

# **APPENDIX C**

## **2012 RECYCLED WATER FEASIBILITY STUDY**

### **PUBLIC COMMENT RESPONSES**

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1. **Can the treated effluent outfall pipe to the ocean be eliminated; would siting the plant inland eliminate the need for the ocean outfall?**

Abandoning the existing ocean outfall is not recommended by the Study Team.

This topic is thoroughly evaluated, starting on page 88 of the Study.

It is concluded that an outfall cannot be eliminated for the following reasons:

- Based on the updated recycled water market assessment, there is not enough demand for recycled water to make beneficial use of the entire wastewater flow of the treatment plant. A theoretical 100% beneficial direct reuse (i.e., irrigation) program was evaluated in the 2012 Recycled Water Feasibility Study identifying the need for off-season storage requirement of 160 million gallons at a cost to construct the storage for this volume in a small lake is at \$70 to \$100 million which is 2 to 3 times the cost of the proposed project; furthermore, the environmental impacts for construction of this storage reservoir could be substantial and would far outweigh the benefits of deleting the outfall piping.
- Other beneficial uses were evaluated in the Study, however discharges to inland surface waters or groundwater would be subject to more stringent discharge requirements than the proposed secondary/tertiary treatment levels. Specifically, it is anticipated that demineralization would be required to control salt and nutrient loading on the groundwater basin in order to protect beneficial uses defined for the Morro and Chorro Groundwater Basins. The residual “brine” resulting from a demineralization process would be unreclaimable and would need to be disposed. Evaluation of brine disposal was also evaluated in the Study, concluding that use of the Ocean Outfall was the only economically viable disposal option at this time.
- The proposed upgrade to full secondary treatment and continued use of the Ocean Outfall is consistent with discharge requirements of the Regional Water Quality Control Board. Historic and ongoing monitoring of the MBCSD treated wastewater discharge to the ocean via the Ocean Outfall has demonstrated no negative effects.

2. **How can the City rely on State Water considering the environmental issues facing the Bay Delta and the potential for droughts and other water delivery threats?**

This topic is discussed starting on page 11 of the Study.

- It is acknowledged that there are threats to the State water supply. However, the City has three sources of water: State Water, well water and desalination water. Three sources provide a reliable supply.
- The current water supply (3,682 acre feet per year) from these three sources of water far exceeds the estimated build out demand (1,548) for water;
- The City has opted to enter a drought buffer agreement for an additional 174 percent allocation of State Water this couples with the County of San Luis Obispo's unused allocation to greatly enhance Morro Bay's reliability;
- If the water supply situation changes, the MBCSD is prepared to reexamine the feasibility of expanding the water recycling issue.

**3. How often will the MBCSD reevaluate the need for water recycling?**

Recommendation 8, on page 92, answers this question: every 5 years when the Urban Water Management Plan is updated. However, if the water supply availability or other major recycling parameters change, this issue will be evaluated immediately.

**4. What year does the State Water contract come up for renewal?**

The bonds that were issued to fund the State Water infrastructure for Morro Bay will be retired (paid off) in approximately 2025. It should be noted that the State Water contract contains allocations of specific amounts of water to Morro Bay but cannot guarantee delivery, due to hydrologic, environmental and similar unpredictable events. The City of Morro Bay uses the State of California Department of Water Resources Delivery Reliability Reports in its Urban Water Management Planning which analyzes the potential future reliability of the resource. The most current draft of that report can be found at <http://baydeltaoffice.water.ca.gov/swpreliability/2011DraftDRR012612.pdf>

**5. Does the City have a nitrate problem with the groundwater supply?**

This topic is discussed on page 12 of the Study.

The Morro and Chorro Basins are susceptible to nitrate contamination, which has been determined to be from nitrate based agricultural fertilizers in previous groundwater studies. The City treats the Morro Basin groundwater in its desalination facility to provide drinking water that meets nitrate standards established by the Environmental Protection Agency, National Primary Drinking Water Regulations. The use of the Chorro Basin has been impacted by the nitrate contamination.

**6. The study is inaccurate; does not comply with the Coastal Commission's requirements and is based upon previous studies with inaccurate assumptions.**

The California Coastal Commission does not have published guidance documents or requirements for recycled water studies. Professional staff had quality assurance and control measures which were carefully maintained during the course of this Study.

- The Dudek Study Team is composed of planners, scientists and licensed California Civil Engineers with specific expertise appropriate for the preparation of the Study;

- Dudek, the MBCSD staff and project manager carefully coordinated with the Coastal Commission staff to assure the work scope and product is both accurate and consistent with the expectations of the Coastal Commission;
- The Study was carefully reviewed by MBCSD staff and included a review by managers, operating staff and four licensed California Professional Civil Engineers.

**7. Why doesn't the City use recycled water to replenish the groundwater basins?**

This topic is discussed on page 37 of the Study.

The groundwater basins in the Morro Bay/Cayucos area are thin, narrow aquifers that have minimal storage capacity and slope to the ocean, some of the constraints on recharge are:

- Re-locating private water supply wells to provide appropriate recycled water travel time;
- Additional reverse osmosis treatment to reduce salt and nutrient loading on the groundwater basins in order to protect defined "Municipal" beneficial use;
- Public acceptance of indirect potable reuse must be overcome;
- Anticipated project costs exceeded tangible benefits making groundwater recharge economically infeasible.

**8. Why don't we do what Los Osos is doing?**

Los Osos is discussed in the Appendix A Technical Memorandum of the Study. Los Osos's situation is substantially different from the issues in Morro Bay/Cayucos:

- Los Osos is contaminating their upper aquifer with septic tank effluent---Not occurring in MBCSD;
- Los Osos is over pumping their lower aquifer, which is inducing a seawater intrusion problem--- MBCSD has different geology and does not have a lower aquifer nor is there current evidence of seawater intrusion;
- Los Osos does not have a wastewater collection, wastewater treatment system or effluent disposal system---MBCSD has invested substantial funds in the construction and maintenance of these assets over the past 60 years.
- The user fees facing Los Osos are very significant---the user fees facing the MBCSD are more affordable.
- Los Osos is entirely dependent on local groundwater supplies ----Morro Bay and Cayucos have diversified, reliable water supply portfolios including local groundwater, surface water, imported State Water Project water, and desalination.

**9. Why is the cost of recycled water more expensive than desalination?**

Chapter 6 of the report provides a full discourse of Project Cost Estimating, starting on page 51 of the Study.

The desalination facility produces potable water which feeds the pre-existing potable water distribution system. When the desalination project was constructed, the potable water distribution infrastructure was already in place having been previously constructed and paid for by the City. Conversely, the recycled water infrastructure is not designed, constructed, or

funded. Significant conveyance infrastructure will have to be funded to implement a recycled water system (i.e., storage, pumping stations, pipe networks, connections/conversions to customers). Unlike desalinated water, recycled water cannot be mixed with potable water in the distribution system.

**10. Why doesn't the MBCSD treat and dispose of wastewater similar to other jurisdictions such as Petaluma or Arcata?**

Appendix A of the Study contains "Recycled Water Comparison Survey Technical Memorandum". Petaluma, San Luis Obispo, Los Osos, Arcata and Monterrey Regional were surveyed and discussed in this memo. In summary, each of these jurisdictions has different needs, physical and geological characteristics and motivations. One solution does not fit all situations. Each situation requires careful analysis.

**11. Could recycled water be used in homes for domestic use, such as showering?**

Dual plumbing of single-family residences is not currently permitted by California Department of Public Health. Dual-plumbing (i.e., separate potable and recycled water systems) are permissible by CDPH and described in the Plumbing Code for commercial and industrial applications for nonpotable uses such as toilet flushing and fire sprinkler systems – showering is not a permissible use. Dual-plumbing is not a widely-implemented practice as the costs associated with retrofitting and converting existing buildings is very expensive.

Some jurisdictions have established policies for onsite residential property irrigation with recycled water; however the costs associated with initial retrofit/conversion and ongoing training and cross-connection inspections are usually cost prohibitive for existing properties and often for new development.

Morro Bay and Cayucos have implemented aggressive and substantial water conservation programs to reduce potable water demands resulting in per capita water demands significantly lower than elsewhere in the State.

The benefits of residential irrigation conversion to recycled water was considered in the Study; however, MBCSD currently realizes a return flow to the wastewater system exceeding 80% of potable water supplies, suggesting very limited potable water offset opportunity (i.e., less than 20%). A broad-scale residential irrigation recycled water conversion program is unprecedented and would be cost prohibitive.

**12. Why is the MBCSD focusing the recycling only at the current treatment plant site?**

Recycled water can be produced at any of the alternative sites and the Alternative Site. Evaluation concluded that recycled water feasibility was not a distinguishing factor in WWTP siting. One of the greatest benefits of the current site is that much of the sewage arrives by gravity via the extensive existing collection system. The alternative sites studied in the WWTP Alternative Site Evaluation would require significantly increased raw sewage pumping resulting in substantially higher operating and maintenance costs, electrical power costs, and associated green house gasses. Simply put, it is much simpler operationally and more cost effective to pump limited volumes of highly treated effluent for reuse than the entire volume of raw sewage.

Additionally, all potential recycled water projects require the ocean outfall for fail-safe disposal and/or disposal of brine produced from demineralization. The proximity of the existing site to the existing ocean outfall improves the economic viability of a recycled water program.

**13. The Coastal Commission wants a study done for a new plant at a different location, not the old plant; the Commission rejected the current site.**

While it is correct that the Coastal Commission found Substantial Issue with the City's Coastal Development Permit, the City has in collaboration with Coastal staff to prepare the reports necessary to address their concerns. Please refer to the completed Alternative Sites Evaluation developed with significant Coastal Commission staff and public input.

**14. The time frame for public comment was "ridiculously short", given the complexity of the Study.**

The City Council and District Board have directed staff to complete the process as quickly as possible. The report was prepared by competent professionals supported by the City and District's knowledgeable staff in accordance with that direction. Adequate time was taken to ensure the technical accuracy of the report. Since the City Council and District Board have emphasized the importance of welcoming and receiving public input, the Study has been available for public comment for over a month and included the following opportunities for comments:

- At monthly JPA meetings during public comment;
- Using the on line comment form on the web site;
- In writing by submitting to the City or District office;
- In writing to the California Coastal Commission staff.

Please note that the Study contains an Executive Summary to facilitate public review of the summary and conclusions of this technical report.

**15. The report lacks objectivity.**

The City Council and District Board have repeatedly emphasized to all staff and consultants that a completely independent and objective analysis is mandatory. The Study was completed by a multi-disciplinary team of engineers, hydro-geologists, planners, and scientists with expertise specific to water resources. The final report will be signed and stamped by a Dudek's "Engineer of Record", a competent, licensed, Professional Civil Engineer, consistent with applicable State of California Codes.