



Meeting Date: May 7, 2018

Agenda Item No. 5a

Report No. SUA-18-15

Status: General Orders

Purpose: Water 2040 Update and Authorization for New Finished Water Pump Station (FWPS) Project

Background Summary:

Water 2040 Update

Since approval of Water 2040 Implementation Plan III (SUA-16-10, February 2016), most Water 2040 projects have transitioned from design and real estate acquisition into construction phase. Real estate acquisition delays have occurred for both Package A and B projects, which has caused longer than anticipated schedules for some projects.

The general status for Package A projects is summarized below:

- West 51 Booster Pump Station (BPS) and Water Line (projects 1 and 2): Final Completion was September 16, 2017, on schedule
- 44th and Central Zone Towers (projects 3 and 4): in construction, completion expected in October 2018
- Range BPS and Water Line (projects 5 and 6): in construction, completion expected in October 2018
- Construction completion of Package A projects will be 7 months late due to real estate acquisition delays

The general status for Package B projects is summarized below:

- Western Road and 32nd Avenue Water Lines (projects 8 & 9): in construction, completion expected in August 2018, on schedule
- 32nd Avenue BPS and Water Line (projects 10, 11, and 12): is delayed and awaiting completion of real estate acquisition
- Water Treatment Plant Pump Station Upgrades (project 7) delays have occurred; this memorandum includes a request for authorization of a new approach
- Construction completion of Package B projects will be late due to constructability and real estate acquisition delays

Package C projects remain deferred until Year 2020 for reevaluation.

Request for Finished Water Pump Station Authorization

The Water Treatment Plant (WTP) FWPS provides all water service, including fire protection, to the entire municipal distribution system and surrounding areas. The original approach to the WTP Pump Upgrades (project 7) included minimizing expenditures and reducing the risk of service interruptions to the majority of our water customers. To reduce risk, the design required the contractor to install and utilize a temporary pumping system. This approach allowed the project to avoid complex phasing and numerous short-term, high-risk outages that are associated with maintaining the FWPS in continuous service. However, after a detailed investigation and evaluation period by the Water 2040 consultant, CH2M, and prospective bidders, the project team determined that temporary replacement pumps meeting state public health and safety regulations were not available within a reasonable time frame. Rather than adopting the higher-risk phasing plan, staff elected to reevaluate the options for upgrading the FWPS.

The evaluation has included a more comprehensive view of the existing WTP FWPS and future needs, both near and long term. Staff and CH2M have identified significant advantages for constructing a new FWPS. These advantages include substantially lower service interruption risk, future water pumping expandability, and overall long term capital cost savings. The currently designed FWPS rehabilitation project will meet the needs of the system through 2040, but is not expandable beyond 2040 due to hydraulic limitations, physical space limitations and the likely need for a new building, in about the year 2040.

A new FWPS will provide better economy of scale through integration of three separate pumping systems. Specifically, a project is currently underway to replace the Yost BPS (SUA-17-11), and the Northeast Zone Pumps (located inside the existing FWPS) will need upgraded in the next 5-10 years. A new FWPS will include pumping and associated systems for both the Yost and Northeast pressure zones saving overall long term costs and simplifying and economizing operation of pumping systems and maintenance of facilities compared to separate facilities.

The estimated design and construction cost of a new FWPS is \$13.5 million. The cost to rehabilitate a portion of the existing FWPS now, provide Northeast and Yost Zone upgrades in the near future, and construct a replacement pump station in Year 2040 is estimated at \$22.5 million (in 2018 dollars). A new FWPS now will save approximately \$9 million in future capital expenditures. The new facility also simplifies construction, improves operational flexibility and reduces facility maintenance.

Budget Impact: An additional \$15,120,000, which includes contingency, is required for modification of Water 2040 Implementation Plan III to allow for construction of a new FWPS rather than rehabilitate a portion of the existing FWPS. The as-bid cost to construct the WTP improvements under the current plan, approximately \$3,200,000, will not be required, and will partially offset this additional cost. Water 2040 is funded through the Drinking Water State Revolving Fund (DWSRF). Current Package A & B loans (SUA-16-06 and SUA-17-04) are insufficient to include construction of a new FWPS, so additional DWSRF funding will be required. Prior to advertising for construction bids, staff will work with ODEQ and OWRB to develop a plan to apply for an additional loan. Specific authorizations related to loan commitments and construction funding will be brought before the Trustees at the appropriate time.

Related Items:

[SUA-16-09, Water 2040 Implementation Plan III Report](#)

[Implementation Informational Memorandum](#)

[Implementation Financing Plan](#)

[Implementation Schedule](#)

[SUA-16-06, Financing for Water 2040 Package A](#)

[SUA-17-04, Financing for Water 2040 Package B](#)

[SUA-17-11, Yost Pump Station Professional Services](#)

Alternatives: The following alternatives are available:

- Continue with the previously authorized approach to rehabilitate the existing Finished Water Pump Station. This option requires numerous City wide water service interruptions and high-risk construction phasing.
- Modify Water 2040 Implementation Plan III and authorize a new Finished Water Pump Station. Staff will commence with design and provide a revised funding plan for Trustee approval prior to advertisement for construction.
- Provide additional Trustee guidance for proceeding with necessary improvements.

Recommendation: Staff recommends that the Trustees:

- Modify Water 2040 Implementation Plan III by authorizing \$15,120,000 (\$13.5 Million plus 12% contingency) for Project 7, Water Treatment Plant Pump Upgrades; and
- Authorize Staff to proceed with design of the new FWPS, and execute a professional services agreement (PSA) with CH2M for an amount not to exceed \$2,576,000 (includes 12% contingency).

Prepared by: William Millis, WR Director

Reviewed by: Dan Blankenship, Deputy City Manager

Submitted by: Norman McNickle, City Manager