

May 24th, 2024

Chairman Chris Brand
Town Marlborough Planning Board
21 Milton Turnpike
Milton, NY 12547

**Re: Marlborough Resort
Water Distribution System
626 Lattintown Road & 255 Ridge Road, Marlboro, NY
Tax Parcels 102.4-3-8.8.320; 102.4-2-12; 102.4-2-13; 102.4-2-29**

Dear Chairman Brand:

Marlborough Resort LLC, the project Applicant (Applicant), intends to foster a public-private partnership with the Town of Marlborough Water District to both meet the needs of the proposed project and benefit the Town.

At their sole cost and expense, the Applicant will construct a 300,000-gallon standpipe water storage tank as further depicted on the proposed site plans. The tank will supply 50,000 gallons for the proposed project. The remaining 250,000 gallons will be available to benefit the Town of Marlborough Water District. If it is determined by the Town of Marlborough that such a capital project is not in the best interest of the Town of Marlborough, the Applicant will alternatively make a payment in the amount of \$200,000, which monies shall be used by the Town of Marlborough under its sole discretion. Such payment shall be due and payable prior to the issuance of a temporary certificate of occupancy or a permanent certificate of occupancy for the proposed first phase of the project.

Overview of Proposed Storage Tank

The construction of a 300,000-gallon at grade water storage tank on the proposed Marlborough Resort site is a strategic infrastructure enhancement designed to improve the Town's water supply system. This letter details the potential benefits of this infrastructure investment, which will be further quantified as detailed engineering reports are developed.

The proposed water storage tank is a glass fused steel tank that will be situated at approximately 585 feet above mean sea level (amsl), which is 100 feet higher in elevation than Ridge Road at the entrance to the site and 100 feet above the overflow level of the two existing tanks in the District. The storage tank is proposed to be sized to accommodate the volume and pressure needs while preserving the aesthetics of the area and the proposed resort's vision. The storage tank will be equipped with mixing technology to preserve water quality along with level transducers and appurtenances to monitor and operate the tank below a set overflow elevation.

The selection of the highest location on the site will leverage gravitational force to optimize water distribution efficiency and reliability to the District. The storage tank will be zoned utilizing piping and appurtenances to allocate water for both the proposed resort and the Town.

- **50,000 Gallons for Resort Use:** This portion of the tank's capacity will be dedicated to ensuring average daily demand redundancy and/or exceptional life safety through fire protection at the resort. Should the Town choose the payment in lieu of the extra 250,000 gallons of storage, the applicant will install a 50,000-gallon tank for the resort. This will ensure that the impacts from the project demands will be mitigated during peak conditions.
- **250,000 Gallons for Town Use:** This capacity will be designated for the Town of Marlborough. Positioned above the 50,000-gallon reserve, this segment will benefit the Town during fire flow conditions or other outlying events which may reduce the system line pressure below the tank's elevation head.

Key Benefits

1. Fire Protection and Life Safety

- **Dedicated Fire Protection Supply:** The zoned 50,000-gallon reserve dedicated to the resort ensures a constant and secure water supply for fire emergencies. This allocation enhances the safety of the resort and the surrounding area by providing a reliable source of water for firefighting without drawing from the Town's main supply.
- **Town Fire Protection Support:** During the occurrence of Town firefighting events, where system pressures may be reduced, the elevation of the proposed tank provides significantly improved elevation head, which in turn improves available flow rates and water pressure. This redundancy would supplement the Town's fire flow capabilities while maintaining pressure and availability for all users, enhancing overall system resilience and reliability and limiting impacts to the Town's domestic water supply.

2. System Redundancy and Reliability

- **Balanced Water Management and Minimal Impact on Existing Users:** The tank's ability to be filled during off-peak hours ensures that there is no adverse impact on water availability for the District's existing users. This approach to balancing the overall water demand ensures that all customers across different sectors, including residential, commercial, and agricultural, receive an adequate and reliable water supply. With the tank filling during off-peak hours, the system will maintain adequate pressure even during periods of high demand.

Next Steps

While there are many potential advantages of a water storage tank in the proposed location, supplemental engineering assessments are being developed to appropriately design a tank that will support the proposed project and the benefit to the Town. The following factors will be closely considered as engineering progresses:

- **Tank Sizing for Water Turnover:** In accordance with the Recommended Standards for Water Works, storage structures are recommended to be designed to ensure water age does not exceed five days. This ensures water quality does not degrade from concerns such as decreased disinfectant residuals, increased microbial growth, increased water age and unsatisfactory taste and odor. It will be key to design and size the tank to store a quantity that will be effectively utilized to maintain water quality for all end users.
- **Water Conservation:** Water storage tanks require an overflow system to manage excess water that surpasses the maximum filling rate. To minimize the risk of overfilling, infrastructure such as altitude valves or actuated valves will be implemented. Despite these mechanisms, it is crucial for the Applicant and project team to act as environmentally conscious stewards. This involves efficiently sizing the tank to significantly reduce the potential waste of potable water and prevent adverse effects on the surrounding lands and neighboring properties.
- **Comprehensive System Benefits:** In a water distribution system as complex as the Town of Marlborough's, it is important to understand the overall system parameters and demands before bringing new components online. This will require an assessment of the system pressures and elevations which effectively result in the hydraulic grade line (HGL) that determines how a system operates under different design conditions such as average daily flow, maximum daily flow, peak hour, and fire flow conditions. A detailed analysis will quantify the comprehensive benefits an aptly sized and located tank will provide.

Conclusion

The proposed improvements present a significant infrastructure improvement that will benefit both the proposed project and the Town of Marlborough. By ensuring reliable fire protection, maintaining uninterrupted supply for existing users, and providing stable water pressure, this project addresses water supply challenges. We look forward to continuing to develop engineering in coordination with the Town and their consultants to work towards the optimal solutions.

If you have any questions or require additional information, I may be reached at 585-455-0157 or CLaporta@passero.com

Sincerely,



Christopher J. LaPorta, P.E.
Regional Director | Sr. Engineer