

December 10, 2025

Leon Gaumond, Town Manager
11 Town House Road
Weston, MA 02493

SUBJECT: Cat Rock Tank
Reply to Attorney Dan Hill Letters

Dear Leon,

As requested by your Board, we are providing comments to letters dated 11-18-2025 from Mr. Dan Hill who represents Michael Chasan, an abutter to the Cat Rock tank site. The first letter is from Mr. Hill requesting that the Board reconsider the alternatives analysis of the proposed Cat Rock tank in light of recent design modifications for Weston's distribution system and Cat Rock tank. The second letter is from their civil engineer, Mr. Sean Reardon with Tetra Tech. Their concern is that the changes to the Cat Rock tank design are significant enough to warrant re-evaluation as they contend the "key attributes" have changed. Our review and comments will focus on Tetra Tech's letter and analysis.

Tetra Tech's position is that because of the modified tank design, which is changing from a composite elevated style tank to a precast concrete style tank having a lower overflow elevation, makes construction of the precast concrete style tank on the existing tank site even more viable.

It is important to note the following in regard to changing to a precast concrete tank at the existing tank site:

1. Relocating the proposed precast concrete tank to the existing tank site (while the existing tank remains in-service) will increase the diameter of the tank by approximately 11+ feet (versus a smaller diameter at the Alternative 1 site) to provide the same needed equalization and fire flow volume because of the change /increase in floor elevation.

The increase in diameter and clear space needed around the floor of a concrete tank for construction will further limit the available laydown area needed to form and cast wall and dome panels. This will restrict and perhaps preclude concrete tank manufacturers from casting panels on the existing site while leaving space for a crane to move around the tank to lift panels. The limited space to the southeast of the existing tank would not be accessible by a crane, leaving the Cat Rock lookout as the only area to cast panels near the tank location (see attached Figure).

2. The modification of the design will not accommodate taking the existing Cat Rock tank out-of-service to construct the new tank on the existing tank footprint.

The modified design presented at the September 25, 2025 Select Board meeting (i.e., dividing the distribution system into two separate zones (north and south) versus remaining with a single zone as is the existing) will simplify operations by maintaining existing hydraulic conditions (and pressures) in the northern areas of the system and eliminate the need for system control valving. In addition, the reduction in tank elevation would accommodate a different less expensive tank (precast concrete).

An additional benefit of the modified design is that the southern zone tanks can be used to support the northern zone when the new Cat Rock tank needs to be taken out of service in the future for routine maintenance such as inspections or cleanings. Routine maintenance events are 1 -2 days at most.

However, this modified configuration cannot, nor would we recommend that the southern zone tanks be used to support the northern zone for extended periods beyond 1-2 days, such as would be required to construct a new Cat Rock tank as proposed by Tetra Tech.

To have the southern zone completely redundant to the northern zone, the storage in the Paines Hill and Doublet Hill tanks would need to be increased in volume by 626,000 gallons, equal to the equalization volume in the Cat Rock tank, to serve the northern zone for an extended period. It would also likely require additional distribution piping improvements.

We have been consistent in saying the tanks need to remain in service throughout construction. Even with the ability to flow water from the southern zone into the northern zone due to the higher hydraulic gradeline, the southern zone will not have the required volume to serve the entire community without additional and costly modifications.

Several statements are made regarding the elimination of the 11,000 feet of transmission main to the new Cat Rock tank and how this would change the Alternative Analysis scoring.

The transmission main in question would have been needed for a new tank in any location at Cat Rock and therefore was not a factor in the tank siting analysis. The need for and alignment of this main was considered for two alternatives; (1) through the existing easement from Overlook Drive or; (2) running past Overlook Drive to Kings Grant Road and up Bradford Road to the tank site. Early on in the discussion of routes, the Select Board rejected the Bradford Road alignment because it would have added +/- \$7M to the project versus using the existing easement. Ultimately however, with the modified design which eliminates the transmission main and requires a booster pump station to serve the Kings Grant neighborhood, results in net savings to the Town of approximately \$2M-\$3M.

Tetra Tech suggests that numerous scoring categories warrant re-scoring because of the modified design. A brief summary of each along with our response follows:

- Article 97 Impacts: It is stated that the water main required to connect the proposed tank for Alternative 1 adds additional impact to Article 97 lands.

However, and as stated in the Alternative Analysis, every alternative, including locating the tank on the existing tank parcel, would include a minimum taking of 1.2 acres of Article 97 conservation land to accommodate the access road, construction laydown area, stormwater management system and, utilities including a “potentially a new water main”. The area of Article 97 conservation land where the potential new water main would be installed was always included as part of the Alternative 1 land taking area. Therefore, its impacts are irrelevant.

Tetra Tech’s letter includes a Figure depicting their interpretation of where the proposed location of the new water main would be and the additional tree removal this route will require and they note that the construction of this connection will require a shutdown of the tank(s).

This alignment is not what we have proposed. Our design routes the new main through what is already a cleared gravel pathway to the existing sampling station and hydrant and therefore will require no additional tree removal. In addition, a shutdown is required under any scenario being considered and has no bearing on the sitting or analysis.

Furthermore, since a concrete style tank requires an even larger area than an elevated tank to accommodate the larger diameter tank and on-site concrete wall panel casting beds, at least 1.47 acres of Article 97 conservation land will need to be changed to Article 97 water supply land to construct the tank on the existing tank parcel (see responses below for further detail).

- Impact to Open Space: It is stated that the original analysis placed a disadvantage to constructing at the existing site due to the height of the proposed composite elevated tank “potentially increasing shade over the outlook.”

The alternatives analysis did not note “shade” as a contributing factor against constructing a tank on the existing site.

- Impacts to Private Property: Tetra Tech stated that “The proposed re-design includes a tank that is simpler to construct and far shorter than the one originally evaluated. The simpler construction and shorter height logically will require a much smaller construction footprint than the tank geometry originally scored likely eliminating the need to acquire land for the purposes of accommodating construction.”

While one could argue that precast concrete tank construction is somewhat “simpler”, as noted in our introduction; (1) precast concrete tank construction requires substantially more space on the site to cast the wall and dome panels; (2) the diameter of the tank will increase by approximately 11+ feet as

compared to a concrete tank at Alternative 1 site and the diameter of the foundation will increase by approximately 32 to 38 feet in diameter as compared to an elevated tank at the Alternative 3 location, consuming valuable laydown area and more of the Cat Rock lookout; and (3) because of the increased diameter, the taking of private property will likely increase to provide ample construction area and for construction of a retaining wall as was recommended for a composite style tank.

Constructing a precast concrete tank or any other style tank on the existing site, which requires that the existing tank remains in-service, will *substantially* increase project costs. Because of the site limitation at the existing tank site, the concrete tank panels would need to be cast farther from the site likely at the location of Alternative 1 (assuming the community would not allow further impacts on the Cat Rock lookout (see Figure attached)). The panels would then be lifted and walked by crane to the site for final placement, requiring additional fill to raise and flatten the grade of the existing access road to the existing tank. This places significant and unwarranted risk of damage to the concrete panels, compromising the long-term integrity of the tank, increases the risk and safety to workers, increases the construction duration, and will require additional tree removal to accommodate the crane while it moves panels to the site.

- Ledge and Cut/Fill: The statement is made that the re-design will “likely” increase the foundation footprint because of the increase in tank diameter resulting in 4X the amount of ledge to be removed and will disturb more of the Alternative 1 site.

Composite elevated tanks require a substantial foundation to support the elevated bowl full of water to prevent it from overtopping. These foundations can be 5-10 feet deep and 1.4 times wider than the concrete column that supports the bowl. If the bedrock has sufficient strength, ledge removal can be minimized as the foundation can be shallower and anchored into the bedrock.

Precast concrete tanks can be constructed with the floor 4-5 feet below grade or can be constructed at grade, supported by an exterior ring wall foundation which is typically 3-6 feet wide and 4-5 feet deep. Similarly, if the bedrock has sufficient strength, the ringwall can be shallower and anchored to the bedrock.

Comparing worse case conditions (full foundation depth), a composite elevated tank will require the removal of approximately 430 - 550 cubic yards (cy) of ledge for the foundation (depending on the pedestal diameter which varies by manufacturer). A precast concrete tank will require approximately 215 - 430 cy's ledge removal for the foundation, depending on the depth of weathered bedrock. The volume of ledge removal if the tank were constructed at the peak of Cat Rock would be greater due to the larger diameter required to provide the necessary water storage volume in a shorter height. In any event, the amount of ledge removal for a precast concrete tank is not 4X's that required for a composite elevated tank – it is less.

- Height: In their letter, Tetra Tech states that the height of the composite tank was “specifically sited by WP as a disadvantage of locating the new tank near the existing tank given the impacts of the added height on the adjacent homes.” It is also suggested that the proposed lower tank height eliminates any substantive impact on abutters.

Our analysis stated that the tank height, or overflow elevation, at all Alternatives under consideration were equal. Height was noted as a disadvantage because of construction complexity and risk of damaging the existing tank. Regarding the overflow elevation, the existing site was given the highest rating because the overall height of a tank at this location is less than other alternatives because of the higher ground elevation. As noted above, changing the tank to a precast concrete ground storage style, due to the higher elevation of the existing tank site, requires the diameter of the precast concrete tank to get larger to provide more volume lost by the higher elevation of the site.

- Infrastructure: Tetra Tech states that elimination of the Bradford Road water main results in a fundamental change in how the various tank options need to be considered because a connection to Bradford Road is being eliminated in the modified design.

We previously provided a response to this comment above. However, it is important to reiterate that the connection of the watermain to Bradford Road was noted as a “potential water main” and it was not confirmed whether this main would be included in the project. The differences in the linear footage of potential water main varied between 340 feet to 620 feet, not 11,000 feet.

The length of water main needed to connect from the existing easement to Alternative 1 is approximately 155 feet greater than the shortest possible route from the easement to the existing tank site. We would not recommend installing water main up against the existing tank, as shown in the letter’s “Figure 1” because ledge removal that close to the existing tank poses significant risk to the tank and the Town’s water service. A new water main to a tank at the top of Cat Rock would also require cutting into the steepest part of the hill and require tree removal whereas our proposed design of the new water main to Alternative 1 location will utilize an existing cleared and semi-flat gravel access road.

In addition to the “potential water main”, electrical and gas service to Bradford Road was discussed and the ranking would remain unchanged when considering these utilities.

The elimination of the connection to the existing Bradford Road water main is a benefit to the Town and reduces overall construction costs and reduces impacts to Bradford Road and residents. The elimination of the connection, however, has no bearing on the needed space and constructability of either tank.

- Constructability: Tetra Tech states that the Alternatives Analysis discounted construction of a tank near the existing tank because the site lacked adequate space for cranes/heavy equipment. They suggest that design and construction of a precast concrete tank eliminates construction complexity because the proposed tank is shorter and simpler to construct.

In the Alternatives Analysis and in numerous conversations involving the DPW Director, it was stated that construction of a tank directly adjacent to the existing tank would not be allowed and thus would be significantly discounted because of the risk that construction poses to the existing tank and water main. A shorter tank does not eliminate that concern or requirement of the Town but rather increases it due to the larger diameter of the tank. It will also require that the wall panels be cast far from the tank location requiring that they be carried by crane up the access road and placed into position (as opposed to an elevated tank which is built from the ground up within the footprint of the bowl).

The existing site is even more challenging for the construction of a precast concrete tank because of the need to cast wall and dome panels directly adjacent to and around the tank. As noted above, we do not think this is possible without expansion of the site (onto private property) and/or removal of even more of the Cat Rock lookout (see attached Figure).

Construction of a tank of any type at the Alternative 1 site is far easier, less complex and poses far less risk than the Alternative 3 site that is constrained and includes critical water infrastructure.

- Construction Cost and Conclusions: Tetra Tech concludes the letter requesting the Select Board revisit costs of the modified design because of the elimination of the water main connection to Bradford Road and the “simpler” construction of a precast concrete tank.

Our proposed modification demonstrates significant cost savings to the project. We believe that Alternative 1 is in the best interest of the Town based on lower cost, easier constructability, reduced risk to existing infrastructure and fairness to all abutters. Providing full-service redundancy to the northern zone will increase the volume of the southern zone tanks by 626,000 gallons adding additional project costs.

We re-ran the Alternatives ranking analysis using the proposals made by Tetra Tech and updated for a precast concrete tank at the Alternative sites (see attached Matrix Table 1). This resulted in the following:

<i>Alternative Site ID#</i>	<i>Original Analysis Ranking</i>	<i>Revised Analysis Ranking</i>
<i>1</i>	<i>75.0</i>	<i>71.3</i>
<i>3</i>	<i>39.3</i>	<i>49.7</i>

We would be happy to review our comments with the Town if requested.

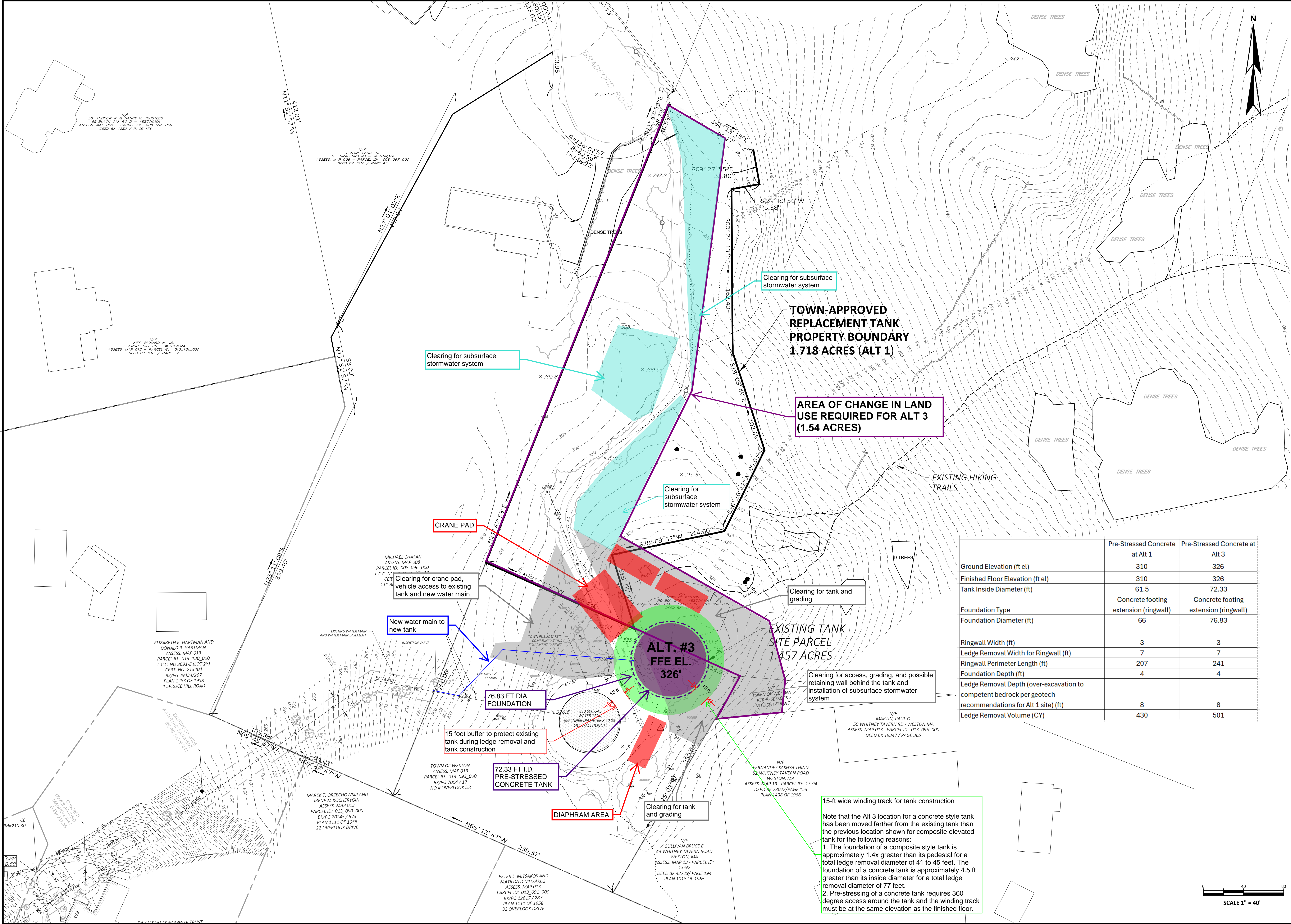
Sincerely,
WRIGHT-PIERCE



Robert J. Williamson, PE
Regional Group Leader
rob.williamson@wright-pierce.com

Attachments

Figure 1 – Construction Layout for Pre-Stressed Concrete Tank at Alternative 1
Table 1 – Cat Rock Site Alternatives Analysis Matrix and Scoring



REVISIONS		APPD	DATE
NO			
1			
2			
3			
4			
5			

PROJECT NO:	DESIGNED:	CAD COORD:	CAD:	CHECKED:	DATE:	APPROVED:	DATE:	SUBMISSION:

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Cat Rock Construction Layout for Pre-Stressed Concrete Tank at Alternative 1

Figure 1

Table 1
Cat Rock
Site Alternatives Matrix and Scoring
Updated November 2025 for Pre-Stressed Concrete Tank Style

Criteria	Maximum Criterion Score	Alternative Site #1				Scoring (6/2024) (CET)	Updated Scoring (11/2025) Pre-Stressed Concrete		Alternative Site #3		
		Updated Scoring (6/2024) ⁽¹⁾ (CET)		Updated Scoring (11/2025) ⁽¹⁾ (Pre-Stressed Concrete)			Updated Scoring (11/2025) Pre-Stressed Concrete		Rationale		
		Initial Score (1 to 3)	Final Score	Initial Score (1 to 3)	Final Score		Initial Score (1 to 3)	Final Score			
Impacts to Preserved Land	38		16.7		18.7		12.7		18.7		
Area of Article 97 Land Change-in-Use	18	1	6.0	1	6.0	1.718 acres of Article 97 conservation land would be changed to Article 97 water supply land.	1	6.0	2	12.0	Both the Cat Rock & 80 Acres parcel and the existing tank parcel are preserved under Article 97. The existing tank parcel is protected for water supply use. Any disposition including change of use of any portion of either of these properties will require going through the Public Lands Preservation Act (PLPA) process including submission to the Massachusetts Executive Office of Environmental Affairs (EOEA), approval from legislature, and approval by the Town's Conservation Commission. The existing access road to the tank is currently preserved under Article 97 for conservation/recreation, not for water supply. EOEA indicated that it would be prudent to include the access road in the disposition so that the Water Department obtains legal rights to the access road in perpetuity and can install utilities as needed. 1.47 acres of Article 97 conservation land would be changed to Article 97 water supply land to accommodate the access road, construction laydown area, casting beds, crane pads, and a subsurface stormwater management system.
Proximity to Significant Landscape Features	6	2	4.0	2	4.0	The new tank would be located approximately 140 feet northwest of the lookout point at Cat Rock and clearing for construction would extend to approximately 60 feet from the Cat Rock lookout point. These impacts are twice as far away from those in Alternative #3.	1	2.0	1	2.0	The new tank would be located approximately 70 feet from the Cat Rock lookout point and clearing for construction would extend to approximately 30 feet from the Cat Rock lookout point. This tank and its construction disturbances are closer to the Cat Rock lookout point than Alternative #1.
Tree Clearing	8	1	2.7	1	2.7	Alternative #1 will require approximately 1.5 acres of tree clearing, all of which will be on what is currently conservation land.	1	2.7	1	2.7	Alternative #3 will require approximately 1.2 acres of tree clearing, of which 0.9 acres would be on what is currently conservation land. Alternative #3 will require tree clearing on the peak of Cat Rock. More of the vegetation along the western property line would remain as compared to Alternative #1.
Impacts to Contiguous Open Space Affecting Wildlife and Hikers	6	2	4.0	3	6.0	The hiking trail from the end of Bradford Road to the peak of Cat Rock will need to be temporarily relocated during construction. The hiking trail from Overlook Drive to the Cat Rock peak would not be impacted. The peak of Cat Rock would not be impacted.	1	2.0	1	2.0	This alternative will significantly impact the hiker's experience at the peak of Cat Rock due to flattening of the peak and installation of permanent safety and security fencing required around the tank. The tank site for this alternative is located on the hiking trail that travels from Overlook Drive to the Cat Rock outlook. Although the view facing northeast from the Cat Rock outlook point would be undisturbed, Alternative #3 receives the lowest score due to its impact to the peak.
Impacts to Abutters	22		18.7		18.7			7.3		14.7	

Criteria	Maximum Criterion Score	Alternative Site #1				Scoring (6/2024) (CET)	Alternative Site #3				
		Updated Scoring (6/2024) ⁽¹⁾ (CET)		Updated Scoring (11/2025) ⁽¹⁾ (Pre-Stressed Concrete)			Scoring (6/2024) (CET)		Updated Scoring (11/2025) Pre-Stressed Concrete		
		Initial Score (1 to 3)	Final Score	Initial Score (1 to 3)	Final Score		Initial Score (1 to 3)	Final Score	Initial Score (1 to 3)	Final Score	
Requires Acquiring Private Property	12	3	12.0	3	12.0	Alternative #1 does not require acquisition of any private property.	1	4.0	2	8.0	A geotechnical and structural analysis would be needed to determine if a retaining wall is needed southeast of the proposed tank to support the tank and/or the tank winding track because of the steep drop off towards residential properties. Due to the proximity of the proposed tank to residential properties (44 Whitney Tavern Road and 52 Whitney Tavern Road), the need to acquire private property cannot be determined based on preliminary design. This alternative receives a low score due to the unknowns and outcome especially when considering that two separate purchase agreements with the property owners could potentially be needed.
Proximity to Closest House	10	2	6.7	2	6.7	The new tank in Alternative #1 would be 150 feet from the residence at 111 Bradford Road and 390 feet from the closest residence on Whitney Tavern Road (#52). This alternative is closer to to one than the other alternatives, however, unlike Alternative #3, a retaining wall will not be required. This alternative receives a medium score.	1	3.3	2	6.7	The new tank in Alternative #3 would be approximately 345 feet from the residence at 111 Bradford Road, 195 feet from the residence at 52 Whitney Tavern Road, and 335 feet from the residence at 50 Whitney Tavern Road. The potential retaining wall that may be required to support the tank base would be located approximately 150 feet from the residence at 52 Whitney Tavern Road. In addition, retaining walls greater than 36" in height are considered a structure and must meet the Weston zoning setback requirement of 45 feet. A zoning variance would likely be required for the retaining wall which is subject to the affected property owner's approval (44 and 52 Whitney Tavern Road). Due to the proximity of both the tank and the potential retaining wall to nearby residences, Alternative #3 receives a medium score.
Engineering Evaluation	34		33.7		28.0			17.3		14.3	
Site Access	4	3	4.0	3	4.0	An access road to the new tank exists and can be used for construction. A truck will be able to back into and pull out of the site without a turnaround. This alternative will require re-routing around the new tank to access the existing tank for demolition. Alternative #1 is the most accessible and receives the highest score.	1	1.3	1	1.3	An access road to the new tank exists but cannot accommodate equipment and trucks as-is due to the steep grade and lack of space for truck turnaround near the new tank. There is not sufficient space next to the proposed tank location to accomodate the concrete wall casting beds. Therefore, the walls will need to be cast at a location near the bottom of the access road and a crane would need to pick them up and track them to the top of the hill. An access to the southeast of the tank would also need to be constructed to allow for grading at the drop off of the hill and to install and maintain subsurface stormwater controls. Compared to other alternatives, Alternative #3 is the least accessible.
Potential Ledge Removal	8	3	8.0	2	5.3	Approximately 430 CY of ledge removal will be required to install the tank foundation at Alternative #1.	2	5.3	2	5.3	Approximately 500 CY of ledge removal will be required to install the tank foundation at Alternative #1 due to the larger tank diameter.

Criteria	Maximum Criterion Score	Alternative Site #1					Alternative Site #3				
		Updated Scoring (6/2024) ⁽¹⁾ (CET)		Updated Scoring (11/2025) ⁽¹⁾ (Pre-Stressed Concrete)			Scoring (6/2024) (CET)		Updated Scoring (11/2025) Pre-Stressed Concrete		
		Initial Score (1 to 3)	Final Score	Initial Score (1 to 3)	Final Score		Initial Score (1 to 3)	Final Score	Initial Score (1 to 3)	Final Score	
Cut and Fill Site Work	8	3	8.0	2	5.3	This alternative requires significant cutting and filling sitework but less than Alternative #3 since the tank, laydown area, and crane staging will be located on what is already the flattest part of the site.	2	5.3	1	2.7	This alternative requires significant cutting and filling sitework. This alternative will require flattening the top of the Cat Rock peak for the tank while still requiring the use of the flatter areas along the access road to provide sufficient space to cast the wall panels. Additional cutting and filling will also be needed to construct an area for vehicles to turnaround at the top of the hill and to construct a stormwater management system southeast of the proposed tank prevent runoff to 44 Whitney Tavern Road and 52 Whitney Tavern Road.
Tank Height	1	2	0.7	1	0.3	The tank sidewall would extend 57 feet above grade.	3	1.0	2	0.7	The tank sidewall would extend 41 feet above grade. Since the full height of the tank is needed to provide the required storage volume, the diameter of the tank must increase to provide the same volume as Alternative #1.
Impacts to Infrastructure	1	3	1.0	3	1.0	375 feet of new main from the the end of the DPW easement to the new tank. The new main would be installed within the already cleared and relatively flat gravel access roads. This alternative would require shorter runs of underground electrical conduit and natural gas piping from the end of Bradford Road to the tank than Alternative #3.	1	0.3	1	0.3	220 feet of new main from the the end of the DPW easement to the new tank. The new main would require cutting into the slope of the hill and clearing trees on the existing tank parcel. This alternative would require longer runs of underground electrical conduit and natural gas piping from the end of Bradford Road to the tank than Alternative #1.
Constructability	12	3	12.0	3	12.0	Construction of all the alternatives will be challenged by the tight site with steep slopes and will require use of Bradford Road cul-de-sac for equipment laydown. This alternative is the farthest away from critical infrastructure including the existing tank and water main which must remain online to continue providing water to the community. The site layout for Alternative #1 will provide the most flexibility for the contractor and it presents fewer constraints and safety concerns than the other alternatives. Therefore, it receives the highest score.	1	4.0	1	4.0	Constructability concerns associated with the tank include the removal of ledge in close proximity to the existing tank, the lack of space to set a large crane and turnaround vehicles near the tank without significant filling to stabilize the area, and the need to transport the concrete walls up the access road (rather than picking them up and setting them at the tank from one crane location). Of significant concern to tank manufacturers is the liability and safety issues associated with conducting construction activities in very close proximity to the existing tank. For these reasons, this alternative receives the lowest score. If a geotechnical and structural analysis determines that a retaining wall would be needed for Alternative #3 it would present numerous constructability concerns including that it will require a global stability analysis to determine wall type and location, it will need to be constructed on what is currently private property requiring an easement or property acquisition.
Cost	6		6.0		6.0			2.0		2.0	
Opinion of Probable Construction Cost ⁽²⁾	6	3	6.0	3	6.0	The construction costs for Alternative #1 are anticipated to be far less than Alternative #3.	1	2.0	1	2.0	The construction costs for Alternative #3 are anticipated to be greater than Alternative #1. This alternative will incur cost premiums for the ledge removal in close proximity to the existing tank, multiple cranes and/or small equipment to move materials up the steep grade from Bradford Road to the tank site, more man hours due to the site constraints, increased duration, and safety precautions, and potentially construction of a retaining wall.
Total Score	100	75.0		71.3			39.3		49.7		



November 17, 2025

Mr. Daniel C. Hill
Hill Law
Six Beacon Street
Suite 600
Boston, MA 02108

**Re: Cat Rock Hill Water Tank – Design Change
Bradford Road
Weston, Massachusetts**

Dear Mr. Hill:

It appears that the Town's water system consultant Wright Pierce (WP) is recommending a significant change to the proposed design of the Cat Rock water tank that, at a minimum, warrants a re-evaluation of alternatives given key attributes on which the alternatives were originally evaluated and on which the site selection was based have now changed.

A. Wright Pierce's New Recommendations for the Weston Water System Improvement Plan

These changes are discussed in a Memorandum from Wright Pierce dated September 22, 2025, and were explained by Wright Pierce representatives at the Select Board's most recent Water Tank Working Group meeting on September 25, 2025. The highlights are as follows:

- The new Cat Rock tank would be constructed at the same elevation as the existing tank (instead of raising it to EL. 404') while the Paines Hill and Doublet Hill tanks would be raised to the higher elevation to increase pressure in the southern part of town. The Cat Rock tank water level will now be at EL. 367', which is 37 feet lower than originally proposed.
- The area of town north of Route 20 (served primarily by the Cat Rock tank) would be isolated from the town-wide system to create a new lower pressure zone.
- A booster station would be added to increase pressures to serve the Kings Grant and Bradford Road neighborhood eliminating the need for the 11,000-foot transmission main that would have been constructed in Bradford Road and connected to the new Cat Rock tank.
- The new Cat Rock tank would be concrete rather than "elevated composite," which means less cost to construct and maintain in the long term.
- The proposed design change would be less expensive to implement. Wright Pierce estimates an overall cost savings of \$2M - \$3M.
- If the Cat Rock tank were to be taken "off line" for a period of time, the "northern zone" (north of Route 20) could be served by the two other tanks in the southern zone.
- Fire flows (pressure) will be maintained under the revised design.

Notably, Wright Pierce has not addressed whether constructing the new Cat Rock tank in the same location as the existing tank is now more viable, or even preferable, than the currently-proposed location (referred to by WP as the "Alternative 1" site location), which is down the hill, closer to Bradford Road and further away from the existing water mains to which it will connect which is addressed further in the next section. .

B. Impacts of the Revised Design and System Configuration

As noted above, the revised design appears to forego the proposed new water main in Bradford Road. The proximity of the new Bradford Road water main was noted as a significant advantage of Alternative 1 over

other options closer to the existing tank because it required less water main and less Article 97 land taking due to the shorter connection distance. That advantage has now flipped to a disadvantage given the water main it will now connect to extends from Overlook Drive only to the existing tank. If the Cat Rock tank remains in the Alternative 1 location, the Town would need to spend more money than previously planned to extend the water main several hundred feet from the current tank to the new tank site. That new water main would also pass through protected Article 97 land, increasing the required land taking. That additional taking as well as the taking required for the new tank would be unnecessary if the replacement tank were constructed closer or in place of the existing tank at the Alternative 3 site, which now appears to be possible based on the information disclosed as part of the description of the re-design.

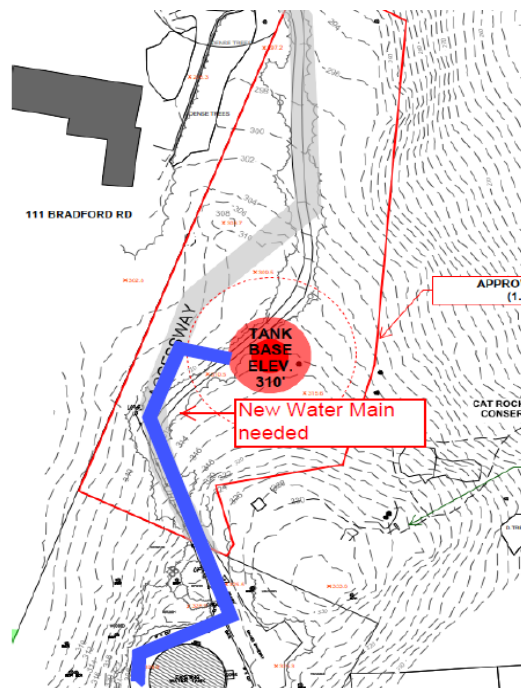
As you know, the Alternative 1 location was justified through an “alternatives analysis” exercise under which two (2) site options were originally evaluated by Wright Pierce and assigned “scores” in various categories and criteria selected by Wright Pierce. A third alternative was considered in response to comments generated during our review. Wright Pierce’s evaluation, described in a report dated November, 2023, led to Alternative 1 scoring the highest, although we disagreed with Wright Pierce’s scoring in a letter dated January 30, 2024.

C. Material Changes in Alternative Scoring Due to the Revised Design

Based on our review, the re-design would result in substantially different scoring in 9 of the 13 evaluation categories as described below.

Article 97 impacts: The re-design will require new water main extending from the existing tank location through article 97 protected land to the new water tank location. See **Figure 1, below**. This extra water main and its additional impact on article 97 land was specifically cited by WP as a disadvantage of siting the new tank near the existing tank due to the added distance from the proposed Bradford Road water main. The re-design would also likely require a tank shutdown to connect the existing water mains to the new tank. The proposed re-design would essentially flip what was a positive outcome to a negative outcome in a category assigned the highest priority.

Figure 1 – Water Main Extension to Proposed Alt. 1 Location



Impact to Open Space: The re-design substantially changes the proposed height of the tank. The tank height and its impact on the Cat Rock outlook was specifically cited by WP as a disadvantage of siting the new tank near the existing tank given the new tank would be considerably taller than the existing tank potentially increasing shade over the outlook. The proposed re-design would result in a new tank height that matches the existing tank, which would logically increase the scoring of a site option closer to the existing tank given the negligible change in impact due to height.

Impacts to Private Property: The original WP scoring severely discounted alternatives near the existing tank, specifically suggesting that the taking of private land would be required to “accommodate construction” resulting in an eight (8) point scoring advantage to Alternative 1 which accounted for nearly half of the total score difference. The proposed re-design includes a tank that is simpler to construct and far shorter than the one originally evaluated. The simpler construction and shorter height logically will require a much smaller construction footprint than the tank geometry originally scored likely eliminating the need to acquire land for the purposes of accommodating construction.

WP also disclosed at the Board’s meeting on September 25, 2025 that the Cat Rock tank could be taken off-line for a period of time without disruption of service to the northern part of town, indicating it is likely feasible to replace the Cat Rock tank in the same location as the existing tank provided the Doublet Hill and Paines Hill tanks were constructed first. Replacing the tank in its current location would drastically reduce cost and complexity.

Given this one factor alone resulted in nearly half of the total scoring difference between the original alternatives, a re-evaluation of alternatives is clearly warranted.

Ledge and Cut/Fill: The re-design will likely increase the foundation footprint given the change in ground level footprint from 30’ diameter to 60’ diameter which results in a more than 4X increase in foundation preparation. This substantial change in ground level footprint will substantially increase the volume of ledge encountered and the volume of cut/fill required to level the site. Given the Alternative 1 location is wholly on undeveloped land the footprint increase would logically impact that location more than other options that utilize an already prepared site and thereby increase the relative scoring of the other options.

Height: As noted earlier, the re-design substantially changes the proposed height of the tank. The tank height was specifically cited by WP as a disadvantage of locating the new tank near the existing tank given the impacts of the added height on the adjacent homes. The proposed re-design matches the current tank height and its placement near the current location would no longer result in substantive impact on abutters thereby increasing the relative score of utilizing the existing tank site.

Infrastructure: Elimination of the Bradford Road water main extension results in a fundamental change in how the various tank location options need to be considered. It is no longer an advantage to be closer to Bradford Road since all the connecting infrastructure will remain near the existing tank location since the existing main is in Overlook Drive. At a minimum the water mains will need to be extended over 200 feet to cover the added distance from their current location to the new tank site (Figure 1 above), with much of those 200 feet being over Article 97 protected land and likely requiring trenching through ledge to protect mains from frost. The proposed design change would necessarily flip the perceived advantage for the Alt 1 location to the other options closer to the existing tank and warrants revisiting the analysis.

Constructability: The original WP scoring severely discounted alternatives near the existing tank specifically suggesting that those locations lacked the space required to construct the elevated tank largely due to the required placement of cranes needed to construct the pedestal tank. The re-design eliminates that construction complexity and instead recommends a cast-in-place concrete tank 37’ shorter and far simpler to construct than the condition originally evaluated. The original analysis scored Alt 1 eight (8) points higher than other alternatives based exclusively on constructability and those 8 points accounted for nearly half of the total score difference. The proposed re-design is simpler to construct and far shorter than the scenario

originally evaluated. The simpler construction and shorter height eliminate most, if not all, constructability concerns particularly when combined with the elimination of the Bradford Road water main extension. There is simply no way to conclude that using sites closer to the existing tank and existing infrastructure represent a greater construction challenge than using an unprepared site removed from existing services given the described elements of the re-design.

Construction Cost: The original WP analysis scored the near existing tank options 66% lower based on the expected cost despite a net cost difference of only 6%. Given the cost difference considered was attributed largely to the cost of extending the water main further from Bradford Road and added complexity associated with constructing the elevated tank, both of which are no longer the case, there is no way to conclude that building at the Alt 1 location is any less expensive than other options and certainly no longer warrants a 4 point scoring difference that accounted for 25% of the total scoring difference.

D. Conclusions

The proposed re-design represents a fundamental shift from the conditions that resulted in selection of Alternative 1 as the preferred location for the Cat Rock replacement water tank. In all cases, the design changes would result in either a lower scoring of Alternative 1 or a higher scoring of the rejected alternatives and at a magnitude that easily could shift the ranking. Most importantly the proposed changes make it increasingly obvious that there are viable options for replacing the tank that do not require conversion of Article 97 protected land. Furthermore, the recent modeling analysis and proposed system modifications suggest replacing the Cat Rock tank in its current location is a viable option once the new Doublet Hill and Paines Hill tanks are constructed. This was the strategy originally recommended by WP in its April 9, 2020 Tank Study – Preliminary Findings (attached) which we presume was excluded from the alternatives analysis based on the expectation of building a different type of tank at a substantially higher elevation which is no longer the case.

It remains our opinion that constructing the replacement tank near (or on) the existing tank site (1) results in the least negative environmental and social impact, (2) will cost less to construct when compared to an unimproved site more than 200 feet further from the intended system connection, and (3) will require no conversion of Article 97 protected land, preserving the Cat Rock outlook and surrounding woods and trails. The proposed re-design only reinforce our original opinions while also introducing the possibility of taking the Cat Rock tank offline and replacing it at its current location which is likely the lowest risk, least expensive option with the least environmental/social impact.

At a minimum, the re-design should be incorporated into an updated alternatives analysis comparing the current preferred alternative to at least one alternative that constructs the new tank adjacent to the existing tank and an alternative that utilizes the existing tank footprint as contemplated and described in WP's 2020 preliminary findings. We also suggest revisiting the evaluation criteria and simplifying the scoring methodology to avoid overlapping issues and unsupported valuations present in the prior analysis.

If you have any questions or comments, please feel free to contact me by phone at (508)786-2230 or by email at sean.reardon@tetrattech.com.

Very truly yours,



Sean P. Reardon, P.E.
Vice President

Attachments – Wright Pierce 2020 Tank Study Preliminary Findings

TO:	Tom Cullen, Steve Fogg	DATE:	4/9/2020
FROM:	Rob Williamson, Pete Quern, Jacob Ducharme	PROJECT NO.:	20257A
SUBJECT:	Tank Study – Preliminary Findings		

One of the primary purposes of the tank study, is to evaluate the improvements to service by raising the overflow elevation of the storage tanks to maintain minimum recommended pressure and increase active storage in the system. Under existing conditions, there is virtually no active storage because a significant number of the customers are located above the highest elevation that the system was designed to serve. Prior studies recommended that Weston have a minimum of 2.5 MG of active storage to meet existing and future conditions. In addition, water systems in general should provide a minimum of 35 psi to all areas of the system under normal expected system demands and a minimum of 20 psi to all areas under fire flow coincident with maximum day demands.

From Town data, the highest served customer in the distribution system is located at elevation 345. Based on existing system capabilities, in order to have 2.5 MG of active storage, the highest served customer should be no more than elevation 280. On this basis, there are currently 316 services above elevation 280. And, approximately 20 of these are located above elevation 320.

Evaluation of Options

Using the recently updated hydraulic model, we evaluated two increased overflow elevation options. Within each option, we considered the use of ground storage tanks and elevated storage tanks to increase active storage while managing water age.

- Option 1 – Raise system hydraulic gradeline to 421.2 feet
- Option 2 – Raise system hydraulic gradeline to 396.2 feet

Under Option 1

- All existing services to elevation 345 feet would have a minimum pressure of 20 psi under all conditions.
- Minimum system HGL is 391.2 feet
- Max operating range = 30 feet
- Alternative A - New tanks would be ground storage tanks
- Alternative B - New tanks would be elevated tanks

Tom Cullen

Subject: Tank Study – Preliminary Findings

4/9/2020

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Under Option 2

- All existing services to elevation 320 feet would have a minimum pressure of 20 psi under all conditions.
- Services above elevation 320 will require private booster pumps (approximately 20 services).
- Minimum system HGL is 366.2 feet
- Max operating range = 30 feet
- Alternative A - New tanks would be ground storage tanks
- Alternative B - New tanks would consist of both ground storage and elevated tanks. The Paines Hill tank would remain ground storage as it is not constructible as an elevated tank at this overflow elevation as it would only be 46-feet-tall requiring a 16-foot-tall pedestal, which was not recommended by tank manufacturers. Cat Rock and Doublet Hill tanks are elevated under this option.

Results

The results of the analysis are presented on Tables 1, 2 and 3 below. Table 1 presents the approximate volume of a new tank at each of the existing tank sites. Table 2 presents the theoretical water age at each tank for each option. Table 3 presents the approximate capital cost of each tank option. Costs are for construction only and do not include engineering, permitting or land acquisition (if required).

Note that the results presented assume that new tanks would be constructed on or immediately adjacent to the existing tanks as follows. A detailed evaluation of the exact location to construct new storage will be conducted following selection of the preferred tank configuration and elevation:

- For Paines Hill a new tank would be constructed on town owned land just east of the existing tank. A second site could be considered just south of the existing tank site (see attached figure).
- For Cat Rock a new tank would be constructed on the existing tank footprint or just adjacent to it (see attached figure).
- For Doublet Hill the new tank would be constructed on the existing footprint. A second site could be considered south east of the existing site (see attached figure).

In each of the Options presented, ground storage requires the largest volume of tankage. Subsequently water age for ground storage tanks will be higher because of the increased volume.

In terms of cost, the tank configuration at the lower hydraulic gradeline of 396.2 is approximately \$1 - \$2M in total less than providing storage at the higher gradeline of 421.2.

Preliminarily, our recommendation would be to design new storage at a hydraulic gradeline of 396.2 feet and address the connections above elevation 320 with booster pumps.

Please review that attached information and we can schedule a conference call to discuss.

TABLE 1 – TANK VOLUMES

Tank	Option 1A	Option 1B	Option 2A	Option 2B
	Ground Storage Min HGL 391.2 Max HGL 421.2	Elevated Storage Min HGL 391.2 Max HGL 421.2	Ground Storage Min HGL 366.2 Max HGL 396.2	Elevated Storage Min HGL 366.2 Max HGL 396.2
Paines Hill	2.78	1.0	1.57	1.57 ¹
Cat Rock	2.3	0.75	1.67	0.75
Doublet Hill	2.3	0.75	1.67	0.75
Total	7.38	2.5	4.91	3.07

1. Paines Hill tank for option 2B is a ground storage tank.

TABLE 2 – WATER AGE

Tank	Current	Option 1A	Option 1B	Option 2A	Option 2B
		Ground Storage Min HGL 391.2 Max HGL 421.2	Elevated Storage Min HGL 391.2 Max HGL 421.2	Ground Storage Min HGL 366.2 Max HGL 396.2	Elevated Storage Min HGL 366.2 Max HGL 396.2
Paines Hill	70	200	60	190	150
Cat Rock	375	600	150	475	170
Doublet Hill	120	250	80	190	190
Average	188	350	97	285	170

Tom Cullen

Subject: Tank Study – Preliminary Findings

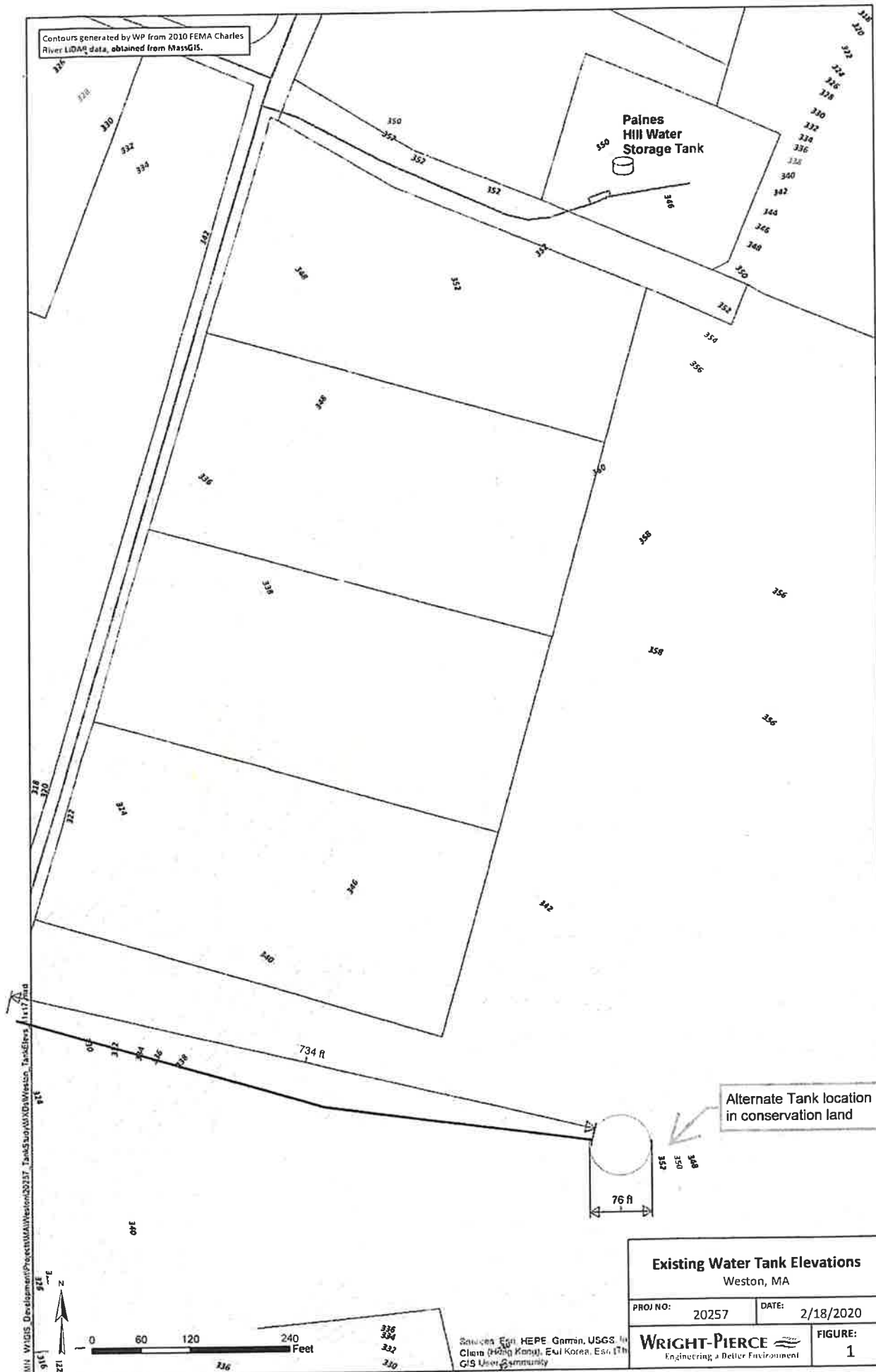
4/9/2020

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TABLE 3 – CAPITAL COST

Tank	Option 1A	Option 1B	Option 2A	Option 2B
	Ground Storage Min HGL 391.2 Max HGL 421.2	Elevated Storage Min HGL 391.2 Max HGL 421.2	Ground Storage Min HGL 366.2 Max HGL 396.2	Elevated Storage Min HGL 366.2 Max HGL 396.2
Paines Hill	\$3,900,000	\$4,200,000	\$2,800,000	\$2,800,000
Cat Rock	\$3,800,000	\$3,400,000	\$2,900,000	\$3,200,000
Doublet Hill	\$3,700,000	\$3,300,000	\$2,800,000	\$3,100,000
Total	\$11,400,000	\$10,900,000	\$8,500,000	\$9,100,000

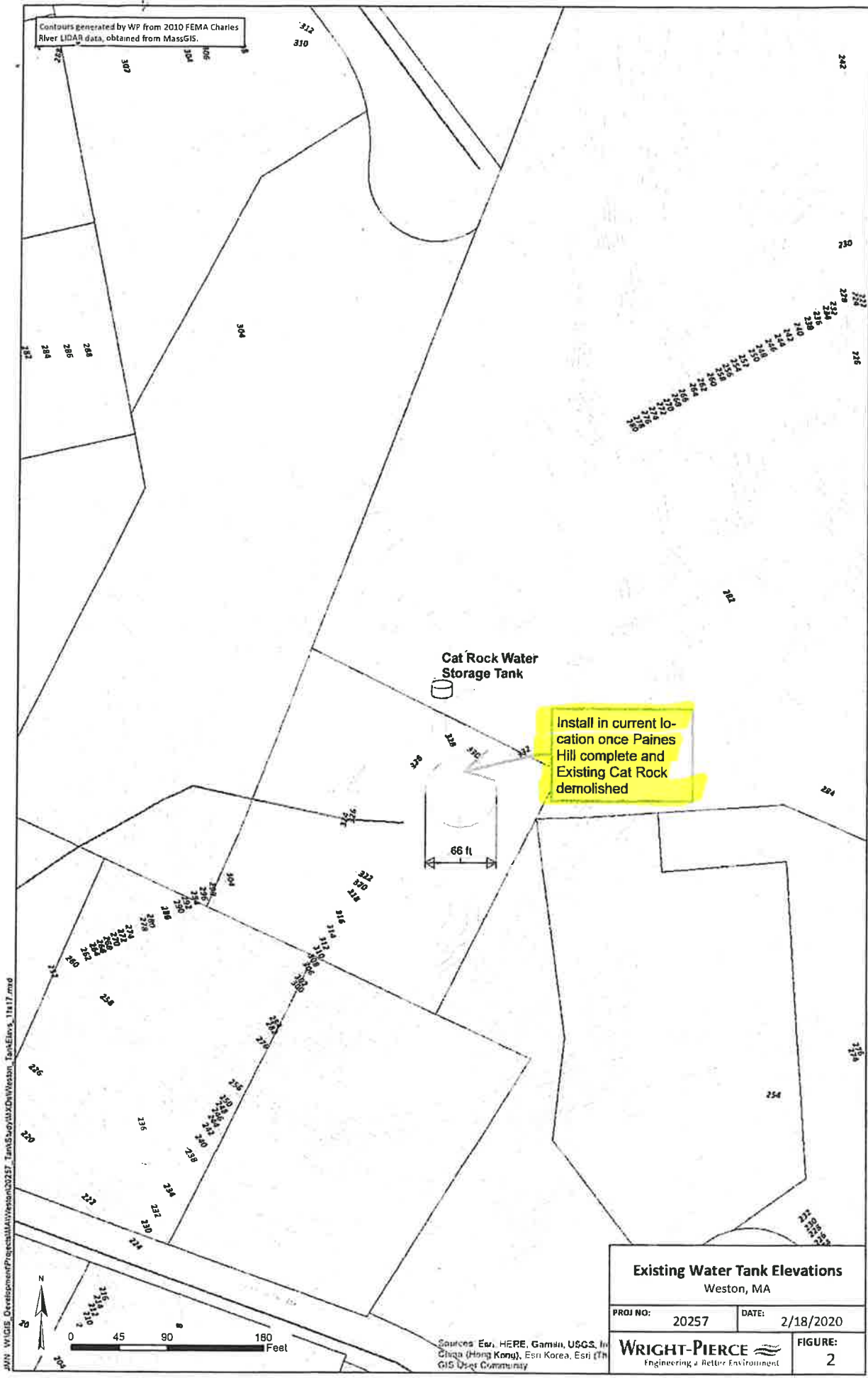
Contours generated by WP from 2010 FEMA Charles River LIDAR data, obtained from MassGIS.



Existing Water Tank Elevations Weston, MA		
PROJ NO:	20257	DATE: 2/18/2020
WRIGHT-PIERCE <small>Engineering a Better Environment</small>		FIGURE: 1

Sources: Esri, HERE, Garmin, USGS, Intel, Clear (Holding Korea), Esri Korea, Esri (The GIS User Community)

Contours generated by WP from 2010 FEMA Charles River LIDAR data, obtained from MassGIS.



Cat Rock Water Storage Tank

Install in current location once Paines Hill complete and Existing Cat Rock demolished

66 ft

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0 45 90 180 Feet

Sources: Esri, HERE, Garmin, USGS, In
Cigna (Hong Kong), Esri Korea, Esri (Th
GIS User Community

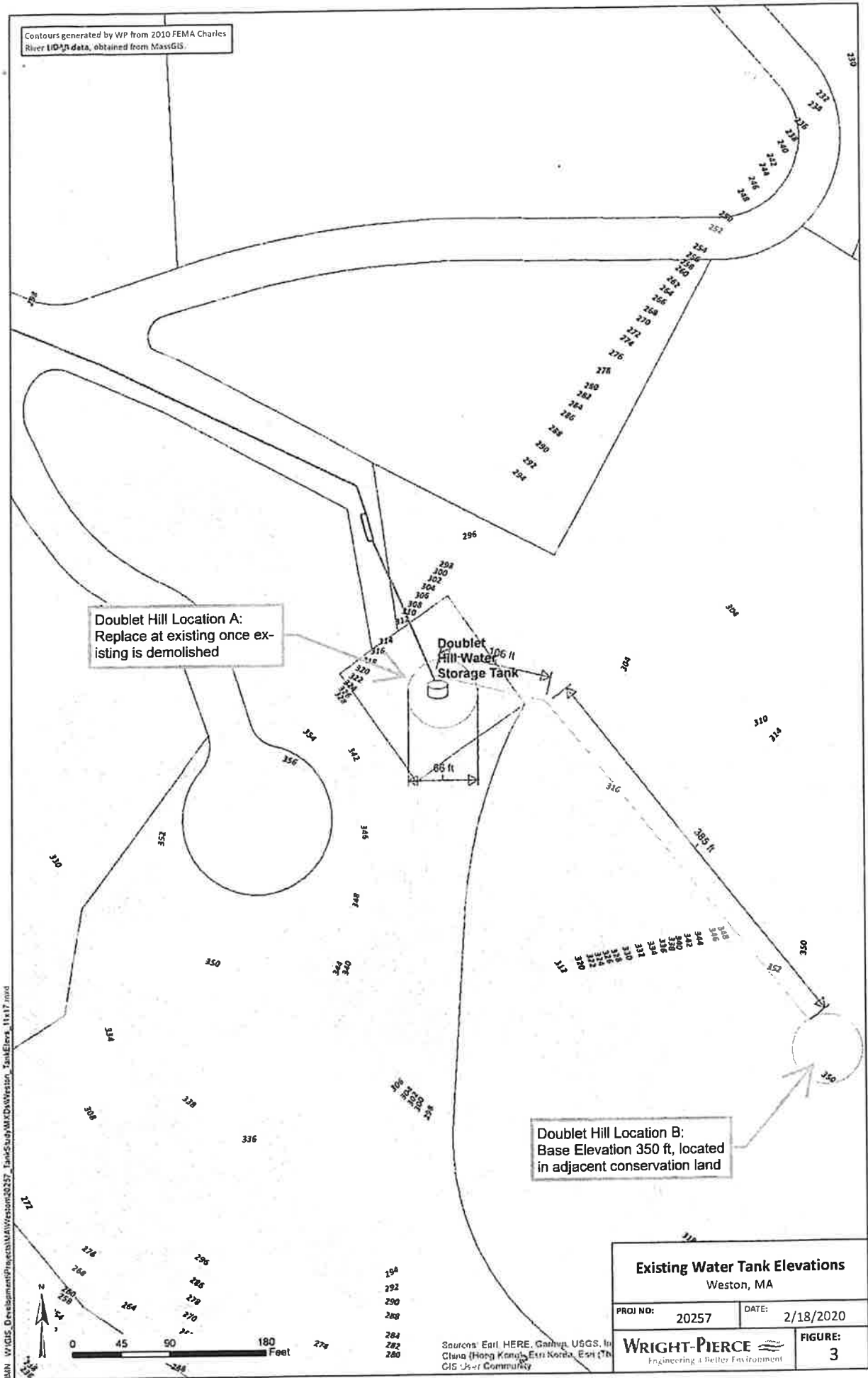
Existing Water Tank Elevations Weston, MA

PROJ NO: 20257 DATE: 2/18/2020

WRIGHT-PIERCE
Engineering a Better Environment

FIGURE:
2

Contours generated by WP from 2010 FEMA Charles River LIDAR data, obtained from MassGIS.



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Sources: Esri, HERE, Garmin, USGS, In China (Hong Kong), Esri Korea, Esri (The GIS User Community)

Existing Water Tank Elevations Weston, MA	
PROJ NO:	20257
DATE:	2/18/2020
FIGURE:	3

