



Topsfield Water Department

279 Boston Street

Topsfield, MA 01983

February 27, 2023

Mr. Robert Moriarty, Chair
Zoning Board of Appeals
Town Hall
8 West Common Street
Topsfield, MA 01983

Dear Mr. Moriarty and Members of the Zoning Board of Appeals:

The Water Department reviewed various documents regarding the potential development of 10 High Street including the applicant's submittal and the peer review conducted by Beals & Thomas. Our comments are as follows:

1. Design demands (residential & fire) – As noted in the peer review document, these values are not currently available. We cannot make any definitive comments on the ability of the system to meet these demands until more information is provided. However, we suggest that rather than aggregating fire demand into a single value, it should be split into the flow needed to operate the building's fire suppression system and any additional flows required by the Fire Department for external fire-fighting and/or augmenting the internal sprinkler system. We defer to the designers to provide the sprinkler system flow and to the Fire Department for any additional flow requirements.
2. Water main minimum size – We recommend a minimum eight-inch diameter main be installed on the property which is typical of any new subdivision. Given the building's size and distance from High Street an 8" or larger main will likely be needed to meet fire flow requirements.
3. Water main valving – The preliminary engineering drawings show the development's connection to the existing water main on High Street. Due to the size and type of the development we recommend a triple gated tee be installed on High Street rather than a tapping sleeve with a single gate. This will provide a more reliable level of service to the development. A triple gated connection allows for a section of High Street, either from Main Street to #10 High Street or from #10 High Street to Towne Lane, to be turned off without turning off the development.
4. Water main extension – This project is in close proximity to Deer Run, a cul-de-sac off of Town Lane. We recommend connecting the proposed main for this project to the main serving Deer Run. Connecting the two mains would provide a redundant supply for both the development and residents on Deer Run and improve water quality by allowing water to circulate through both areas. At the very least, plans for this type of connection should be included in the design of the mains/valves, easements, etc. Further comments can be provided if this recommendation is incorporated into the project.
5. Hydrant locations (Water requirements) – Water requirements for hydrant locations are quite simple. The last connection on a dead-end main is a fire hydrant. Hydrants should be situated such that a large flow of water (>1,000 gallons per minute) can be discharged without causing property damage. Any location within a reasonable distance of the detention basins or wetlands on the southeast side of the property will suffice.

6. Hydrant locations (Fire suggestions) - We defer to the Fire Department as to the best hydrant locations for firefighting purposes but have some suggestions. The preliminary drawings show a hydrant across from the main entrance to the building. This would likely concentrate fire apparatus, evacuated residents, and ambulances in the same area during an emergency. Additionally, it is common practice to run a large diameter hose from a fire truck parked near the hydrant to the fire sprinkler connection which would inhibit vehicular access to most of the site. We suggest the applicant and Fire Department investigate other locations for the water connections to the building and hydrant(s).

Thank you for the opportunity to comment on this project. Feel free to call the Water Department at (978) 887-1517 if you have any questions.

Sincerely,



Greg Krom
Water Superintendent
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