

Executive Summary

Three sites have been proposed as potential alternate sites for the construction of two 2.5 MG pre-stressed concrete tanks and associated facilities as an alternative to placing the tanks and facilities within the footprint of the existing Levine Reservoir:

Site 1: Block 5103 Lot 24, Paterson (former quarry on New Street)

Site 2: Block 5107 Lot 1, Paterson (across New Street from Site 1)

Site 3: Block 801, Lots 21 and 22, Paterson (formerly The Vistas at Great Falls)

An evaluation was conducted to review the feasibility of construction of the tanks at the alternate sites from an engineering standpoint, including constructability; compatibility with hydraulics of the existing system; environmental and land use constraints; permitting requirements; and cost and schedule considerations.

The findings of the evaluation are summarized in the following table and described below.

Site 1 was found to be technically infeasible due to the difference in elevation from the existing system and the potential for severe impacts on existing facilities due to the resulting increase in pressure. Site 1 also carried the highest construction cost of the sites, primarily due to extensive rock excavation that would be required at this site, very long runs of large diameter pipes that would be required to get water to and from the site, and tunneling under Rt. 80 which would be required in routing the pipelines.

Site 2 was found to be technically infeasible due to the size and configuration of the site, within which the required tanks, utility building, roads and stormwater management facilities could not be constructed, even with significant rock excavation. Construction at this site could also result in a potentially unacceptable increase in distribution system pressure. Site 2 also carried high construction costs due to extensive excavation, long runs of large diameter pipes and tunneling under Rt. 80.

Site 3 was found to be feasible based on engineering considerations alone, related to site size and configuration and compatibility with existing hydraulics. However, construction costs at this site are estimated to be approximately 170% higher than at the original Levine site, excluding land acquisition, legal, administrative and engineering fees associated with constructing the facility at alternate Site 3. Site 3 also is subject to State Historic Preservation Office approval, as is the original Levine site, and has the potential for visual impact to a much larger area than the original Levine site.

The following table summarizes the findings of the evaluation detailed in the report:

Summary of Evaluation Findings

Criteria	Levine	Site 1	Site 2	Site 3
Site size, topography and shape – adequate for construction of tanks, building, roads and stormwater system	Adequate	Appears adequate but with limitations; will require further investigation of capacity for stormwater management. Significant rock excavation required.	Inadequate	Adequate; significant rock excavation required.
Hydraulic elevation – compatible with 180 elevation	Compatible	Incompatible – potential for distribution system damage	Incompatible – potential for distribution system damage	Compatible
Proximity to PVWC system – is significant offsite piping required?	No significant offsite piping required.	Significant offsite piping, including micro-tunneling under Interstate 80 and construction through rock	Significant offsite piping, including micro-tunneling under Interstate 80 and construction through rock	Off-site piping required, through rock
Environmental regulatory constraints?	Potential Dam Safety concerns	Potential wetlands in construction area	Potential wetlands in construction area	Potential wetlands, not in construction area
Historic district/National Park Service impacts?	Yes. Possible contributing feature to Historic District.	To be determined, will require SHPO review	To be determined, will require SHPO review	Yes. Within Historic District and may be visible from Great Falls National Park overlook.
Zoning	Expected to be existing/permitted use	May require use variance	May require use variance	Expected to be permitted use
Maintenance of system operations during construction	Requires construction of temporary berm/reservoir during a very short shutdown period, and large reduction in available storage during construction	No special construction required to maintain operations	No special construction required to maintain operations	No special construction required to maintain operations
Estimated Construction Cost*	\$ 18.7 million	\$37.5 million	\$34.1 million	\$32.0 million

**excludes engineering, legal, administrative and land acquisition fees*