CITY OF MORRO BAY WATER RECLAMATION FACILITY PROJECT

Report on Public Works Panel Review

City Council Presentation
July 11, 2017

Presentation Overview

CITY OF MORRO BAY WATER RECLAMATION FACILITY PROJECT

- Background
- Technical Review Panel, Process, and Recommendations
- Refined Cost Opinions
- Next Steps
- Q&A

Background

CITY OF MORRO BAY WATER RECLAMATION FACILITY PROJECT

- **2013-14 - Community Goals for WRF are established**
  - *Project to be designed accordingly*
- **June 2016 – South Bay Boulevard Site selected**
- **November 2016 – Draft Facilities Master Plan**
- **March 2017 – Draft Master Water Reclamation Plan**

Background

CITY OF MORRO BAY WATER RECLAMATION FACILITY PROJECT

- **April 25, 2017**
  - City Council reviewed projected costs and effects on rates
  - Recommended exploring ways to reduce costs:
    - *Examine two lower cost alternatives on the SBB site*
    - *Convene study session with local public works professionals to examine cost assumptions*

Technical Review Panel

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- **Matt Thompson**, Wastewater Division Manager, City of Paso Robles
- **John Waddell**, PE, Construction Division Manager and Project Manager for Los Osos WW Project, San Luis Obispo County
- **Russ Fleming**, Utilities Manager, City of Pismo Beach
- **Dave Hix**, Utilities Department Deputy Director (Wastewater), City of San Luis Obispo

Review Process

CITY OF MORRO BAY WATER RECLAMATION FACILITY PROJECT

- **June 7, 2017 – all day workshop**
  - *Panel reviewed the draft FMP and MWRP*
  - *Panel reviewed cost assumptions and methodologies*
  - *Program management team answered questions*
  - *Panel provided insights and recommendations*

Expert Panel Recommendations

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1. 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.

2. 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.

Expert Panel Recommendations

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3. Due to the State's fiduciary responsibility, the high cost and rate and resultant controversy may impact the ability to receive low interest State Revolving Fund financing compared with less controversial projects. If the City had to rely on conventional municipal bond financing, the sewer rate would be even more unaffordable.

4. The cost estimates developed for the SBB site are reasonable as presented, and the underlying assumptions are appropriate, including for soft costs and contingency percentages, with a few minor changes recommended.

Expert Panel Recommendations

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5. Some cuts to the cost estimate for the SBB site could be made. These could include:

a. Depending on the secondary treatment process, the proposed equalization basin could be reduced. An oxidation ditch would not require as much equalization as an MBR or SBR system.

b. Because of its relatively isolated location, minimize odor control to the extent possible, focusing on the headworks.

c. Locate the WRF on the portion of the site that requires less grading—where the corporation yard had been planned.

d. Remove the septage receiving station and reduce the size of fire pump facility.

e. If the City does not intend to go to full tertiary treatment, consider going to an oxidization ditch with secondary clarifiers.

f. Reduce masonry and architectural details, since the site won't be that visible from the highway, but it still has to be made of durable low-maintenance materials.

Expert Panel Recommendations

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6. If the City is eventually going to full reclamation, don't defer the development of onsite buildings and infrastructure related to recycled water. It will be much more expensive later on.

7. The proposed combined water/sewer rate of $250/month seems untenable in the context of average Citywide household income of $50K—about 6% of annual income, which is approximately double the EPA's affordable index. It is reasonable to expect a reduction will be required to make this project more palatable to the public.

Refined Cost Opinions

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- **FMP/MWRP Recommended Project**
- **Council-Directed Alternatives**
  - Alternative 1: Full Secondary Treatment (defer tertiary treatment and recycled water)
  - Alternative 2: Tertiary Disinfection (defer recycled water)

Estimated Cost: FMP/MWRP Project

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Project Component (Phase 1; no recycled water)	Estimated Cost (2017 $MM)
WRF Construction (includes WRF, lift station, pipelines)	87.5
Engineering, Procurement, Admin, Permitting, existing WWTP demo, land acquisition, escalation	29.3
WRF Capital Cost Subtotal	**116.8**

Estimated Cost: FMP/MWRP Project

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Project Component (Phase 2; Recycled Water)	Estimated Cost (2017 $MM)
Recycled Water Components Capital Costs	18.1
Engineering, Admin, CM (30%)	5.3
Recycled Water Capital Cost Subtotal	**23.4**

Estimated Cost: FMP/MWRP Project

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Project Component (Full Project with contingency)	Estimated Cost (2017 $MM)
WRF Capital Cost Subtotal	116.8
Recycled Water Capital Cost Subtotal	23.4
Subtotal (WRF + RW)	**140.2**
Construction Contingency (25%)	26.4
Total Program Capital Cost Opinion (FMP/MWRP Project)	**166.6**

Refined Cost Opinion: Alternative 1

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Project Component (Phase 1 only; Secondary Treatment; no recycled water)	Estimated Cost (2017 $MM)
WRF Construction (includes WRF, lift station, pipelines)	62.6
Construction Contingency (25%)	15.7
Engineering, Procurement, Admin, Permitting, existing WWTP demo, land acquisition, escalation	19.9
Total Phase 1 Capital Cost Opinion (Alternative 1)	**98.2**

Refined Cost Opinion: Alternative 2

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Project Component (Phase 1 only; Tertiary Treatment; no recycled water)	Estimated Cost (2017 $MM)
WRF Construction (includes WRF, lift station, pipelines)	73.6
Construction Contingency (25%)	18.4
Engineering, Procurement, Admin, Permitting, existing WWTP demo, land acquisition, escalation	22.7
Total Phase 1 Capital Cost Opinion (Alternative 2)	**114.7**

Relative Cost Savings or Deferment

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Compared to FMP/MWRP Project	Alternative 1 (2017 $MM)	Alternative 2 (2017 $MM)
Estimated Construction Cost Savings	18.1	5.7
Estimated Soft Cost and Contingency Savings	9.2	2.9
Total Estimated Capital Cost Savings	**27.3**	**8.6**
Estimated Deferred Construction Costs	29.6	27.0
Estimated Deferred Soft Cost and Contingency	15.0	13.7
Total Estimated Deferred Capital Costs	**44.6**	**40.7**

Rough Cost – near Existing WWTP Site

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- Public Works panel recommended maximum cost savings would occur at or near existing WWTP site
- Rough cost opinion based on refined assumptions recommended by public works panel
- Assumes full Recycled Water Project (phases 1 and 2)
- Potential cost savings of **$38-43M** compared to SBB site
- Total estimated program ROUGH cost opinion - **$124-129M**

Rough Cost – near Existing WWTP Site

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- Relative Cost Savings at existing WWTP site due to:
  - Reduced site work
  - Reduced yard piping on smaller site
  - Reduced wall thicknesses (because of more level site)
  - Reduced access road lengths
  - Reduced offsite pipe lengths
  - Removed septage receiving station
  - Removed fire protection facility
  - Removed remote operations facility

Comparative Estimated Program Cost

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Alternatives	FMP/MWRP Rec. Project (with IPR)	Alternative 1 (Secondary only)	Alternative 2 (tertiary; defer RW)	IPR Project at or near existing WWTP site
Phase 1	$166.6M	$98.2M	$114.7M	$124-129M
Phase 2 (recycled water)	*(included in phase 1)*	$44.6M	$40.7M	*(included in phase 1)*
Total Project (phase 1 + phase 2)	**$166.6M**	**$142.8M**	**$155.4M**	**$124-129M**

Comparative Estimated Rate Impact

CITY OF MORRO BAY WATER RECLAMATION FACILITY PROJECT

Alternatives	FMP/MWRP Rec. Project (with IPR)	Alternative 1 (Secondary only)	Alternative 2 (tertiary; defer RW)	IPR Project at or near existing WWTP site
Phase 1	$91 increase; $241 total	$35-40 increase;$185-190 total	$48-53 increase; $198-203 total	$50-60 increase; $200-210 total
Phase 2 (recycled water)	*(included in phase 1)*	$40-45 increase	$35-40 increase	*(included in phase 1)*
Total Project (phase 1 + phase 2)	**$91 increase; $241 total**	**$75-85 increase; $225-235 total**	**$83-93 increase; $233-243 total**	**$50-60 increase; $200-210 total**

Revisions to the City's Draft Financial and Rate Analysis for a New Water Reclamation Facility will be required to determine the actual rate impact.

Discussion at WRFCAC

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- Peer review panel scope was limited to reviewing cost estimating methodologies and assumptions
- Peer review panel did not consider the City's LCP or Coastal Act limitations in its recommendations, but acknowledged potential regulatory constraints
- Staff clarified what is meant by "at or near the existing WWTP site" – generally west of Highway 1
- WRFCAC asked for clarification on costs of other local WWTP/WRF projects to provide "apples-to-apples" comparison

WRFCAC Recommendation

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- Recommend City Council direct staff to take up to two months to talk with California Coastal Commission and Regional Water Quality Control Board about the feasibility of a project at or near the existing WWTP site. If it appears feasible at or near that location, then report to WRFCAC and City Council. If not, then move forward with a project at South Bay Boulevard based on Alternative 2 in the Report (tertiary WRF with deferral of recycled water).

Next Steps

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If City Council follow's WRFCAC's recommendation, then:

- Staff to identify and investigate potentially suitable locations "at or near existing WWTP"
- Staff to prepare a project concept at that location, based on information already developed in the draft FMP and draft MWRP
- Actively engage CCC and RWQCB staff in the context of a project concept at that location in order to assess the likelihood of support or feasibility from those regulatory agencies
- Conduct public outreach within the community during this process – primary goal is to ensure accurate information
- City Council to provide direction depending on the outcome of above

Questions and Answers

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