



October 17, 2023

Groton Zoning Board of Appeals
c/o Mr. Takashi Tada
Groton Town Hall
173 Main Street
Groton, MA 01450

Re: Heritage Landing 40B
Water and Wastewater

Dear Members of the Board:

This correspondence is intended to address issues related to the proposed water system and wastewater (septic systems) as presented by the applicant of the Heritage Landing 40B project on Cow Pond Brook Road. Specifically, the email from Town Counsel of September 18, 2023 outlines the requirements for the submission of information pursuant to 760 CMR 56.05(2)(f).

We believe this information is already properly shown on the plans submitted for the Board to “make an informed decision” on the issue of water and septic (sewer) and I direct the Board to Sheet 3 of the submitted Site Plan set prepared by this office dated April 25, 2023 consisting of 11 sheets (Site Plan with 5 sheets and Landscape/Lighting Plans with 6 sheets). Additionally, I offer the following discussion of the water and sewer program for this site.

Water

The water line is shown on this sheet including the water line extension with the note “Proposed Water Line Extension by Applicant, 8” Ductile Iron” pipe coming northerly onto the site from Cow Pond Brook Road and the water line location through the site along the northerly side of the proposed Rosie Lane to an end point shown with a hydrant (as a blow off). There are 2 other hydrants shown along this line for a total of 3 hydrants. As stated at the hearings, this water line will be extended by the applicant from its current terminus about 5900 feet (1.117 miles) along the edge of Cow Pond Brook Road.

To aid the Board in understanding this off-site water extension project I am attaching a sketch plan of the extension along Cow Pond Brook Road. It should be noted that the final design of this water extension showing the tap, fittings, service to any existing residences, hydrants along the route, etc. is considered final design, which would come post approval of the Comprehensive Permit application as part of a condition(s) of approval.

We understand that the Groton Water Department has requested the applicant fund a hydraulic study to determine the adequacy of the existing system to provide sufficient flow volume and pressure for the extension and to the site. The applicant intends to fund this study prior to the close of the Board of Appeals hearing.

If the Board would like additional information or details beyond this study and the details already provided on the plans and as shown on the attachments to verify the viability of the water service to the proposed residential homes, please inform the applicant and we will provide it.

Septic (Sewer)

The wastewater program for Heritage Landing is proposed to be discharged into the ground via conventional on-site private septic systems. The daily flow rate for 40 units with all of them as 3 bedroom units is as follows (GPD = gallons per day):

$$40 \text{ units} \times 3 \text{ BR/Unit} \times 110 \text{ GPD/BR} = 13,200 \text{ GPD}$$

Since the daily flow exceeds 10,000 gallons per day the approving authority will not be the local Board of Health but is required to be MassDEP via a Groundwater Discharge Permit (GWDP) (314 CMR 5.00 et. seq.). The applicant in intending to enhance the GWDP application with restricted credit land as part of a Facility Aggregation Plan utilizing the same land proposed to be restricted for the NHESP Blanding's Turtle, which is currently owned by the Town of Groton directly across Cow Pond Brook Road. If the credit land is not obtained or is insufficient for MassDEP then the project will simply eliminate bedrooms to meet the requirements of Title 5 without changing the Site Plan. This would yield 10 units as 3 bedroom units and 30 units as 2 bedroom units. This was discussed at the hearings.

Most of the details of the septic systems are shown on the above-referenced Site Plan Set, also on Sheet 3. The proposal includes six separate septic systems on the property, each serving 6 or 7 units. The overall system and distribution is tabulated in detail in the lower left portion of this plan, with each specific unit shown to each septic system. The plan also shows the sewer lines along the roadway and common areas to the proposed septic tank(s) and pump chambers then to the primary leach field. The reserve leaching area is also shown. The final design for all of the septic systems, including

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inverts, piping profiles, leaching area dimensions, additional soil testing, and all other design requirements will comply with Title 5, the State Sanitary Code and will be part of the final design review by the peer reviewer per the proposed condition(s) of approval.

Certain soil testing throughout the subject property has been performed in the past which confirms that the site can accommodate the proposed design. The soil testing logs and location plan were submitted to the Board of Appeals on or about August 9, 2023. Contrary to some testimony received, soil testing does not have an expiration (time limit) within Title 5 nor in the Groton Septic Regulations, Chapter 315. The rationale for this is that in-situ soils do not change in the relatively short time-span of a decade or two.

The soil testing on this site was performed by Jeffrey Hannaford, a licensed soil evaluator, and witnessed by B. Braley for the Groton Board of Health in the Spring of 2004 and the Spring of 2005. As discussed, the testing locations were throughout the site. In summary, the test results indicate a consistent loose, single grain sand with most of the water table near 54" deep and with one test at a depth at 24" and one at 72". In summary, all of the test pits "passed" and are suitable for use as septic leach areas. As indicated, all of the official testing logs were submitted to the Board of Appeals including the results of each deep hole test and percolation test and includes a map of the location of all of the test pits and percolation tests. The above should be enough information to confirm that the site can accommodate the septic design as shown on the plans.

It is my hope that this correspondence helps to clear up the water and wastewater (septic system) issues on this site. Essentially this is all the same information that has been presented but is offered now in a clearer, concise, and collected manner. We expect that you will forward this letter to the peer reviewer, Nitsch Engineering, if you seek their input in response. We look forward to further discussions on these and other matters.

Sincerely
MEISNER BREM CORPORATION



Jeffrey A. Brem
Principal Engineer

Enclosures

Cc: Paul Alphen via email
Client via email