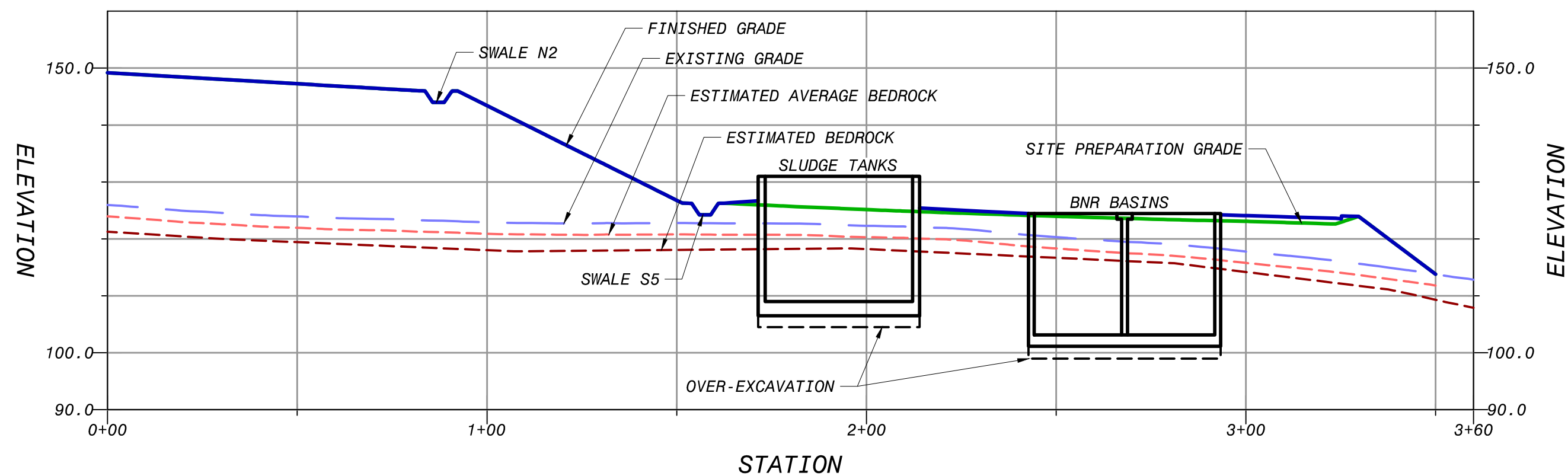
- EXISTING GRADE
- ESTIMATED BEDROCK
- AVERAGE ESTIMATED BEDROCK
- FINISHED GRADE
- SITE PREPARATION GRADE
- OVER-EXCAVATION UNDER STRUCTURES



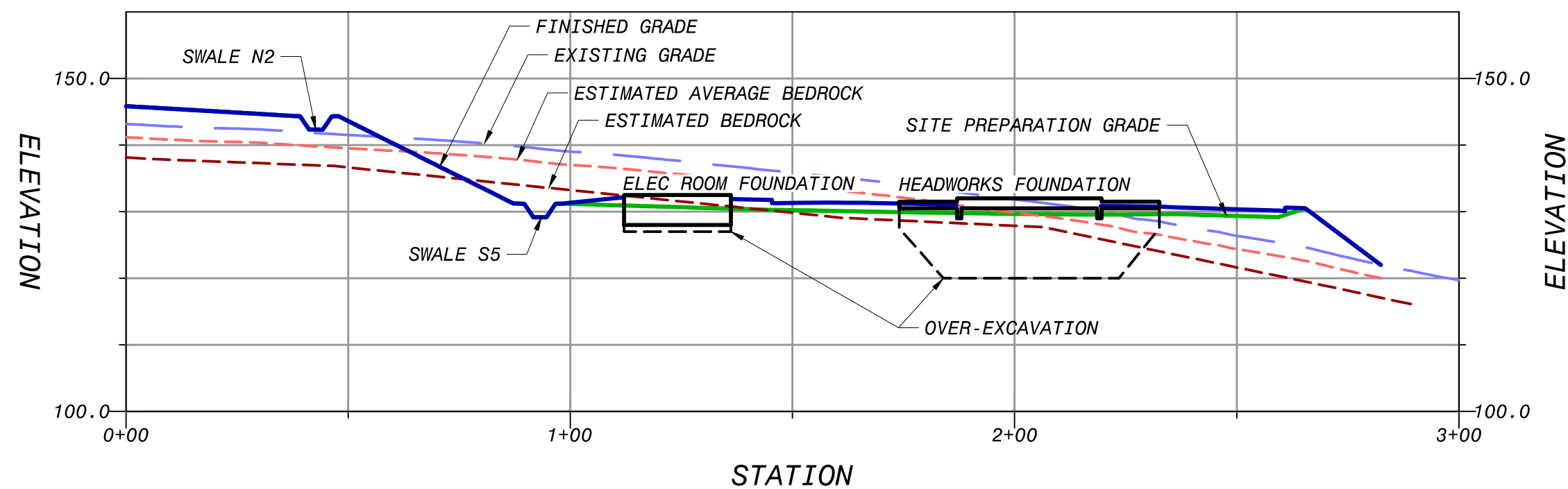
4 MAINTENANCE BUILDING
SCALE: HORIZ 1"=30'
VERT 1"=20'



5 MBR AND DEWATERING
SCALE: HORIZ 1"=30'
VERT 1"=20'



6 BNR AND SLUDGE HOLDING TANKS
SCALE: HORIZ 1"=30'
VERT 1"=20'



6 HEADWORKS AND ELECTRICAL BUILDING
SCALE: HORIZ 1"=30'
VERT 1"=20'

NOTES:

1. THE WRF PLANT AREA GRADE IS SHOWN APPROXIMATELY 1 FT LOWER THAN FINISHED GRADE. THAT GRADE WILL BE FINISHED PER THE GRADING AND PAVING DRAWINGS. ALL OTHER GRADES ON THIS DRAWING ARE FINISHED GRADES.
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3. SEE DETAIL SHEETS FOR CONSTRUCTION DETAILS ON SWALES, CULVERTS, CATCH BASINS, INLETS, CONTROL STRUCTURES, HEADWALLS, OUTLETS, AND DISCHARGE LEVEL-SPREADERS.
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BLACK & VEATCH

JOINT VENTURE

FILANC

CITY OF MORRO BAY
MORRO BAY WATER
RECLAMATION FACILITY (WRF)

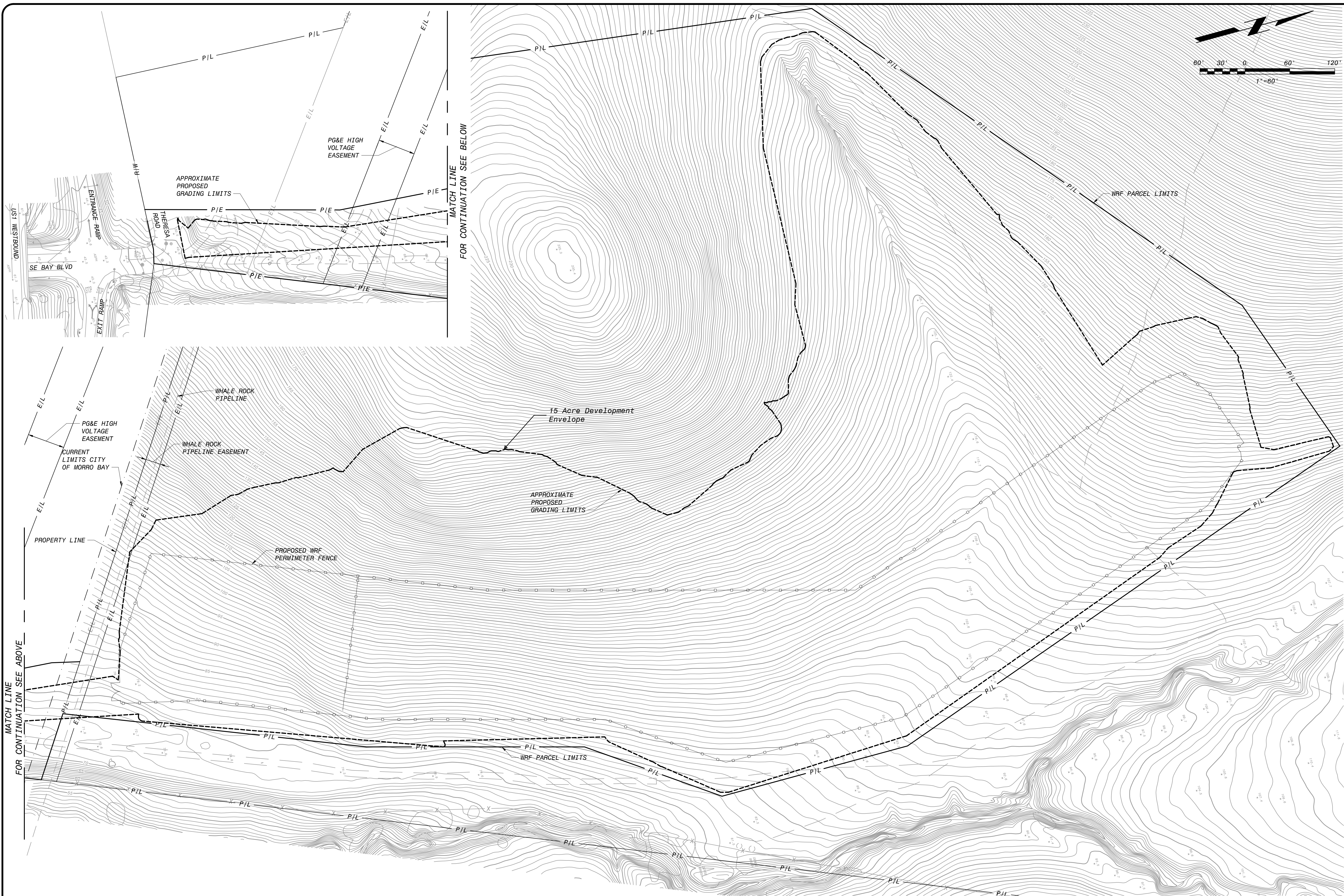
SITE - OVERALL
CIVIL
SITE PREP SECTIONS 2

DESIGNED: EVB
DETAILED: SMH
CHECKED:
APPROVED:
DATE:


0 1/2 1
IF THIS BAR DOES NOT
MEASURE 1" THEN DRAWING IS
NOT TO FULL SCALE

PROJECT NO.
400530

10-C-302
SHEET
OF



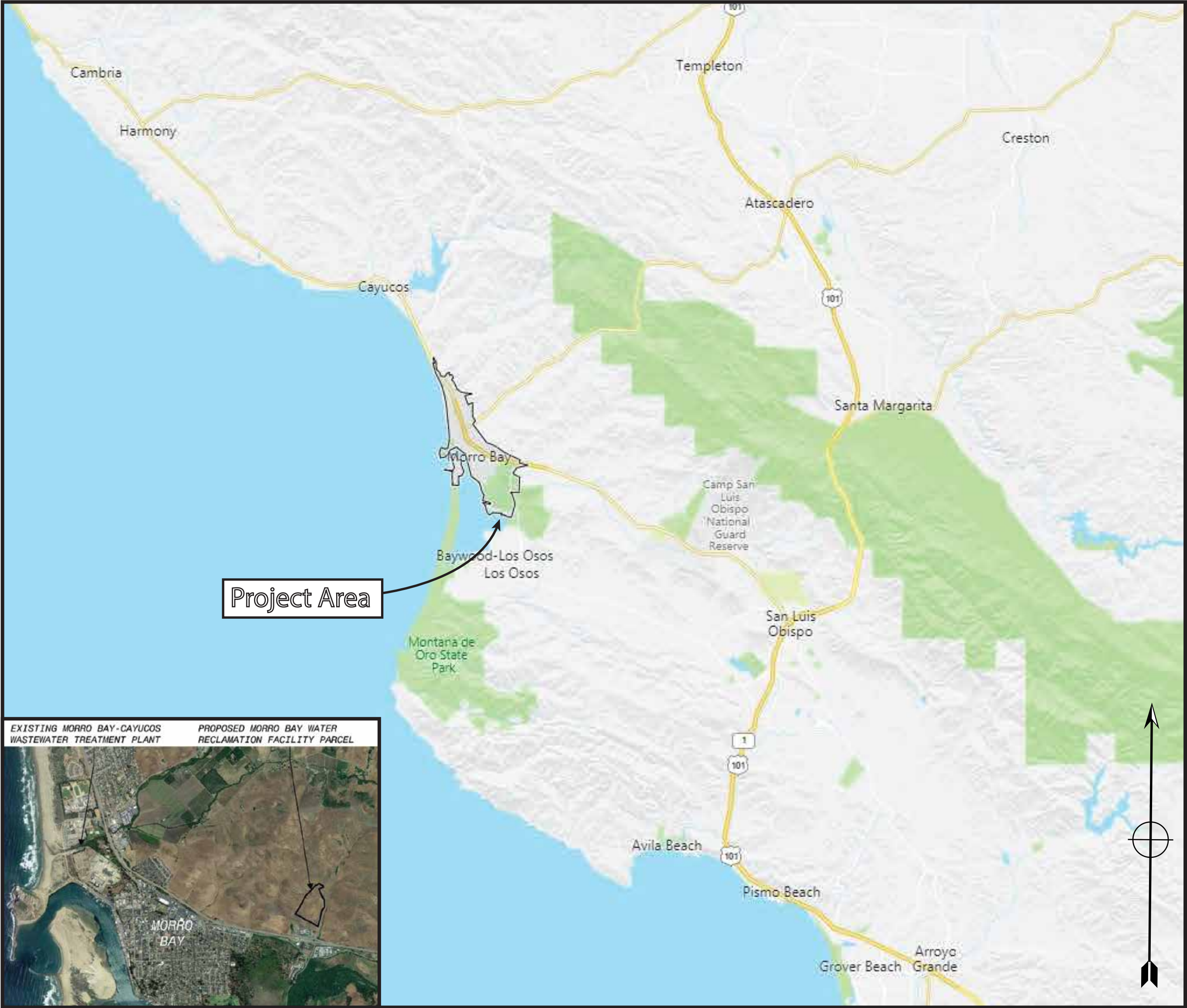
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<p>CITY OF MORRO BAY MORRO BAY WATER RECLAMATION FACILITY (WRF)</p>	<p>BLACK & VEATCH</p>		<p>JOINT VENTURE</p>	<p>FILANC  BLACK & VEATCH</p>	<p>REVISIONS AND RECORD OF USE</p>
	<p>SITE - OVERALL CIVIL EXISTING GRADE AND FEATURES</p>				
<p>DESIGNED: EVB DETAILED: SMM CHECKED: APPROVED: DATE:</p>					
<p>0 1 1/2 1 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE</p>					
<p>PROJECT NO. 400530</p>					
<p>10-C-001 SHEET OF</p>					

WATER POLLUTION CONTROL DRAWINGS (WPCDs)

Water Reclamation Facility for The City of Morro Bay, CA

PROJECT LOCATION MAP



GENERAL NOTES

- Erosion control BMPs shall be implemented and maintained to minimize and/or prevent the entrainment of soil in runoff from disturbed soil areas on construction sites.
- Sediment control BMPs shall be implemented and maintained to prevent and/or minimize the transport of soil from the construction site.
- Stockpiles of soil shall be properly contained to eliminate or reduce sediment transport from the site to streets, drainage facilities or adjacent properties via runoff, vehicle tracking or wind.
- Appropriate BMPs for construction-related materials, wastes, spills or residues shall be implemented to eliminate or reduce transport from the site to streets, drainage facilities or adjoining properties by wind or runoff.
- Runoff from equipment and vehicle washing shall be contained at construction sites and must not be discharged to receiving waters or the local storm drain system. Washwaters or rinsate from ready mix, concrete, or cement vehicles must be handled appropriately and may not be discharged to receiving waters or any storm drain system.
- All construction contractor and subcontractor personnel are to be made aware of the required best management practices and good housekeeping measures for the project site and any associated construction staging areas.
- At the end of each day of construction activity all construction debris and waste materials shall be collected and properly disposed in trash or recycle bins.
- Construction sites shall be maintained in such a condition that a storm does not carry wastes or pollutants off the site. Discharges other than stormwater (non-stormwater discharges) are prohibited, except as authorized by an individual NPDES permit or the State-wide General Permit for Storm Water Discharges Associated with Construction Activity. Potential pollutants include but are not limited to: solid or liquid chemical spills; wastes from paints, stains, sealants, solvents, detergents, glues, lime, pesticides, herbicides, fertilizers, wood preservatives and asbestos fibers; paint flakes or stucco fragments; fuels, oils, lubricants and hydraulic, radiator or battery fluids; concrete and related cutting or curing residues; floatable wastes; wastes from engine/equipment steam cleaning or chemical degreasing; wastes from street cleaning; and super-chlorinated potable water from line flushing and testing. During construction, disposal of such materials should occur in a specified and controlled temporary area onsite physically separated from potential stormwater runoff, with ultimate disposal in accordance with local, State and Federal requirements.
- Discharging contaminated groundwater produced by dewatering groundwater that has infiltrated into the construction site is prohibited. Discharging of contaminated soils via surface erosion is also prohibited.
- The Contractor is required to notify and obtain approval from the City ten (10) days prior to any non-stormwater discharge or dewatering associated with Contractor's construction activities.
- Construction sites shall be managed to minimize the exposure time of disturbed soil areas through phasing and scheduling of grading to the extent feasible and the use of temporary and permanent soil stabilization.
- BMPs shall be maintained at all times. In addition, BMPs shall be inspected prior to predicted storm events and following storm events.

LEGEND

CASQA BMPs

- | | | |
|------------------------------------|--|-----------------------------------|
| Discharge / Sampling Location | EC-10 Drain Outlet Protection | TC-01 Stabilized Const. Entrance |
| Run-On Sampling Location | Staging/Laydown Area (NS-08-10, WM-01-04) | WE-01 Wind Erosion Control |
| Flow of Water | NS-9 Fuel Storage | WM-1 Waste Management Storage |
| Rain Gauge | SE-01 Silt Fencing | WM-03 Stockpile Manag. Zone |
| Work Zone | SE-04 Check Dam | WM-04 Spill Kit Location |
| EC-02 Preserve Existing Vegetation | SE-05 Fiber Rolls | WM-05, 06, 07 Hazardous Materials |
| EC-03/08 Hydromulch/Wood Mulch | SE-06 Gravel Bag Berm | WM-08 Concrete Waste |
| EC-04 Hydroseed | SE-07 Street Sweeping | WM-09 Portable Bathrooms |
| | SE-10 Drain Inlet Protection | |

NOTES

All areas of soil disturbance will incorporate multiple BMPs in active work areas. These BMPs will vary depending on the location and geography of the site. All exposed materials will be protected at the end of each work day and stabilization will occur as work progresses along the alignment. The following items may be used during work, but are not graphically illustrated as they will progress as the active work zone moves: EC-1 Scheduling, EC-16 Non-veg Stabilizers, NS-1 Water Conservation Practices, NS-2 Dewatering, NS-6 Illicit Discharge Reporting, WM-2 Material Use, WM-4 Spill Control, WM-5 Solid Waste Management, WM-9 Portable Toilet, SE-7 Street Sweeping (as needed), WE-1 Wind Erosion Control

General Notes for Work Areas During Project

- If any stockpiling of material is required for the project, at the end of each day stockpiles shall be covered and contained via fiber rolls.
- All equipment shall be parked as far as possible from drain inlets and fiber rolls will be placed around equipment at the end of each day.
- All drain inlets will be protected in an area where work is being performed.
- All exposed slopes left inactive for more than 10 days shall be stabilized using BFM
- Spill kits will be available on-site near equipment for rapid response to spill clean up.

Stormwater Detention Basin/ Brow Ditch

Access Path

Water Reclamation Facility for the City of Morro Bay, CA



Filanc, Black & Veatch
1299 Oak Rd. #490, Walnut Creek, CA 94597

The City of Morro Bay
595 Harbor St., Morro Bay, CA 93442



FIGURE 6 - WATER POLLUTION CONTROL DRAWINGS

WPCD SHEET: 1 of 7


























WPCD - 1

PROJECT MAP



LEGEND

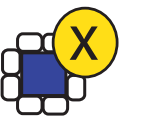
CASQA BMPs

- | | | | | | |
|--|------------------------------------|---|---|---|-----------------------------------|
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(NS-08-10, WM-01-04) |  | WE-01 Wind Erosion Control |
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|  | Rain Gauge |  | SE-01 Silt Fencing |  | WM-03 Stockpile Manag. Zone |
|  | Work Zone |  | SE-04 Check Dam |  | WM-04 Spill Kit Location |
|  | EC-02 Preserve Existing Vegetation |  | SE-05 Fiber Rolls |  | WM-05, 06, 07 Hazardous Materials |
|  | EC-03/08 Hydromulch/Wood Mulch |  | SE-06 Gravel Bag Berm |  | WM-08 Concrete Waste |
|  | EC-04 Hydroseed |  | SE-07 Street Sweeping |  | WM-09 Portable Bathrooms |
| | |  | SE-10 Drain Inlet Protection | | |

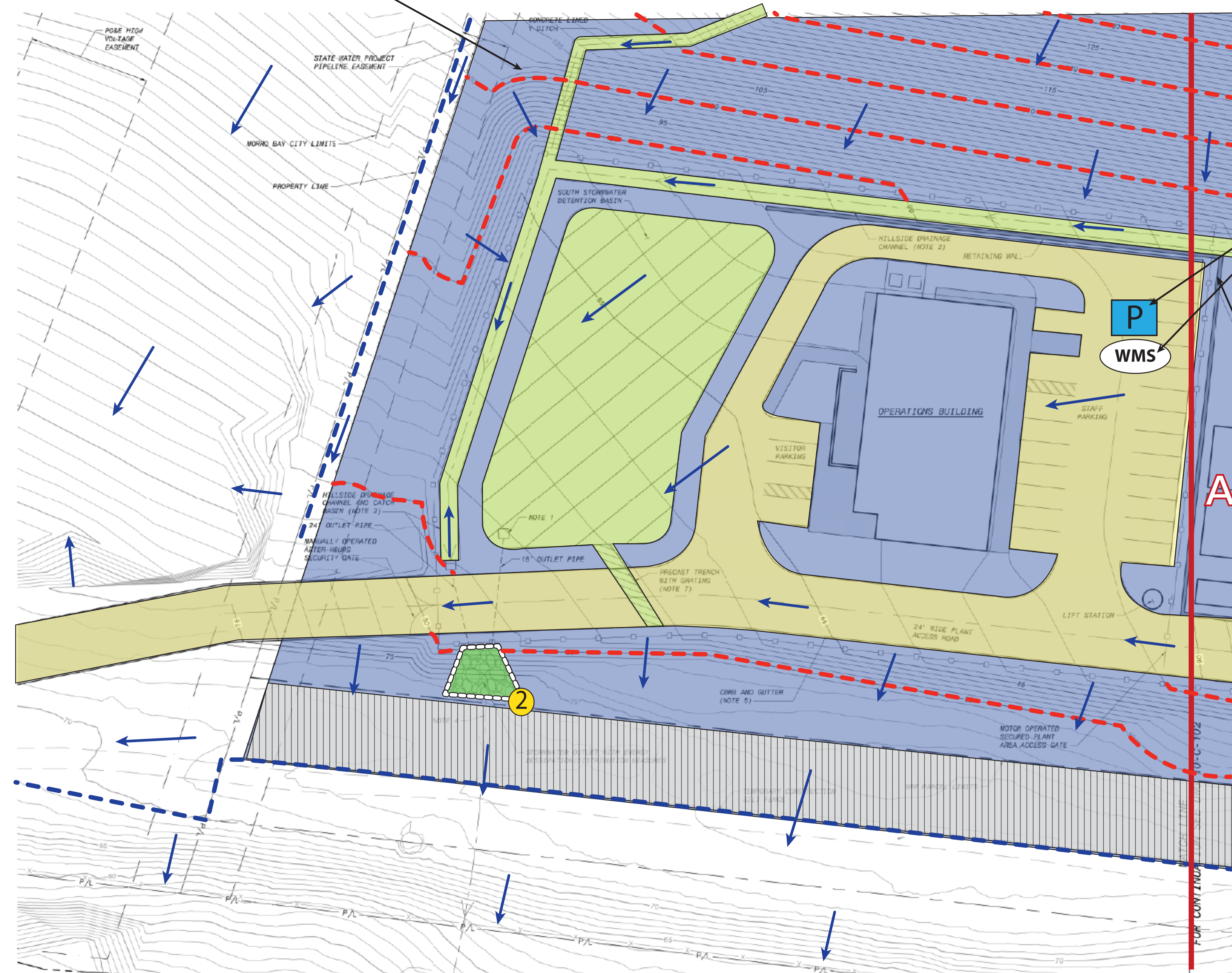
NOTES

Fiber Roll Installation

- Locate fiber rolls on level contours spaced as follows:
- Slope inclination of 4:1 (H:V) or flatter: Fiber rolls should be placed at a maximum interval of 20ft.
- Slope inclination between 4:1 and 2:1 (H:V): Fiber Rolls should be placed at a maximum interval of 15ft. (a closer spacing is more effective).
- Slope inclination 2:1 (H:V) or greater: Fiber Rolls should be placed at a maximum interval of 10ft. (a closer spacing is more effective).

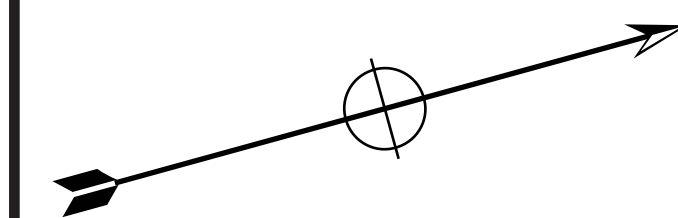


All drain inlets within the vicinity of the work area will be protected.



Temporary toilets and dumpsters will be continuously situated within close proximity of the workers and will be mobile.

Retaining Wall



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FIGURE 6 - WATER POLLUTION CONTROL DRAWINGS

WPCD SHEET: 3 of 7

WPCD - 3

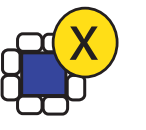
Fiber Roll Installation

- Locate fiber rolls on level contours spaced as follows:

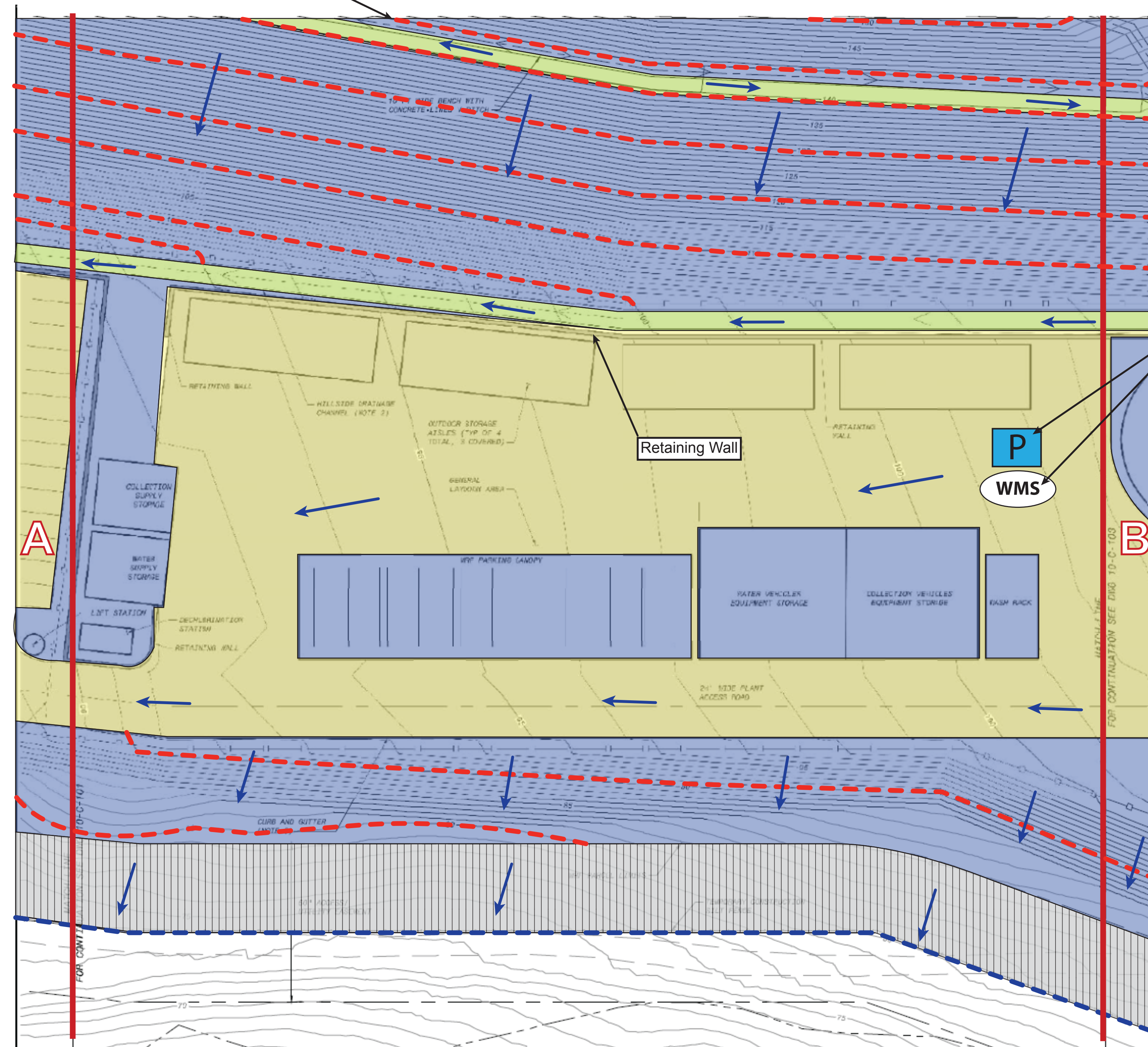
Slope inclination of 4:1 (H:V) or flatter: Fiber rolls should be placed at a maximum interval of 20ft.

Slope inclination between 4:1 and 2:1 (H:V): Fiber Rolls should be placed at a maximum interval of 15ft. (a closer spacing is more effective).

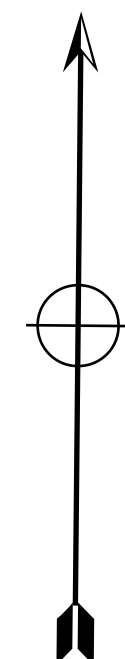
Slope inclination 2:1 (H:V) or greater: Fiber Rolls should be placed at a maximum interval of 10ft. (a closer spacing is more effective).



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FIGURE 6 - WATER POLLUTION CONTROL DRAWINGS

WPCD SHEET: 4 of 7

WPCD - 4

Fiber Roll Installation

- Locate fiber rolls on level contours spaced as follows:
Slope inclination of 4:1 (H:V) or flatter: Fiber rolls should be placed at a maximum interval of 20ft.
Slope inclination between 4:1 and 2:1 (H:V): Fiber Rolls should be placed at a maximum interval of 15ft. (a closer spacing is more effective).
Slope inclination 2:1 (H:V) or greater: Fiber Rolls should be placed at a maximum interval of 10ft. (a closer spacing is more effective).

 All drain inlets within the vicinity of the work area will be protected.

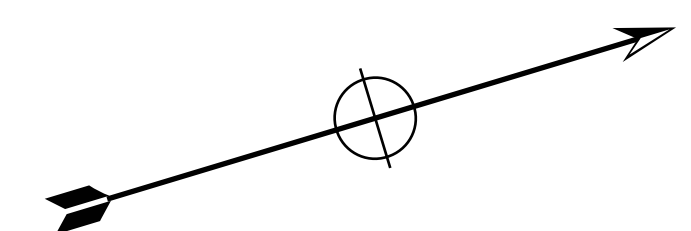
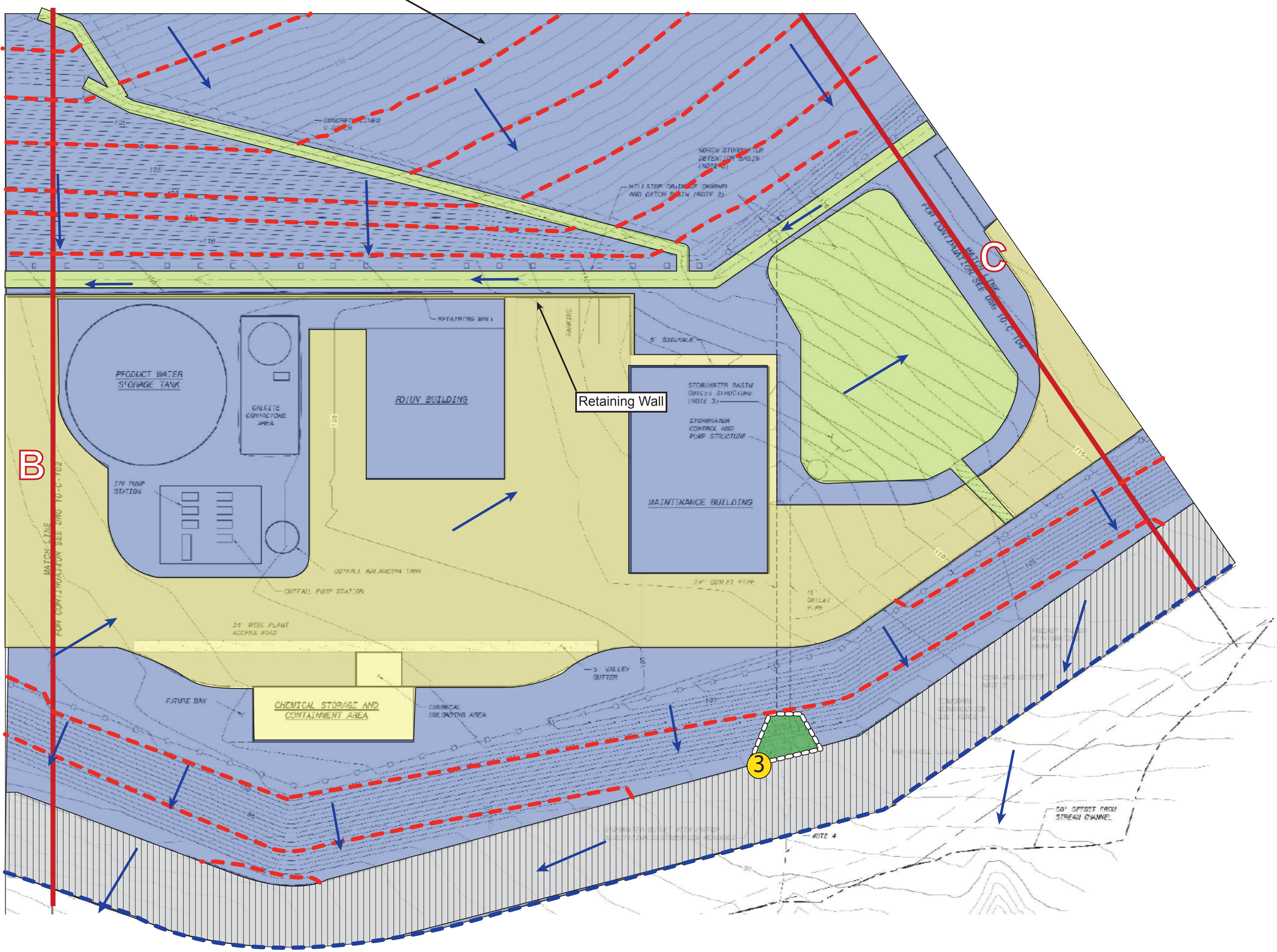
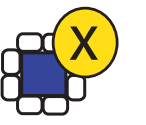


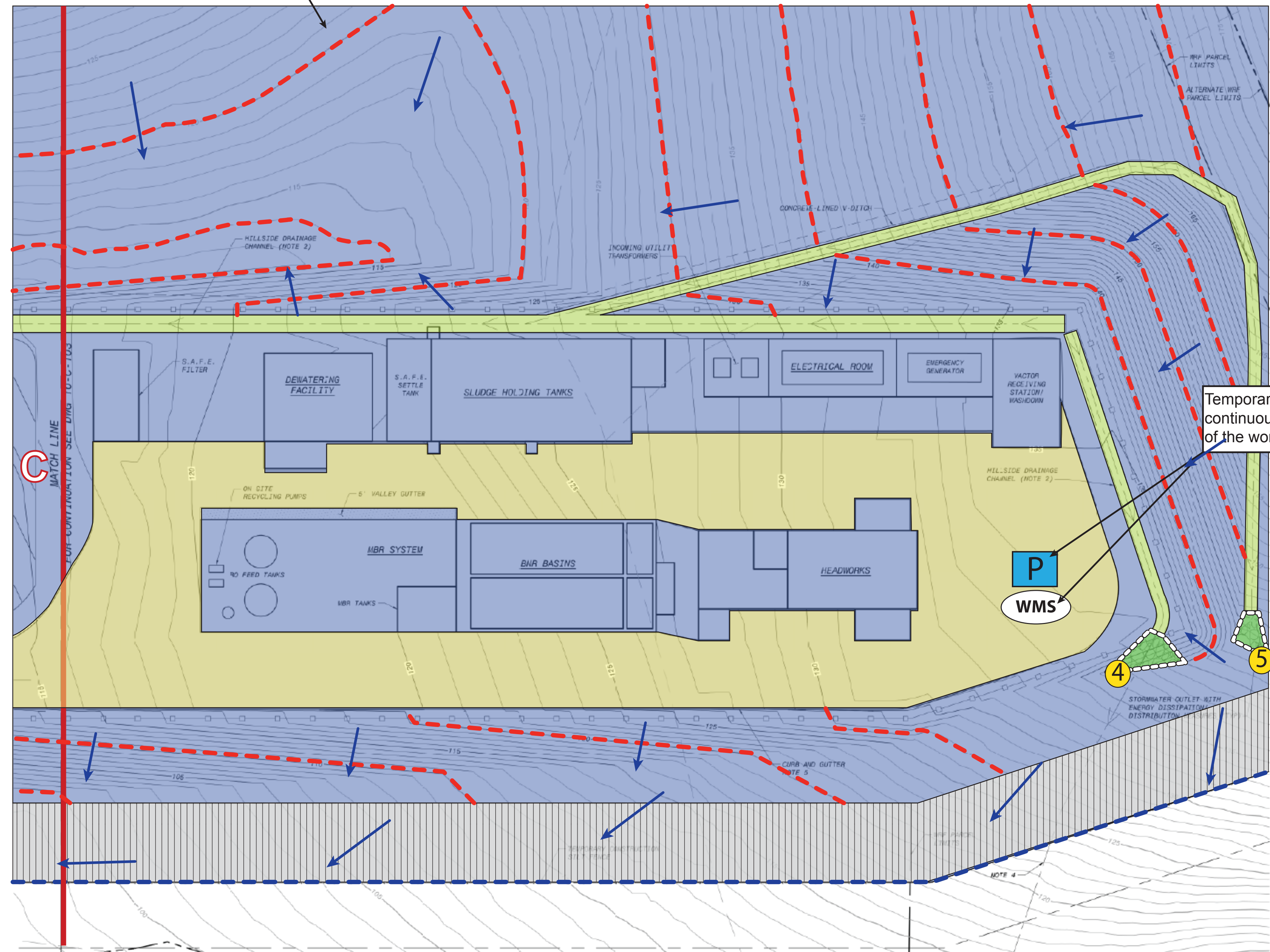
FIGURE 6 - WATER POLLUTION CONTROL DRAWINGS

Fiber Roll Installation

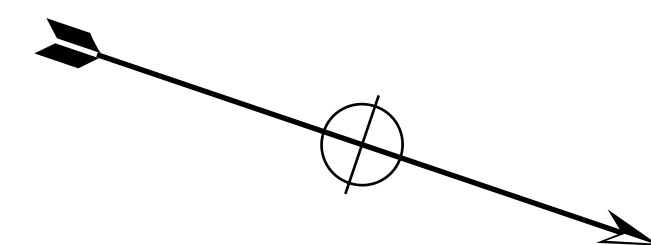
- Locate fiber rolls on level contours spaced as follows:
Slope inclination of 4:1 (H:V) or flatter: Fiber rolls should be placed at a maximum interval of 20ft.
Slope inclination between 4:1 and 2:1 (H:V): Fiber Rolls should be placed at a maximum interval of 15ft. (a closer spacing is more effective).
Slope inclination 2:1 (H:V) or greater: Fiber Rolls should be placed at a maximum interval of 10ft. (a closer spacing is more effective).



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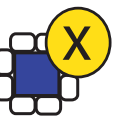


FIGURE 6 - WATER POLLUTION CONTROL DRAWINGS

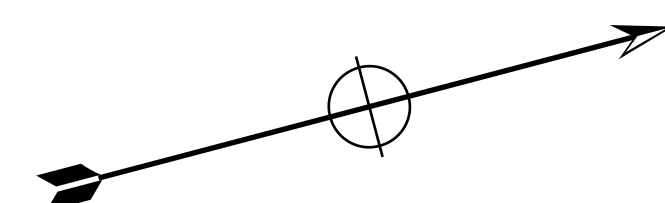
WPCD SHEET: 6 of 7

WPCD - 6

Staging Yard



All drain inlets within the vicinity of the work area will be protected.



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FIGURE 6 - WATER POLLUTION CONTROL DRAWINGS

WPCD SHEET: 7 of 7

WPCD - 7