

Comments on the Proposed Septic System Plans Dated December 23, 2024:

1. Explain the Special Note on Sheet BOH-1 that reads: "Leaching catch basins or drywalls are located near components of the proposed sewage disposal system". If any such drainage structures are proposed they should be shown along with required setback from septic components.
2. Explain the statement that "Foundation Drains are proposed for the subject building." Show the locations of proposed foundation drains including depth, elevations, outlets, and design details for such under drain(s), including setback from septic components. This is supported by BOH Regulation 3.4.1.B which requires...*The location of all drains.*
3. Benchmarks are not noted on the septic plan. Per BOH Regulations 3.4.1 E. *Two benchmarks and datum plane notation. One of the benchmarks shall be within fifty (50) feet of the proposed leaching area.*
4. The Locus Map is incomplete in the latest submittal. Per BOH Regulations 3.4.1.F. *A locus map including the distance to the nearest intersecting street.*
5. Per BOH Regulations 3.4.1.G. *The results of the soil logs, as provided by the soil evaluator, soil classification and maximum water table elevations encountered for all test holes, and the name of the individual who witnessed the tests for the Board of Health.* (underline emphasis added). Test pit locations are shown on the plans; however, the following test pit logs are missing: 24-04, 24-05, 24-07, 24-08, 24-09. Also, the field notes in Submittal H above "soil test log-book November 4, 2024" are not clear and it was not possible to relate the field notes to the logs shown on Soils Information Sheet BOH-5.
6. The Applicant should include any recorded elevations of groundwater weeping on the test pit logs on Sheet BOH-5, and within the cross-section of trenches on Sheet BOH-2
7. Per BOH Regulations 4.B.5. *An "Environmental Health Impact Report" and "Environmental Health Permit" are required under Regulation III – PUBLIC AND ENVIRONMENTAL HEALTH REVIEW REGULATIONS AND STANDARDS FOR SELECTED SITE DEVELOPMENT ACTIVITIES OR OTHER SPECIAL CONDITIONS, OR FOR OTHER THAN A SINGLE-FAMILY DWELLING ON A SINGLE LOT.* The proposed project will require an "Environmental Health Impact Report" and "Environmental Health Permit." However, we understand that the Applicant is seeking a waiver of this local requirement
8. Per BOH Regulations 8.1. *The bottom of any leaching area shall be a minimum of five (5) feet above the maximum high ground water table.* The proposed plans do not comply

with this local requirement. We understand that the Applicant is seeking a waiver of this requirement and proposes compliance with Title 5 only.

9. Per BOH Regulations 8.2. *Subsurface sewage disposal systems shall not be constructed in fill that is to be placed directly on or near ledge, hardpan or other impervious materials or in any area where peat is present or when the maximum groundwater level is five (5) feet or less below natural surface grade. A depth of at least five (5) feet of pervious material (determined by percolation test) in natural soil shall be maintained below the bottom of the leaching area.* (underline emphasis added). The proposed system is not compliant with this requirement as only 2' to 3' of natural soil is present from existing Site grade to the Estimated Seasonal High Groundwater (ESHW). The SAS design (with removal of A & B horizons, replaced by Title 5 sand) will provide 4-ft minimum separation between the leaching trenches and ESHGW per Title 5. Also, natural soil will be present to more than 5-ft below the proposed system's remove & replace zone, and bedrock has not been found. We understand that the Applicant is seeking a waiver of this local requirement and proposes compliance with Title 5 only.
10. Provide a detail for the 2-inch force main (FM) connection to the distribution box (D box); and include a baffle and/or "T" fitting at the end of the FM to protect D-box contents from disruption and/or short-circuiting of flow. [Per 310 CMR 15.232(3) - (a) *when the soil absorption system is to be dosed or the slope of the inlet pipe exceeds 0.08 feet per foot, an inlet tee, baffle or splash plate extending to one inch above the outlet invert elevation shall be provided to dissipate the velocity of the influent*]
11. Call out the remove and replace (R&R) limits on the plan view of the leaching area, and the limits should extend 5-feet (min) past the limits of the trenches (active or reserve).
12. The SAS is proposed as a mounded system with construction in fill per 310 CMR 15.255 and proper breakout separation between the top of the leaching trenches and a 3:1 surface slope is provided, and a 4-ft high retaining wall is proposed on the downslope portion of the system and the wall extends to a 3:1 slope area at its base also complying with the 15-ft setback requirements of 310 CMR 15.255(2). Our review of mounding at the system indicates that trench effluent added to ESHGW should not intersect the proposed retaining wall (see comments under 15 below). Nevertheless, we recommend that an impervious barrier should be added to the SAS side of the wall as a precaution. The wall plan view and detail should be modified to include an appropriate durable membrane to direct any infiltration (e.g., rain or effluent, vertically and prevent lateral movement (through wall) from the adjacent SAS. Such membrane should be extended to the base of the retaining wall. The retaining wall is proposed to be 4-feet in height. We recommend that it be approved by the Building Department and be designed by a Massachusetts registered Structural Engineer and include calculations for factor of safety against overturning, sliding, and bearing capacity; and conditions of high

groundwater, if any, should be factored into the design. If structural plans are provided by a wall manufacturer, then the Board should require that such plans be based on site specific geotechnical information, and the Board should not accept plans that are qualified by requiring further determination of geotechnical conditions after issuance of the signed and sealed structural drawings.

13. The septic system is proposed as a “shared system” per 310 CMR 15.290, which is approvable by the Board subject to the requirements established in 310 CMR 15.292. In addition to the plans provided, the Applicant must also submit the following information, per 310 CMR 15.290 (2), which reads as follows:

(b) a proposed operation and maintenance plan for the shared system;

(c) a description of the form of ownership which each component of the system serving more than one Facility will take, together with relevant legal documentation describing or establishing that ownership including, without limitation, easements, condominium master deed, or homeowners' association documents. All forms of private ownership of system components serving more than one Facility shall establish that each user of the system has the legal ability to accomplish any necessary maintenance, repair, or upgrade of the component;

(d) a description of the financial assurance mechanism proposed to ensure effective long-term operation and maintenance of the system. Acceptable financial assurance mechanisms may include, but are not limited to, an escrow account, letter of credit, performance bond, or insurance policy, which names the Approving Authority as beneficiary, and which provides for upgrade of the shared system in the event the shared system fails to protect public health, safety, welfare or environment pursuant to the criteria established in 310 CMR 15.303. A copy of the final financial assurance mechanism shall be provided to the Approving Authority prior to construction of the system; and

(e) a copy of a proposed Grant of Title 5 Covenant and Easement essentially identical to that contained in 310 CMR 15.000: Appendix 1 shall be recorded and/or registered with the appropriate Registry of Deeds and/or Land Registration Office within 30 days of the Approving Authority's approval of the Covenant and Easement. The applicant shall file a certified Registry copy of this Covenant and Easement with the Approving Authority within 30 days of its date of recordation and/or registration, and prior to construction of the system.

14. The 2-inch force main should be insulated in any area where less than 4-ft of cover is provided.