



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: September 16, 2020
SUBJECT: Weston Aqueduct Supply Main 3: Design, Construction Administration and Resident Engineering Services
Stantec Consulting Services, Inc.
Contract 6539, Amendment 2

COMMITTEE: Water Policy & Oversight

INFORMATION
 VOTE

John Colbert, P.E., Chief Engineer
Michael G. Rivard, P.E., Program Manager
Preparer/Title


David W. Coppes, P.E.
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 2 to Contract 6539, Weston Aqueduct Supply Main 3, Design, Construction Administration and Resident Engineering Services with Stantec Consulting Services, Inc. to revise the scope of services and schedule with no increase in the contract amount and no increase to the contract term.

DISCUSSION:

The Weston Aqueduct Supply Main 3 (WASM 3) engineering services contract includes design, construction administration and resident engineer/resident inspection for rehabilitation of ten miles of 56-inch to 60-inch diameter pipe through six different communities along highly congested and heavily travelled streets. Stantec is the prime consultant with substantial participation by Green International Affiliates, Inc. and CDM Smith Inc. as sub-consultants. The design and construction services span a total duration of 13 years and 11 months.

The preliminary design work began in July 2013 and continued for one year when it became apparent that surface construction of a 72-inch diameter pipeline through the congested urban areas of the affected communities would be extremely difficult to execute. Staff directed the consultant to put the preliminary design work for replacing the WASM 3 pipe on hold.

In October 2016, staff presented a briefing to the Board of Directors on Redundancy for the Metropolitan Tunnel system and recommended a preferred long-term tunnel alternative for redundancy. After a separate public forum on Long-Term Water Redundancy hosted by the MWRA Advisory Board in December 2016 and subsequent Advisory Board vote to support the proposed tunnel alternative, the Board of Directors voted on February 15, 2017 to approve the preferred tunnel redundancy alternative that includes both a northern and a southern tunnel route. With the new proposed tunnel system, WASM 3 will not require a larger pipe as originally planned, and the design contract was modified with an amendment to a rehabilitation project, which was approved on July 18, 2018.

Staff are also recommending the award of Contract 6544 at this Board meeting. This is the first construction contract to rehabilitate WASM 3 for the pipeline located in Medford, Somerville and Arlington. The contract is expected to take 3.7 years to complete.

During design, it was determined that work should be limited to low water demand periods, September 15 to May 15, to minimize impacts to water service since WASM 3 is a critical element of the distribution system. This added significant time to the schedule for all construction phases of the project. Staff have determined that a significant extension to the contract duration would require more consultant level of effort and time than remains in the contract. Therefore, staff are reviewing the best approach to replace or rehabilitate the most vulnerable sections of the pipe and insert critical valves within the time and budget available. Figure 1, attached, shows Contract 6544 limits and the areas of focus for a final design/construction package under this contract.

Amendment 2

Proposed Amendment 2 includes additional construction administration, resident engineering and resident inspection due to the additional time of 20 months needed to complete the first construction contract, Contract 6544, to complete rehabilitation of WASM 3 in Medford, Somerville and Arlington.

The award of the construction contract was delayed to obtain approval of a Memorandum of Agreement with the Town of Arlington for the Broadway Plaza Restoration improvements which was approved at the March 18, 2020 Board of Directors meeting. Due to COVID-19 requirements which were added into the construction contract, the project advertisement was delayed. The delay in award and the seasonal constraints resulted in the need to extend the construction schedule by 20 months. This extension is due in part to the shorter construction season. However, the timing of the notice to proceed, combined with the long lead time required for contractors to obtain valves and piping, also impacts the start date relative to those seasonal constraints and further contributes to the length of the schedule.

For the 20-month increase in time, staff have determined that the impact to construction administration is largely related to escalation of wages to the midpoint of construction and additional meetings for the extended construction duration. The extended schedule also requires additional resident engineering hours consistent with the additional time. Resident inspection hours will remain the same as inspection is not to be carried through the summer periods, which are expected to have little activity. The level of effort and costs for these increases are shown below.

<u>Resident Engineering</u>	<u>\$311,000</u>
-----------------------------	------------------

To provide oversight of the construction activities a full-time Resident Engineer for the full extended construction term is added for 20 months. The Resident Engineer will support work activities that can be completed in the summer such as meter work and restoration activities.

<u>Construction Administration</u>	<u>\$103,000</u>
------------------------------------	------------------

Additional Construction Administration services are necessary to cover meetings and provide monthly reporting on budget and activities. Twenty-six bi-weekly construction meetings were added. In addition, escalation of salaries was included since the work occurs over a longer construction period.

Staff are proposing to transfer budget from the future construction engineering services phases of the contract to fund the additional engineering services for this first construction project.

Next Steps

This contract has been in place for 7 years and has changed significantly from the original intent. To date, approximately \$3.5 million has been spent under this contract on review of northern tunnel alternatives, field investigation, survey, preliminary design and design of Contract 6544. There is approximately \$12 million remaining in the budget. There are not adequate funds or time remaining to complete all of the remaining intended construction. In addition, there are significant community impacts that will require town approval and coordination. Staff are working to prioritize those sections of the WASM 3 pipeline that are most prone to leaks and to design installation of valves that will facilitate future rehabilitation and repair efforts. A plan for the future improvements of WASM 3 will be provided to the Board at an upcoming meeting.

CONTRACT SUMMARY:

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Contract Award:	\$15,482,625	4,845 Days	06/26/2013
Amendment 1:	\$30,210	243 Days	07/18/2018
Proposed Amendment 2:	<u>\$0</u>	<u>0 Days</u>	Pending
Adjusted Contract:	\$15,512,835	5,088 Days	

BUDGET/FISCAL IMPACT:

The FY19 CIP includes a budget of \$15,512,835 for Contract 6539. The proposed Amendment does not increase the overall contract amount.

MBE/WBE PARTICIPATION:

The MBE and WBE participation requirements for this contract were established at 7.18% and 5.77%, respectively. Stantec, Inc. proposed 23.5% MBE and 7.57% WBE participation. These contract requirements will remain unchanged by this amendment.

ATTACHMENT:

Figure 1: WASM 3 Rehabilitation Project Map

