



## **MEMORANDUM**

**To: Sean Reese, Director – Department of Public Works**

**From: Ali Parand – AP Associates, Inc.**

**Date: September 16, 2020**

**Re: Greensand Filtration Facility for Well No. 5 – Progress Report**

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The intent of this Progress Memorandum is to provide a Project update for activities since August 1. The following is a summary discussion:

1. **Project Schedule:** The Project design phase is progressing according to the originally established schedule. The design phase progression is at the approximate 95% completion stage. The following project schedule has been established and is being used as a guide.
  - a) **Design Completion (100%):** End of October 2020.
  - b) **Bidding and Contract Award:** November 2020 through February 2021
  - c) **Construction Start:** Spring 2021
  - d) **Construction Completion:** Summer 2022
  - e) **Keys to maintaining schedule:**
    1. Obtaining final Board decisions related to: (a) the addition of a fire protection sprinkler system and (b) a second bathroom for male/female code compliance.
    2. Obtaining the NPDES permit for lagoon discharge without any issues.
    3. Obtaining MassDEP Project final approval without any delays.
    4. Securing additional funding.

Detailed discussions for key elements are as follow:

1. The Holliston Inspector of Buildings had determined that the proposed water treatment facility requires a sprinkler system for fire protection, and a second bathroom to comply with male/female code requirements. The Town's DPW authorized the Project Team to request relief from appropriate State Boards for these two requirements. The Project Team prepared draft variance application forms for review and comment by the DPW and the Building Inspector prior to submittal to the respective State Boards.
2. The DPW authorized the Project Team to include cleaning and redeveloping of Well No. 5 with the water treatment facility project. It would be more cost-effective to include these tasks in this project since the well pump and motor are being replaced. The Project Team prepared specifications for cleaning, redevelopment surging, and disinfection of Well No. 5 for inclusion in the Project's Contract Documents.

3. The Project site plan was submitted for the Planning Board's review and approval. The Planning Board scheduled the Project for its meeting on Thursday, August 6, 2020. The Town Planner and Board members discussed the Project with no notable issues or concerns. The hearing was continued to the next meeting in order for the Town Planner to coordinate approval conditions with those of the Conservation Commission. Continuation was scheduled for Thursday, September 3, 2020 at which time the Board voted and approved the Project with customary conditions.
  4. The Project Team finalized the septic system design and submitted it to the Holliston Board of Health with other necessary documentation for review and approval by the Board of Health Agent. Board of Health Agent reviewed and issued approval for the design of the septic system.
  5. The Project Team participated in the Conservation Commission's Project hearing on Tuesday, August 18, 2020. MassDEP had not issued a file number prior to the hearing. The Commission discussed the Project with no notable issues or concerns and voted for continuation to its next meeting scheduled for Tuesday, September 8, 2020. MassDEP issued a file number and the Commission discussed, approved and issued the Order of Conditions at its meeting of September 8<sup>th</sup>.
  6. The deadline for submitting the Project Evaluation Form (PEF) application for State Revolving Fund (SRF) loan was August 21, 2020. The Holliston DPW prepared the application in-house for submittal to MassDEP. The priority list of approved projects is normally issued in January.
  7. The Project Team incorporated MassDEP Water Supply Division staff's review comments for the 60% complete design documents into the Contract Drawings and Specifications.
2. **Project Cost:** A 60% complete design progress level probable construction cost estimate was performed by an independent estimator. It was then peer reviewed by the Project Team and finalized based on incorporation of the Project Team's comments. According to the construction cost estimate an additional \$1.75M in funding would be necessary to complete the Project based on the 60% level design documents. However, there are other factors that will likely increase the funding shortfall as follow:
1. Additional level of design details and related costs associated with the 100% complete design documents compared to the 60% complete design documents;
  2. Potential addition of a fire protection sprinkler system and a second bathroom; and
  3. Potential COVID-19 related uncertainty associated with construction materials production and prices.

The probable construction cost estimate will be refined further when the design has progressed to 100% completion and all the Project permits are secured. However, since this cost refinement may not be completed prior to the upcoming Town Meeting, an appropriation of \$3.0M should provide additional contingency to ensure that the Project can be awarded.

The following are the most notable contributing factors related to the Project cost increase:

- a) The initial Project cost estimate appropriation was \$8,375,000. This estimate was prepared in 2018 in terms of 2018 dollars, and so must be updated to account for labor and material cost escalation to the years 2021 and 2022, the anticipated construction period.
- b) Sharp increases in domestic steel prices over the last two years related to on-going tariff negotiations, resulting in as much as a double-digit hike.
- c) An aerator has been included in the facility design for the removal of carbon dioxide from the filtered water. The estimated capital cost for the aerator including all related work and controls is about \$100,000. The inclusion of the aerator will however reduce potassium hydroxide chemical usage and result in a potential annual operational savings of about \$20,000.
- d) Cleaning and redevelopment of Well No. 5 has been included in the scope of the Project. The estimated cost for cleaning Well No. 5 is about \$15,000 to \$20,000.
- e) Inclusion of a septic tank with lift station, force main and leaching trenches for sanitary waste disposal and treatment in lieu of original tight tank.
- f) Addition of a second backwash supply pump with related controls and electrical equipment to provide redundancy.
- g) Increase in backwash waste lagoons total capacity from 327,000 gallons to 542,000 gallons with additional chain-link fence surrounding the lagoons.
- h) Other design specifics associated with progression from conceptual preliminary design to completion of design drawings and specifications.

**3. Design Activities through September:**

- a) Finalize variance applications for the sprinkler system and the second bathroom to include any comments and supporting information for submittal to the respective governing Boards.
- b) Include Planning Board approval conditions and Conservation Commission Order of Conditions in the Contract Specifications.
- c) Deliver a copy of the 95% complete design Drawings and Specifications to the DPW and hold a 95% Progress Meeting to discuss the design progression.
- d) Perform a detailed independent peer review (QA/QC) of the 95% complete design Contract Drawings and Specifications.
- e) Prepare transmittal forms and submit a copy of the Contract Drawings and Specifications to MassDEP Water Supply Division for its final review and approval.
- f) Continue design progression toward completion to 100%.
- g) Prepare and submit the application and supporting documents for an NPDES permit associated with discharge from the on-site lagoons.

**4. Specific Discussions:**

- a) Currently, the Project specifications do not include SRF related front-end boilerplate sections. These would be included should Holliston be approved for the funding. For the time being, no changes relative to SRF funding requirements will be made to the front-end documents of the Specifications.
- b) The Project Team is to provide Osterman Propane with an updated site plan and loading data for propane-fueled equipment for pipe sizing, and design of the vaporizer and regulators.
- c) The Project Team is to submit updated electrical site plan and other drawings showing the primary and secondary service to Eversource for its review and comments. Eversource then will provide an estimate of electrical charges to provide a new electrical primary.

**5. Progress Meetings:**

- 1. Next meeting related to the 95% design completion deliverable anticipated in late September.

**END OF MEMORANDUM**