

AGENDA ITEM SUBMITTAL

Meeting Date: January 11, 2021

To: GWRS Steering Committee

From: Mike Markus/Jim Herberg

Staff Contact: S. Scott-Roberts

Budgeted: N/A

Budgeted Amount: N/A

Cost Estimate: N/A

Funding Source: N/A

Program/Line Item No.: N/A

General Counsel Approval: N/A

Project Report Approved: N/A

CEQA Compliance: N/A

Subject: UPDATE ON GWRS FINAL EXPANSION PROJECT

SUMMARY

The GWRS Final Expansion Project is currently under construction by Shimmick Construction Company to expand the Advanced Water Treatment Facility and construct the GWRS pump station and flow equalization tanks at The Orange County Sanitation District (OC San) Plant No. 2. In addition, updates on construction progress on the Headworks Modification Project and Pipeline Rehabilitation Project will be presented.

RECOMMENDATION

Informational.

DISCUSSION/ANALYSIS

The GWRS Final Expansion Project is the build-out capacity of the GWRS facility that treats secondary effluent from OC San to drinking water standards for groundwater replenishment water. The current GWRS facility produces 100 MGD of purified water. The build-out treatment capacity increases the water production to a total of 130 MGD. OC San/OCWD completed a joint effluent reuse study (SP-173) in 2016 which analyzed the project components required to facilitate the GWRS Final Expansion Project. With the study complete, both agencies embarked on completing all the projects required to meet the build-out capacity of 130 MGD as part of the GWRS Final Expansion Project.

To increase the amount of water produced from the GWRS facility, additional secondary effluent from OC San must be conveyed to GWRS. With an analysis of average raw wastewater inflows to OC San's two treatment plants, both OC San Plant No. 1 and Plant No. 2 secondary effluent is required to meet the 130 MGD GWRS production goal. Therefore, new secondary effluent conveyance facilities are required at OC San Plant No. 2 to convey the secondary effluent to GWRS. These conveyance facilities include an effluent pump station, a flow equalization tank and a pipeline. In addition, recommendations from the SP-173 study showed that the segregation of the Santa Ana Regional Interceptor (SARI) trunk flows to OC San Plant No. 2 is feasible as part of the GWRS Final Expansion Project. Currently SARI flows are not permitted to be recycled through GWRS due to the industrial and treatment facility discharges that currently flow in the SARI trunk sewer. Therefore, in addition to the conveyance facilities, the OC San Plant No. 2 headworks facilities will segregate the SARI trunk flows and treat these

flows separately for discharge to the ocean outfall. This project is referred to as the Plant No. 2 Headworks Modification Project.

The Advanced Water Treatment Facility is the GWRS facility made up of the microfiltration, reverse osmosis and UV treatment processes. The AWTF will need to be expanded to treat the additional 30 MGD of secondary effluent to meet the build-out water production goal of 130 MGD total. With all the above considerations, the GWRS Final Expansion Project includes the following project contracts/components:

GWRS Final Expansion Project Components

CONTRACT 1 – Construction Phase (Shimmick)

- Advanced Water Treatment Facility Expansion
- P2 Effluent Pump Station
- P2 Flow Equalization Tanks

CONTRACT 2: - Construction Phase (JF Shea)

- Pipeline Rehabilitation

CONTRACT 3: - Construction Phase (Shimmick)

- OC San Headworks Modification

OCWD is responsible for the costs of all the projects listed above for the GWRS Final Expansion Project. However, OC San is managing the construction of the P2 Headworks Modification Project (P2-122).

The construction phase of Contract 1 was awarded to Shimmick Construction Company, Inc. in the amount of \$199.9 million – which includes the AWTF Expansion, P2 Pump Station, and the P2 Flow Equalization Tanks. The Notice to Proceed was issued on November 2, 2019 and per the allotted construction duration – the project is scheduled to be complete on February 19, 2023. Current construction activities include building the new concrete MF basement structure for the new microfiltration cells that will be added to the AWTF. At OC San Plant No. 2, Shimmick’s subcontractor, DN Tanks, is currently working on the two prestressed concrete flow equalization tanks.

Contract 2 (Pipeline Rehab) was awarded to JF Shea Construction in the amount of \$11.6 million on July 15, 2020. The Notice to Proceed was issued on August 17, 2020 and per the allotted construction duration – the project is scheduled to be complete on June 3, 2021. Current construction activities include the installation of the new steel pipe within the existing 66-inch pipeline in the “siphon” portion of the pipeline that runs under Adams Ave. in Huntington Beach. The remaining pipeline will be slip-lined with Fiberglass Reinforced Polymer (FRP) pipe.

The OC San Headworks Modification Project was awarded to Shimmick Construction Co., Inc. at the January 22nd OC San Board of Directors meeting. The Notice to Proceed was issued on March 2, 2020 and per the allotted construction duration – the project is scheduled to be complete on March 8, 2023. Current construction activities include potholing existing utilities, drilling/commissioning of dewatering wells, and preparatory measurements for new gates to isolate the headworks.

The approved GWRSE Project budget, which includes all three contracts, is shown in Table 1 below with the expected GWRSE Project Budget shown in the right column.

Table 1 – Approved GWRSE Project Budget vs Expected Project Budget

Description	Approved Project Budget	Expected Project Budget
Pre-Design		
Studies/CEQA for GWRSE Projects	\$1,000,000.00	\$890,000
Design Engineering Services		
B&V Design Phase Services (Incl. Amend. Nos. 1, 2, 4, 5)	\$7,356,450	\$7,356,450
B&V Design Services During Construction (Amend. No. 3)	\$6,345,300	\$6,345,300
Construction Management/Inspection		
Butler/Carollo CM Agreement	\$8,500,000	\$8,500,000
Specialty/Materials Construction Inspection	\$1,500,000	\$1,900,000
Total CM and Inspection	\$10,000,000	\$10,400,000
Construction		
Contract 1 - AWTF Expansion Construction	\$123,776,159	\$116,776,159
Contract 1 - P2 Effluent Pump Station Construction	\$54,611,819	\$54,611,819
Contract 1 - P2 Flow Equalization Tank Construction	\$21,554,022	\$21,554,022
Contract 2 - P2 Pipeline Rehabilitation Construction	\$18,000,000	\$11,600,000
Total Construction Phase	\$217,942,000	\$204,542,000
Engineering Support, Legal & Administration		
SPI Agreement (Process Support)	\$792,817	\$792,817
Legal/Admin/Survey/Public Outreach Support	\$2,584,183	\$2,800,000
Total ELA	\$3,377,000	\$3,592,817
Construction Contingency	\$14,283,250	\$12,073,433
OCSD Headworks Modification Project	\$50,000,000	\$48,000,000
TOTAL	\$310,304,000	\$293,200,000
Grant - State Revolving Fund		-\$5,000,000
Grant - Round 1 IRWM (Prop 1)		-\$3,589,553
Grant - USBR Title XVI		-\$1,325,000
Total Net Expected Project Budget		\$283,285,447

The expected GWRSE Project Budget is less than the approved project budget due to the following factors:

- The Microfiltration (MF) System for the GWRSE Project was competitively bid in this phase and due to this process – significant savings in the cost of the MF equipment were achieved
- The Headworks Modification Project bid was significantly lower than the Engineer's Estimate

- The Pipeline Rehabilitation Project bid was also significantly lower than the Engineer's Estimate

The expected GWRSE Project budget will continue to be tracked for planning purposes. Funding for this project is through a variety of different sources. In August 2018, OCWD Board of Directors executed a loan agreement with the EPA for a low interest rate WIFIA loan in the amount of \$135 million. The remaining \$186 million is slated to be received from the State Revolving Fund (SRF) Loan. Also, through the SRF Loan application process the GWRSE Project was awarded a total of \$5 million in grants.

OCWD was also recently notified that the project is being awarded \$3.6 million in Prop 1 grants from the IRWM grant program managed by the California Department of Water Resources.

Additionally, OC San/OCWD applied for USBR Title XVI grant for the P2 Headworks Modification Project in Summer of 2017. Staff was notified in November 2017 that the application for P2-122 received some of the highest ratings and was awarded \$1,325,000 in grant funding.

The grants described above are also shown on the expected GWRSE Project Budget.

Table 2 below shows the construction completion percentages for each of the project elements (based on expenditures and duration) as of December 30, 2020.

Table 2 – GWRSE Project Elements Completion Status Table

GWRSE Project Element	Percent Complete (Expenditures)	Percent Completed (Duration)
AWTF Expansion	36%	33%
P2 Effluent Pump Station	36%	33%
P2 Flow Equalization Tanks	36%	33%
Pipeline Rehabilitation	27%	47%
OCSD Headworks Modification*	20%	26%

**Values as of December 14, 2020*

The detailed construction progress criteria for each of the contracts will be presented during this meeting in addition to construction photos and milestones.

PRIOR BOARD/COMMITTEE ACTIONS