

STAFF REPORT

To: Coastside County Water District Board of Directors

From: David Dickson, General Manager

Agenda: July 11, 2017

Report

Date: July 7, 2017

Subject: Recycled Water Update

Recommendation:

Discuss and provide direction to staff as appropriate.

Background:

At its February 14, 2017 meeting, the CCWD Board approved a set of Basic Terms for a recycled water agreement between SAM and CCWD (copy of February 14 staff report attached as Exhibit 1). In accordance with the Guiding Principles for the recycled water project approved by all agencies involved, an agreement must be completed before any design or construction proceeds. The SAM board discussed CCWD's proposed Basic Terms at its meeting on April 24, 2017, but did not take any action.

At its meeting on June 12, 2017, the SAM Board accepted a recycled water Finance Plan (copy of SAM staff report and Plan attached as Exhibit 2) prepared as an element of SRT's 25% design. The Finance Plan outlines options for the recycled water facility financing to be provided by SAM and presents estimated annual costs for capital amortization, operation and maintenance. With the 25% design and Finance Plan completed, SAM and CCWD should now be able to proceed with development of a recycled water agreement.

Staff's presentation will address current project status, the Finance Plan, and next steps in developing the recycled water project.

Fiscal Impact:

None.

Exhibit 1

CCWD February 14, 2017 Staff Report

Proposed CCWD-SAM Recycled Water Agreement General Terms

STAFF REPORT

To: Coastside County Water District Board of Directors

From: David Dickson, General Manager

Agenda: February 14, 2017

Report

Date: February 9, 2017

Subject: Proposed CCWD-SAM Recycled Water Agreement General Terms

Recommendation:

Consider proposed terms for CCWD-SAM Recycled Water Agreement.

Background:

Sewer Authority Mid-Coastside (SAM) has contracted with SRT for a 25% design of facilities to produce recycled water. The 25% design, expected to conclude in Spring 2017, will provide SAM and CCWD with cost estimates for construction and operation of the facilities to support the agencies' further decisions on proceeding with a recycled water project.

The Guiding Principles for Recycled Water Project Between SAM, CCWD and MWSD ("Principles", Attachment A) state that "An agreement outlining the final details of Phase 1 shall be entered into prior to commencing the design and construction of Phase 1." At the CCWD-SAM Joint Recycled Water Committee meeting on January 27, 2017, all parties agreed that negotiating the agreement is a vital next step and should proceed immediately.

Based on the Principles and on discussion with the Board's ad-hoc Recycled Water Committee, staff has developed a set of basic recycled water agreement terms (Attachment B) for the Board's consideration. These terms, if approved by the CCWD Board, will then be presented to SAM for the SAM Board's discussion and possible approval. Terms approved by both agencies will form the basis for drafting of detailed agreement language by SAM and CCWD staff and counsel.

Fiscal Impact:

None.

GUIDING PRINCIPLES FOR RECYCLED WATER PROJECT BETWEEN SAM, CCWD AND MWSD

BASIS FOR AGREEMENT

The Sewer Authority Mid-Coastside (SAM) is responsible for the treatment and disposal of wastewater collected from within its service area. Within the SAM service area, two agencies, the Coastside County Water District (CCWD) and the Montara Water and Sanitary District (MWSD) are retail water suppliers for their respective service areas.

The parties (SAM – CCWD – MWSD) intend that a recycled water treatment facility shall be constructed at the SAM treatment plant in order to treat the wastewater generated to a water quality level sufficient for its use as recycled water for distribution and sale by CCWD. Phase 1 of the project (Phase 1) is intended to provide recycled water to the Ocean Colony Partners (OCP) golf course only.

Phase 1 has been proposed consisting of two components:

- (A) A Recycled water treatment facility located at the SAM plant, the capacity of which shall be designed, at a minimum, to serve recycled water to OCP's golf courses
- (B) Recycled water transmission and distribution systems for CCWD's service area, specifically for transmitting recycled water to OCP's golf courses

The parties intend to proceed with the design and construction of Phase 1 with funds secured by the parties to self-fund Phase 1. If grants or low interest financing provided by the federal or state governments is available, these funds will be pursued. The parties further intend that SAM shall be reimbursed for its expenditures for Phase 1.

It is anticipated by the parties that after Phase 1 is completed, additional recycled water projects will be studied for potential benefits and funding. The recycled water plant will be designed to handle additional recycled water projects after Phase 1.

These Guiding Principles shall serve as the basis for an agreement or agreements among SAM as the producer of recycled water and CCWD and MWSD as distributors of recycled water.

TERMS AND CONDITIONS

The purpose of the Agreement is to set out the basic terms and conditions pursuant to which SAM, CCWD and MWSD will agree to finance, design, construct and operate the Phase 1 Project, including the following:

1. **Jurisdiction:** SAM will be the producer of the recycled water. CCWD and MWSD will be the distributors of recycled water to all recycled water customers within their respective service areas.
2. **Point(s) of Delivery:** The Point or Points of Delivery of recycled water from SAM to CCWD and MWSD, respectively, shall be defined as that point or points in the recycled water treatment facility immediately downstream of the last treatment unit and from which delivery of recycled water is made to CCWD and MWSD.
3. **Design and Construction:** SAM will be responsible for the design, construction, and operation of the recycled water treatment facilities for Phase 1 with input from CCWD and MWSD (and future Phases). The facilities will be designed to satisfy the water quality specified by the CCWD and MWSD and the combined production requirements of CCWD and MWSD; provided, that in no event shall said requirements exceed the maximum flow rate of SAM's treatment facilities; provided, further, that SAM shall have the final authority with regard to determining selection of treatment technology.

CCWD and MWSD shall be responsible for the design, construction, and operation of all facilities for the transmission and distribution of recycled water within their respective service areas.

4. **CEQA:** The parties will be responsible for complying with the California Environmental Quality Act (CEQA) for the components of Phase 1 which each proposes to construct, with the understanding that the parties shall cooperate with each other and coordinate their efforts for CEQA compliance.
5. **Permits:** As much as practicable and for the sake of expediency, the parties will jointly apply for permits from the San Francisco Bay Regional Water Quality Control Board and the California Department of Public Health, for all permits necessary to construct Phase 1. If not practicable or expedient, then the parties will apply separately for such permits pertaining to their respective components of the Phase 1 Project.
6. **Financing:** The financing for Phase 1 is agreed to be self-funded by the parties. Ideally SAM will secure the needed funding for Phase 1. If SAM is unable to fully fund Phase 1 and CCWD is able to fund and provide all or part of the financing for Phase 1, the monies provided by CCWD will be repaid by SAM to CCWD over time. The specific details of any repayment will be specified at the time funding is finalized.
The parties also intend to apply for grant or low interest financing provided by the federal or state governments (Collectively, "Grant Funding") for the design and construction of Phase 1. The parties shall jointly apply for such financing to the extent allowable under Grant Funding programs; provided, that if such financing is based on ownership of the individual components, i.e., SAM's recycling treatment facilities, CCWD's transmission and distribution facilities and MWSD's transmission and distribution facilities, then the parties shall apply for Grant Funding

corresponding to ownership, but in any event, the parties shall cooperate with and assist each other in obtaining Grant Funding.

7. **Facilities ' Ownership:** SAM will own, operate and maintain the recycled water treatment facilities to the point(s) of delivery to CCWD and MWSD. CCWD and MWSD will own, operate and maintain their respective recycled water transmission and distribution facilities downstream of the point of delivery.
8. **Operation and Maintenance:** SAM will operate and maintain the recycled water treatment facilities to the point(s) of delivery. CCWD and MWSD will operate and maintain their respective recycled water transmission and distribution facilities downstream of the point of delivery.
9. **Records:** Without limitation upon record-keeping requirements, SAM shall keep and maintain accurate records of recycled water production and the volume of recycled water provided to CCWD and MWSD, respectively. The records or the data contained therein shall be provided periodically to CCWD and MWSD and upon demand as CCWD and MWSD may require.
10. **Access to Treatment Facilities:** MWSD and CCWD shall have reasonable access to the recycled water treatment facilities during construction and from and after SAM's acceptance thereof to ascertain SAM's compliance with the terms and conditions of the agreement entered into in pursuance of these Guiding Principles.
11. **Dispute Resolution:** Disputes regarding the interpretation of, or performance under, the agreement entered into in pursuance of these Guiding Principles shall be resolved initially by meeting and conferring between or among the parties to the dispute and if not resolved thereby, by submittal to mediation.
12. **Successors:** The agreement entered into in pursuance of these Guiding Principles shall be binding upon and inure to the benefit of the successors and assigns of the parties thereto.
13. **Reimbursement:** SAM shall be reimbursed by CCWD and MWSD for all costs incurred by SAM for the Phase 1 Project which are not reimbursed by Grant Funding. Such costs shall be allocated between CCWD and MWSD in proportion to the flow of recycled water allocated to them in the Project.
14. **Effect:** These Guiding Principles shall be effective upon the last of the dates of execution hereinafter set forth and shall be incorporated in an agreement or agreements between and among the parties for the implementation of the Project. These Guiding Principles are merely a statement of the terms upon which the parties may be interested in pursuing further negotiations. An agreement outlining the final details of Phase 1 shall be entered into prior to commencing the design and construction of Phase 1.

Proposed CCWD-SAM Recycled Water Agreement Basic Terms
February 14, 2017

1. 2-party agreement between SAM and CCWD.
2. CCWD will provide reclaimed water quantity and quality specification.
3. SAM commits to provide reclaimed water in quantity and quality specified.
4. The parties agree that CCWD will be the exclusive distributor of recycled water within its jurisdictional boundaries and that applications, customers, terms of use and pricing for recycled water distributed by CCWD shall be determined by CCWD.
5. Recycled water treatment facilities shall be designed for increase of capacity and optional additional level(s) of treatment as agreed between SAM and CCWD.
6. SAM will commit to costs for capital, operation, and maintenance of the facilities – term to be determined.
7. SAM to fund costs for design, construction, and operation of recycled water production facilities.
8. CCWD will pay SAM's total capital cost – up to the maximum determined in 6 above – on an amortized basis over the same term as the SAM borrowing used to provide the capital. Any grant funding received by the parties shall be applied 100% to the capital cost of the project.
9. CCWD will reimburse SAM for operation and maintenance costs as incurred, plus reasonable SAM overhead and other expenses, up to the maximum agreed between CCWD and SAM.
10. Payments from CCWD to SAM to be conditioned on SAM meeting water quality, quantity, and level of service specifications.
11. Each party will be responsible for compensating the other party for its failure to perform under the agreement.

Exhibit 2

SAM June 12, 2017 Staff Report

Draft Finance Plan for Recycled Water



SEWER AUTHORITY MID-COASTSIDE

Staff Report

TO: Honorable Board of Directors

FROM: Beverli A. Marshall, General Manager

DATE: June 12, 2017

REPORT BY: Kishen Prathivadi, Engineering & Construction Contracts Manager

SUBJECT: **Discuss and Accept Draft Finance Plan for Recycled Water and Provide Direction to Staff**

Staff Recommendation

Staff recommends that the Board of Directors accept the Draft Finance Plan for Recycled Water and provide direction to Staff.

Fiscal Impact

The cost of this task is \$87,432, which was approved in the January 23, 2017 Board Meeting.

Strategic Plan Compliance

The recommendation complies with the SAM strategic Plan's Vision: *"Move toward 100% reuse, converting all its wastewater into usable water, nutrients and energy, and identify or develop customers to utilize the recovered resources"* and Goal 1: Reuse and Recycling.

Background and Discussion/Report

At its meeting on January 23, 2017, the Board authorized SRT Consultants to proceed with the Basis of Design Task. The Draft Basis of Design Report was presented to the Board on April 10, 2017. The Final Finance Plan will be attached to the Final Basis of Design Report.

BOARD MEMBERS:	J. Blanchard	S. Boyd	D. Penrose
	D. Ruddock	K. Slater-Carter	L. Woren
ALTERNATE MEMBERS:	M. Clark	J. Harvey	B. Huber
	R. Kowalczyk	H. Rarback	

Supporting Documents

Attachment A: Draft Finance Plan

BOARD MEMBERS:	J. Blanchard	S. Boyd	D. Penrose
	D. Ruddock	K. Slater-Carter	L. Woren
ALTERNATE MEMBERS:	M. Clark	J. Harvey	B. Huber
	R. Kowalczyk	H. Rarback	

DRAFT Technical Memorandum

Sewer Authority Mid-Coastside Recycled Water Project

Subject: Finance Plan

Prepared For: Reena Thomas, SRT Consultants

Prepared by: Hawkeye Sheene, RMC

Reviewed by: Lindsey Wilcox, RMC

Date: June 5, 2017

Reference: 0611-001

1 Introduction

The Sewer Authority Mid-Coastside (SAM) Recycled Water Project (RWP) is a collaborative effort between SAM, Coastside County Water District (CCWD), and Ocean Colony Partners (OCP). The new RWP facility will treat secondary effluent from the SAM Wastewater Treatment Plant (WWTP) with advanced tertiary treatment to produce high purity recycled water with the quality and daily irrigation demand requirements of OCP to provide landscape irrigation for its golf course. Currently, OCP uses well water for landscape irrigation drawn from a well field adjacent to the WWTP. The new recycled water pipeline will be connected to the existing pipelines from the field and will allow OCP to irrigate using recycled water.

The purpose of this Finance Plan is to describe the pricing policy of recycled water, costs allocated to water pollution control, annual projections including water prices, recycled water volume used, allocation of costs, annual projections, and discussion of sensitivity analyses regarding recycled water usage.

2 Pricing Policy for Recycled Water

The recycled water produced by the new SAM RWP would be purchased wholesale by the CCWD. CCWD will sell the recycled water to one customer, OCP for golf course irrigation. Agreements are currently being prepared to determine the price of recycled water sold by SAM to CCWD and by CCWD to OCP.

3 Costs Allocated to Water Pollution Control

The current annual cost of treating SAM’s average wastewater flow of 2 million gallons per day (mgd) at its existing WWTP is \$540,000. The cost breakdown is summarized in Table 1 and is based on current annual flows and loadings. Cost allocation will be discussed and negotiated as part of the water sale agreements currently underway.

Table 1: Costs Allocated to Water Pollution Control

Water Pollution Control Items	Costs
Chemicals	\$165,000
Power	\$240,000
Sludge Hauling	\$135,000
Total Costs	\$540,000

Source: SAM, 2017.a.

4 Annual Projections

4.1 Water Prices for Each Category of Users

There is only one category of user – golf course irrigation customer, OCP. The price of recycled water will be determined during negotiations between OCP, CCWD, and SAM.

4.2 Recycled Water Used

SAM will provide a total of 345 acre feet/year (AFY) of recycled water estimated by OCP’s average monthly demand of irrigation water, provided in Table 2, below. The Project will be designed per the average irrigation season day demand with the capacity to provide 616 AFY.

Table 2: OCP Irrigation Demand

Month	Average Demand (gallons per day)
January	0
February	0
March	91,449
April	381,246
May	552,896
June	571,325
July	552,896
August	552,896
September	533,309
October	368,597
November	94,497
December	0

Source: CCWD, 2015

4.3 Annual Costs of Recycling Project

4.3.1 Capital and O&M Costs

The estimated capital cost for the SAM RWP is \$5,205,350, summarized in Table 3 (SRT Consultants, 2017). The annual operating costs are estimated to be \$273,000 based on operation and maintenance (O&M) costs summarized in Table 4 (SRT Consultants, 2017).

Table 3: Estimated Capital Costs

Description	Probable Costs
SAM Recycled Water Facilities Probable Construction Cost	\$2,476,520
25% Contingency	\$619,130
Administrative, Legal, Planning, Design, Project and Construction Management @ 30%	\$928,700
Recycled Water Conveyance System	\$1,181,000
Total Recycled Water Treatment and Conveyance System	\$5,205,350

Source: SRT Consultants, 2017

Table 4: Annual Operating Costs

Description	Annual Cost
Energy	\$74,620
Chemicals	\$16,100
Labor	\$115,000
Filter Replacement	\$12,600
UV Lamp, Sleeve, Ballast, Wiper Replacement	\$5,210
Pump Replacement	\$10,000
Recycled Water Conveyance	\$36,000
Monitoring and Reporting	\$3,500
Total Probable Annual O&M Project Cost	\$273,030

Source: SRT Consultants, 2017

4.3.2 Potential Project Financing and Debt Service

There are a variety of financing methods available to agencies to finance capital improvements, replacements, and expansion of water systems. These include pay-as-you-go (cash reserves and operating revenues), state revolving fund loans, grants, and tax exempt borrowings, such as general obligation bonds, special tax bonds, assessment bonds, revenue bonds, bond pools, and certificates of participation.

Potential funding sources for the project include:

- Grants of up to 25% of project costs or \$20 million, whichever is less, are potentially available from the U.S. Bureau of Reclamation under its Title XVI program. In order for a project to be eligible, it must have an approved Title XVI Feasibility Study and be congressionally authorized. Because a Title XVI Feasibility Study has not yet been prepared for the SAM RWP, additional costs would be associated with the development of such a study. The Water Infrastructure Improvements for the Nation (WIIN) set aside \$50 million for recycled water projects that have approved Title XVI Feasibility Studies, but have not been congressionally authorized. The WIIN solicitations are expected to occur in June 2017 and October 2017. Thus, the Project would not be eligible for the June solicitation. It is possible it could be eligible for the October solicitation; however, coordination with U.S. Bureau of Reclamation would be recommended to discuss timing for review of a feasibility study and the approval process. There may be additional funding allocations for future WIIN solicitation, but that is currently unknown.

- Grants are potentially available through the California Department of Water Resources (DWR) Integrated Regional Water Management (IRWM) implementation grant program funded through Proposition 1. Round 1 is anticipated to occur in early-2018. The SAM RWP is within the San Francisco Bay Area IRWM Region. In order to be eligible for IRWM grant funding, the Project would need to be included in the San Francisco Bay Area's IRWM Plan. The Project is not included on the existing IRWM Plan project list available here: <http://bairwmp.org/projects>. Projects may be submitted to the region online. Additional effort and associated costs would be required to submit the project to the Region's IRWM project list.
- The Clean Water State Revolving Fund (SRF)/Water Recycling Funding Program (WRFP) administered by the State Water Resources Control Board provides low-interest loans and grants. SRF loans typically have a lower interest rate than bonds and are paid back over a 20- or 30-year period. The current interest rate is 1.7%. Prop 1 WRFP grants have been exhausted; however, it is possible more grant funding will be made available in the future.
- Traditional bond financing could be available for the project, which typically has a higher interest rate (~5%) and is paid back over a 30-year period.

4.3.3 Annual Debt Service

The annual debt service will be based on the financing method chosen for the project and will be contingent on the amount of financing needed, the interest rate, and the length of repayment. Potential annual debt service costs have been estimated in Table 5, using the CWSRF loan and bond methods, which are discussed in Section 4.3.2 above.

The annual debt service cost of the project is estimated to range from \$222,941 to \$338,615, based on CWSRF loans and bond financing methods. Total annualized costs range from \$495,971 to \$611,645. Annual unit cost per acre foot ranges from \$805 to \$1,773 and was calculated using the financing methods and the total annual production of recycled water. Total recycled water annual production of 616 AFY was calculated from the average irrigation season day demand as it corresponds to the design capacity of the RWP. Annual production of 345AFY, based on average annual demand, is also provided.

Table 5: Unit Costs

Description	CWSRF	
	Loan ^c	Bond ^d
Capital Cost	\$5,205,350	\$5,205,350
Annualized Capital Cost	\$222,941	\$338,615
Annual O&M Costs	\$273,030	\$273,030
Total Annualized Costs	\$495,971	\$611,645
Total Production Based on SAM RWP Capacity, AFY ^a	616	616
Unit Cost Based on SAM RWP Capacity (\$/AFY)	\$805	\$993
Total Production Based on Average Annual Demand, AFY ^b	345	345
Unit Cost Based on Average Annual Demand (\$/AFY)	\$1,438	\$1,773

Source of total production volumes: SRT Consultants, 2017

- a) 616 AFY in Total Production corresponds to average irrigation season day demand, which is the design capacity of the Project
- b) 345 AFY in Total Production corresponds to average annual demand
- c) Financing Assumptions for CWSRF Loan: Interest rate of 1.70%, loan term of 30 years, A/P Factor of 0.042829. A/P Factor is a standard cash flow factor used to calculate an annual cost based on a present value for a given time frame and interest rate.
- d) Financing Assumptions for Bond: Interest rate of 5.0%, loan term of 30 years, A/P Factor of 0.065051.

4.4 Allocation of Costs

The required revenue of SAM RWP will be allocated to CCWD and ultimately the recycled water user, OCP, to cover the cost to treat and distribute recycled water. The allocation of costs to users will be determined in detail during negotiations between OCP, CCWD, and SAM.

4.5 Unit Price of Recycled Water

The price of recycled water will be agreed upon during negotiations between OCP, CCWD, and SAM for the water sales agreements. The unit cost of recycled water will be determined based on debt service, which is not yet determined as a financing method has not been selected, as well as operation and maintenance costs. The potential unit cost of recycled water could range from \$805/AF to \$1,773/AF based on existing cost estimates, as summarized in Section 4.3.2. The range assumes either a 1.7% interest rate associated with a CWSRF loan or a 5% interest rate associated with a Bond, both with a 30-year term. The range also accounts for varying recycled water volumes. Thus, the unit cost of the recycled water is dependent upon the interest rate, term, and recycled water volume.

4.6 Sensitivity Analysis Assuming User Fails to Use Recycled Water

The project's long-term viability will be subject to four identified factors. The sensitivity of the project to these factors is discussed below.

4.6.1 Sensitivity of User Failing to Use Recycled Water

A sensitivity analysis has not been conducted based on the assumption that some users will fail to use recycled water, as there is only one anchor customer for this project, OCP. The project viability will depend

on OCP’s continued purchase and use of the recycled water. This commitment will be negotiated in the agreement between CCWD and OCP.

4.6.2 Sensitivity of Volume

When the recycled water project is constructed and in operation, OCP will depend on receiving the volume of water needed for irrigation purposes. If the SAM RWP is not in operation for multiple days and CCWD is unable to provide recycled water, OCP will need access to alternative sources of water. To account for this volume sensitivity to recycled water, CCWD will need to identify a temporary backup water source if needed.

4.6.3 Sensitivity of Operating Costs

Processing costs are estimated at \$273,000 annually. The project’s sensitivity of processing costs stem from unforeseen cost increases to SAM for processing recycled water. For the project to remain financially viable with increased processing costs, the agreement would need to have provisions to allow for cost adjustments based on true cost of service.

4.6.4 Sensitivity of Project Financing/Debt Service

Allocation of costs for annual operating costs, as well as capital costs will be determined upon in the agreements between SAM, CCWD, and OCP. Debt service will vary depending on the method of financing chosen and any grants secured.

5 Sunk Costs and Indebtedness

Recycled water planning related to the SAM RWP started in Fiscal Year 2007/2008. Costs were incurred through recycled water planning, studies, testing, and a pilot program. As of May 2017, sunk costs (i.e., costs incurred) total \$506,712 and are summarized in Table 6, below. Additional costs continue to be incurred related to project design, permitting, and environmental compliance, along with other project costs as the project further progresses. Costs incurred prior to Fiscal Year 2016/2017 would likely not be recovered; however, that would be determined at time of financing selection. The project holds no existing debt.

Table 6: Sunk Costs

Fiscal Year	Purpose	Costs Incurred
2007/2008	Recycled water planning	\$2,945
2008/2009	Recycled Water Study, Recycled Water Phase I Testing	\$92,588
2009/2010	Recycled Water Pilot Program, Recycled Water Facilities Study	\$206,492
2010/2011	Recycled Water Facilities Study	\$34,390
2014/2015	Recycled Water Study Update	\$1,265
2015/2016	Irrigation Water Costs, Recycled Water RFP Evaluation	\$166,032
2016/2017	Recycled Water Project Design	\$78,000
	Subtotal	\$581,712
	Recycled Water Project Grant	\$75,000
	Total Costs Incurred to Date by SAM	\$506,712

Source: SAM, 2017

6 References

- CCWD. 2015. *Technical Memorandum: Phase 1 Recycled Water Project Water Quality and Quantity Evaluation*. Prepared by Kennedy/Jenks Consultants. December 15, 2015.
- SAM. 2017.a. Personal communication with Kishen Prathivadi via email May 17, 2017.
- SAM. 2017.b. Personal communication with Kishen Prathivadi via email May 19, 2017.
- SRT Consultants. 2017. *Sewer Authority Mid-Coastside Recycled Water Project, Draft Basis of Design Report*. April 5, 2017.