City of Morro Bay
Water Reclamation Facility
Project Overview
Project Summary and Status

- **Description:** The Morro Bay Water Reclamation Facility replaces a 62-year old beachfront wastewater treatment plant that dumps 1M/gal of water a day into the ocean under an expiring 301H waiver. The new advanced water treatment reclamation facility two miles inland will allow the city to recapture and recycle 80% of its waste water, injecting the treated recaptured water into a local aquifer for reuse and freeing up 1300 af/yr of State Water Project water annually for other water-limited communities.

- **Authority:** The City of Morro Bay, CA

- **Cost:** $167 Million

- **Status:**
  - Facility Master Plan – complete
  - Master Reclamation Plan – complete
  - Funding – Required: infrastructure loan and grants

- **Project Benefits:**
  - Community achieves water independence
  - Returns 1300 af/yr to water-dependent communities
  - Reduces local purchasing cost for water ~50%
Presentation Overview

- Introduction
- Project Goals
- Existing Wastewater Treatment Plant (WWTP)
- Managed Retreat Overview
- New Water Reclamation Facility
- Reclamation Overview
- Water Independence
- Timeline and Funding
- Summary
A One-Water Future

The citizens of Morro Bay are taking measurable financial risk to affect managed retreat of a 62-year old Wastewater Treatment Plant from the beachfront, recover the water resource and reuse to achieve water independence.

- Leads managed retreat due to the effects of climate-change
- Mitigates environmental risk – coastal flood and tsunami protection
- Achieves complete IPR reclamation of ~800af/year of effluent
- Employs nitrate flushing to clean up a coastal freshwater aquifer
- Mitigates seawater intrusion into the aquifer
- Provides an ideal site for solar power generation
- Supports long term coastal stream enhancement
- Relieves pressure on state water supplies – ~1300af/year
- Creates a 10+ acre urban park
Shovel Ready in Nov 2017

- Political will to execute – 5 of 5 Council committed to this project
- Received SWB Recycled Water Feasibility Study Grant ($75K)
- Facility Master Plan, biological, & cultural studies completed for site
- EIR scoped & in progress – to be complete in Nov 2017
- Program management team under contract thru project completion
- Demonstrated city success meeting grant requirements
- Approved for State Water Board planning loan ($10M)
- Coastal Commission staff fully briefed and supportive
- Rate increase in place for $70M project, 2nd increase in Jun 2017
Existing WWTP

- WWTP is 62-Years Old
- Permit - expiring 301H waiver
- Dumps 1M gal/day of water into ocean
- Within 100-yr floodplain
- Situated in tsunami inundation zone
- Visible from designated Scenic Highway
- Contributes to upstream flooding

Adjacent to:
- High School
- City Park
- Coastal Campground
- City Beach
Managed Retreat Overview

- Conducting managed retreat from coast
- Mitigating climate change risk
- New site is 2.5 miles from the beach
- 30-acre site under contract
- 2000 feet from nearest residents
- Ranchland location preserves view shed
- $167M project - with 10K residents
New Water Reclamation Facility

- Facility Master Plan Approved Dec 2016
- Planned SBR/MBR w/ Advanced Treatment
  - Microfiltration
  - Reverse Osmosis
  - UV Disinfection
- ~800 af/year of reusable water
- Substantial solar energy opportunities
- Water and wastewater collection and treatment systems integrated physically and operationally
Reclamation Overview

- Hydrogeology studies of Morro Valley Groundwater Basin complete
- Identified sub-basin within city limits
- Existing city wells located in this basin
- No other users in the sub-basin
- Aquifer will accept 800 af/year via four groundwater injection wells
- Injection will mitigate existing reliability and high-nitrate concerns with the aquifer
- Modeling confirms extraction of 1200 af/year with no seawater intrusion
Water Independence

• City’s current H2O requirement = ~1150 af/year
• Currently contracted for State Water – debt service paid off in ~2022
• WRF project to be complete in 2021
• City will be water independent
  • Reclaimed Water + Existing right = 1200+ af/year
  • Desal plant in place to remove nitrates
• WRF project to return 1300 af/year of state water allocation back to state (through agreements with other agencies)
Timing and Funding

Timeline – 5-year project complete in June 2021
• 2017 – EIR and Master Reclamation Plan
• 2018 – Design Build Construction Begins

Funding
• Planning for federal and/or state revolving fund infrastructure loans
• Loan to be funded by sewer rate increases
• Require $43M in grant funds for community affordability of water reuse.
Summary

A Huge Project for a Small Community

- Addressing expiring 301H discharge waiver
- Responding seriously to the effects of *climate change*
- Mitigating environmental risks from *flooding and tsunami*
- *Reusing 800af/year of water* currently dumped into the ocean
- Mitigating *nitrate contamination* of existing aquifer
- Protecting existing aquifer from *seawater intrusion*
- Providing opportunities for *solar power generation*
- Returning ~1300af/year of *State Water for another user*
- Creating a 10+ acre urban park
Needs and Questions

Federal Funding Support Needs –

• Infrastructure loan(s) for ~114M
• Water reuse grants for ~43M*

*Notes:
- the City is prepared to raise sewer rates ~150% to fund an infrastructure loan for a new wastewater treatment facility off the beach.
- The water recycling (indirect potable reuse through groundwater injection) facet of the project is a high burden for a small and measurably economically disadvantaged population to pay through rate increases.
- $43M water reuse grants are highly important to achieving the project’s full water recycling potential.
- City is drawing on existing $10M CA SRF planning loan.
Current Status

Council weighing options –

• Significant community concern with large rate increase

• Late April Council directed a pause
  • Likely delay recycling phase until some time in future . . .
  • Consider least expensive possible secondary treatment at SBB site (Ox Ditch or SBR (-))
  • Consider tertiary treatment at SBB site (MBR – “reclamation ready”)
Points of Contact

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