

AMORY ENGINEERS, P.C.

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October 15, 2021

Duxbury Board of Health
Town Hall
878 Tremont Street
Duxbury, MA 02332

Subject: **0 Keene Street, Parcel 014-011-006 – Septic System & Drainage Design**

Dear Board Members:

This is to advise that we have reviewed the Site Plan (2 sheets), revised October 14, 2021, and response to comments letter dated October 14, 2021, prepared by Grady Consulting, LLC, for the proposed dwelling and septic system at the subject location. The documents have been prepared to address comments included in our September 14, 2021 letter to the Board. Below are our original comments in plain text, followed by the current status of each in **bold text**.

Comments:

1. The Stormwater Management Design Calculations indicate that there will be no increase in stormwater runoff from the lot under proposed conditions for the 2-, 10- and 25-year storm events as required by R&R Section 1.15(1)(a). However, we note the following:
 - a. The HydroCAD model includes a swale that is supposed to convey runoff from the driveway to the rain garden. However, based on the proposed grading it appears that runoff would flow around the rain garden rather than into it. The model should be revised to reflect this. **The grading has been revised to show a swale directing runoff toward the rain garden. The contractor will need to pay close attention to this during final grading to make sure that runoff gets to the rain garden as designed.**
 - b. The HydroCAD model has six inches of crushed stone below the concrete drywells but the detail on Sheet 2 shows one foot of stone. This should be consistent. **Addressed – the detail now shows six inches of crushed stone below the concrete drywells.**
2. In accordance with the Septic System Application Checklist, the following is required:
 - a. Floor plans should be submitted. **Addressed – floor plans are included on Sheet 2.**
 - b. The proposed driveway and house are shown on the plan but any walks or other impervious areas should also be shown if proposed. **Addressed – additional impervious areas have been added to the plan and itemized in the buffer zone coverage table on Sheet 1.**
 - c. Rick Grady's soil evaluator certification number should be include under Septic Note 3. **Addressed – the soil evaluator certification number has been added.**

- d. The effluent tee filter on the outlet from the septic tank should be specified to have a support leg. **Addressed – the effluent tee is specified to have a support leg.**
3. The GeoMat SAS design calculations indicate that the design flow provided will be 507 gallons per day. **Informational. We raised this issue because the proposed septic system would be able to accommodate a four bedroom house.**
4. The future homeowner will need to be educated on the GeoMAT SAS requirements, particularly that there can be no impervious surface above the SAS and no planting within five feet of the SAS. **Informational. The Board may want to consider a condition requiring that this information be included in any property transfer documents.**
5. The Subsurface Sewage Disposal System profile on Sheet 2 shows a foundation drain. There should not be a foundation drain on the side of the house that the SAS is on. **Addressed – a note has been added to the profile stating that there shall be no foundation drain on the side where the septic system is located.**
6. The total lot area should be listed on the plan. **Addressed – the lot area (48,697 s.f.) is listed in plan on Sheet 1.**
7. To avoid confusion, Town of Duxbury Checklist Notes 4 and 7 should indicate that there are wetlands within 150 feet of the system and a variance is required. Same comment for Note 6 on Sheet 1 and Septic Note 9 on Sheet 2. **Addressed – the notes have been changed to indicate that a variance is required for the setback to wetlands.**

As noted in our September 14, 2021 letter, the Applicant is requesting one variance from R&R Section 1.10(1)(a) which requires the soil absorption system (SAS) to be a minimum of 150 feet from wetlands. The proposed SAS is 88.3 feet from the wetlands but it is located the furthest distance from the wetlands that it can be on this lot. It is also located on the opposite side of the dwelling from the nearest wetland.

Please give us a call should you have any question.

Very truly yours,

AMORY ENGINEERS, P.C.

By:



PGB

Patrick G. Brennan, P.E.