

Summary of Water Tank Site Visit

Select Board

Wednesday, May 31, 2023

Site: Doublet Hill

Site Visit Start: 10 a.m.

***This is an informational meeting only no deliberation took place**

Select Board Members; Chair Laurie Bent, and Tom Palmer along with Wright- Pierce Engineering Firm met at the location of Doublet Hill. There were approximately 26 people who attended this informational site walk meeting. Below is a summary of the Doublet Hill site visit, and the proposed tank site plan.

Background

- The existing tank is a 780,000 gallon riveted steel, constructed in 1931, is 49 feet tall, 52 feet in diameter, with ground elevation of 318.5 feet and overflow elevation of 367.5 feet.
- The existing tanks were constructed at the ideal locations as they are the highest elevations in town.
- The proposed tank site as shown by the stakes and the balloon deployed during the site walk is east of the existing tank. Refer to Attachment 1 – Preliminary Tank Site Plan. Alternative #1 was shown during the 6/31/2023 site walk and alternative site locations were identified based on discussions with residents. The Preliminary Tank Site Plan is intended to facilitate discussions with residents and committees. Details of tank construction will be finalized during the design phase.
- Proposed design consists of 0.75 to 1 million gallon (MG), approximately 74 foot diameter composite elevated tank, increasing overflow elevation from 367.5 feet to 397.5 – 407.5 feet (to be determined in design), and increasing height from 49 feet to 79-89 feet (height depends on ground elevation).

Key Issues

- The elevation of the existing tanks is too low to provide adequate pressure and fire protection to 300-400 homes in Weston due to development at elevations higher than the system was designed to serve. The new tanks will need to be constructed to a higher elevation to provide adequate pressure and firefighting capacity in accordance with regulatory requirements.
- Water age in Weston's water system must be managed to avoid water quality issues. An elevated tank is recommended at this location to reduce dead storage volume.
- At least 2 of the 3 tanks in Weston's system must remain online at all times during construction to maintain water service to the community.

Site Constraints

Engineering

- Parcel is too small to construct a new tank in same location as the existing tank, even if the existing tank is demolished before construction.
- The site has a significant amount of ledge based on visual observations and will necessitate blasting and filling to construct a tank foundation. It is likely that fill was brought into the site to construct the original tank.
- Construction of a composite elevated storage tank requires a flat laydown area around the tank pedestal for concrete work and building the steel tank.

- Sizing for the proposed additional 0.5M gal (spread amongst all 3 tanks) of storage for emergency use (another foot or two of diameter of the water tank) would add on the order of 1-2% to cost.

Topographic

- The site increases gradually in grade from front to back where grade increases significantly with steep grades and ledge outcroppings.

Conservation

- The existing parcel is surrounded to the east by land preserved under Article 97 as Protected Open Space. The existing parcel is surrounded to the north, south, and west by residential homes.
- Taking of Article 97 land must be approved by MEPA which requires an alternatives analysis demonstrating that this option results in the least impact to protected land.
- The location of the new tank must be determined prior to continuing with the MEPA permitting process.
- The 2 Doublet Hill outcroppings should be preserved.
- There is an isolated wetland to the south of the existing tank.
- The new tank, 25-to-30-foot buffer around the tank, and the access road will remain cleared. The rest of the site which is initially cleared for construction laydown can be reforested.
- The existing tank site should be protected for future water supply use.
- Hiking trails can be relocated per Conservation Commission.

Aesthetic

- The same antennas on top of the existing tank will be transferred to the new tank.
- Site fencing is required around the tank for security.

Resident Input

- All attendees were asked to sign-in. Town Manager, DPW, Conservation Commission, Tree Advisory Group, Planning Board, Town Engineer, Select Board, and Wright-Pierce in attendance.
- A neighbor to the Doublet site expressed concern about anything going above the tank (except the one antenna). WP described the finished tank and small communications antenna.
- Participant asked if we can we leave the stakes for people who couldn't make it to the site walk? – Yes, the stakes will be left on site after the site walks.
- Participant asked if there was any consideration given to buying a nearby property to build the tank to avoid taking conservation land? The Town replied that they are not considering taking land by eminent domain and currently there are no suitable parcels for sale.
- Planning Board asked WP to talk about site access, construction laydown areas and other aspects of tank construction. They also asked to have it marked out and requested photos of examples of access roads. WP indicated that until the site is selected, details are somewhat speculative but that in general a 12 foot +/- wide gravel access road is anticipated with clearing about 10 feet from edges of access road. At least a 100-ft by 100-ft area will be required for staging and constructing the tank. Once site is selected, the areas needed will be able to be better defined.
- Resident asked if there will be construction vehicles staged on Doublet Hill Road? – WP noted that all vehicles needed will be required to remain on site other than vehicles that are needed to make frequent deliveries such as concrete trucks. These trucks would be temporary and be waiting their turn to enter site.

- Planning Board asked for WP to take a look to see if it makes more sense to build a tank closer to the road to preserve the face of the second Doublet Hill outcrop and reduce length of access road and include estimated costs/savings for this alternative.
- Planning Board asked about reducing the size of the tanks if redundancy piping to the MWRA was completed. WP reviewed what was stated in the Master Plan, that there is the potential to reduce emergency storage volume by 0.5M gallons if there are redundant feeds from MWRA. However, it was not a recommendation or definitive action. The decision whether or not to include emergency storage in the project is to be determined by the Town. By eliminating the emergency volume, it would reduce tank diameter by perhaps 1 or 2 feet.
- A neighbor made the point that some residents have booster pumps in their basement and can homes with inadequate pressure be given booster pumps rather than raise the tanks? WP stated that this would not be practical as there are over and approximately, 300 to 400 homes with inadequate pressure. In addition, these homes would still be without adequate pressure at hydrants and thus no fire protection.
- Question was asked regarding the foundation and its location. WP stated that the foundation will be underground.
- Several participants stated that they feel it is important to preserve the 2 Doublet Hill outcroppings and that a tank should not be located on either.
- Question was asked, is an increase in fill to place the tank on top of, mean a decrease in blasting? WP stated that generally, yes. Tank foundation should be built on all fill or on all ledge to prevent differential settlement.
- Question concerning invasive species brought in by fill/trucking. Town commented that the project will adhere to Town Standards for fill.
- Direct abutter (80 Doublet Hill Road) indicated that he would prefer the tank be constructed at the higher location further from his house but not on the top of the hill and that screening be provided. The Town and WP noted that they would work with Planning Board and Conservation Commission to come up with costs for landscaping, and consider potentially planting ahead of time to provide vegetative buffer between tank and 80 Doublet Hill Road
- Concern raised by participant about preserving the trail network. Conservation Commission indicated that trails are not a protected resource, "we change trails all the time", and that where appropriate, trails will be replicated.
- WP indicated that they originally were considering proposing the tank closer to isolated wetlands to the east but because of the new bylaw voted at town meeting, it was moved away from that location. Conservation member indicated that the location can be considered.
- Does it make sense to keep new infrastructure closer to old infrastructure? WP responded that to reduce the amount of infrastructure required to extend from the existing tank to the new tank, it is preferred to stay close to the existing tank.

Action Item Summary

Task

Develop costs for landscaping and consider planting ahead of time to provide vegetative buffer before construction begins.

Develop alternatives analysis including cost estimates for various siting options including further up the hill, at the base of the hill, or behind the existing tank. See Attachment 1 for alternative sites that will be assessed.

Owner

Town of Weston – Conservation Commission and Planning Board

WP

See Doublet Hill Preliminary Water Tank Site Map Attached

Meeting ended at 11:30 a.m.

Tom Palmer
Clerk

Note: A copy of all documents, explanatory material, and exhibits presented to and used by the Select Board as part of this meeting are attached to the approved minutes