



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES



Thomas S. Burack, Commissioner

March 7, 2016



REQUEST FOR MORE INFORMATION

Ms. Jacqueline Hudkins, Trustee
Pike Brook Road Revocable Trust of 2014
PO Box 6630
Portsmouth, NH 03802

RE: Alteration of Terrain Permit Application #160209-015
Pike Brook Road Project
Pike Brook Road
Tax Map 135, Lots 8, 10 – New London, NH

Dear Ms. Hudkins:

The Department of Environmental Services (DES) is in receipt of an application and supporting plans and information, for an Alteration of Terrain Permit for the above referenced project. After review of the information submitted, the following items need to be addressed in order for DES to make a **final determination** on the application for a permit:

1. The plans show several wetland and stream boundaries, but a note was not provided indicating who delineated the wetlands, or when the wetlands delineation was performed. Include this information in a wetland delineation note on the plans. Also, please be aware that wetlands delineations older than 5 years may need to be revisited to ensure their accurate representation.
2. Provide a map showing the locations and directions from which photographs were taken.
3. The supporting documentation did not include a GIS map with the Alteration of Terrain layers (Groundwater Classification Areas, Water Supply Intake Area, etc.) turned on.
4. An Infiltration Feasibility Report is required pursuant to Env-Wq 1504.13.
5. To show that the requirements of *Env-Wq 1507.05 Channel Protection Requirements* and *Env-Wq 1507.06 Peak Runoff Control Requirements* are met, the hydrologic analysis should evaluate and compare the pre- and post-development flows and volumes at discharge points (points of analysis). The report must be revised to describe the discharge points and tables comparing pre- and post- flows (and volumes for the 2-year flow) must be provided in the supporting documentation. The HydroCAD analysis must be amended to route flow to discharge points. Currently, the pre- and post-development analyses show several discrete sub-catchments, most of which have no outlets or points of analysis.
6. Explain how treatment is being provided for the gravel road. If vegetated buffers are to provide treatment, pursuant to Env- Wq 1508.08, the plans must be revised to show 50 ft buffers adjacent to the shoulders that consist of forest or meadow (or a combination of forest and meadow). The 50 ft buffers providing treatment cannot include mowed lawn. The buffer area shall be protected by deed restrictions or covenants or both, so that it remains in an unaltered state.

DES Web site: www.des.nh.gov

P.O. Box 95, 29 Hazen Drive, Concord, New Hampshire 03302-0095

Telephone: (603) 271-3503 • Fax: (603) 271-2982 • TDD Access: Relay NH 1-800-735-2964

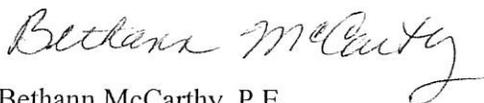
7. The HydroCAD analysis includes areas of lawn only in Po1 and Po10. It shows other uses in the project area as buildings, gravel roads, brush, or woods. In addition to the comments in #6, the plans should include a Planting Sheet identifying the vegetation to be planted. The current plans only identify grass seeding specification. If all disturbed areas are planted with grass, it is likely that some portion of this will become mowed lawn. If so, this should be included in the model.
8. Test pits:
 - a. Provide the data for each test pit, including estimated Seasonal High Water Table (SHWT).
 - b. Perform additional test pits in the areas of the pervious pavement and the Storm Tech system.
9. After obtaining data for test pits in the areas described above, review the design to confirm whether the systems meet the criteria of Env-Wq 1508.06.
10. Storm Tech filtration system:
 - a. On the plans, show a detail of the proposed Storm Tech infiltration system, including invert elevations, depth of burying, stone to be used, etc.
 - b. A BMP worksheet must be completed showing that the practice meets the requirements of Env-Dw 1508.06.
11. Sheet D-4 includes a citation of an outdated version of RSA 483:B-9 (d). The use of lime is no longer allowed within the protected shoreline. This note should be amended to show the current text of the law. Also revise Item 9 on Sheet D-2 accordingly.
12. On the BMP worksheet for the Groundwater Recharge Volume (GRV), indicate where the recharge will occur and calculate the volume which can be recharged at each practice.
13. On the BMP worksheets for the Filtration Practices:
 - a. The entries on Line 3 for DW1 and DW2 appear to be the pervious area of the practice, rather than the impervious area. Review and correct these entries as necessary and, in the Infiltration Feasibility Report, explain whether there are an additional subcatchments contributing to the pervious pavement.
 - b. The ratio of contributing area to the pervious surface area should be less than 5:1. There are additional calculations to be performed on the Filtration Practice BMP worksheet, to calculate whether the porous pavement practice meets these requirements.
 - c. The A_{SA} value (surface area of the practice) should only include the pervious stone separating the pavers, if the pavers are impervious. (If pervious pavers are to be used, the pavers should be specified in the plans.)
 - d. There is an entry for V_{SED} (sediment forebay volume), although no sediment forebay is shown on the design plans.
 - e. A design infiltration rate of 6.0 inches/hour was used. The Adams soils have a minimum infiltration rate of 6.0 inches per hour, however this value must be decreased by 50% for design, pursuant to Env-Wq 1504.14(c).
 - f. Revise the elevation of the SHWT as necessary, after additional test pits are dug and evaluated. The practice must meet the requirements of Env-Wq 1508.06 relative to distance above the seasonal high water table.
14. In HydroCAD, change the infiltration rate in DW1 and DW2 as explained in comment 13(e).

15. In the HydroCAD analysis, the pre- and post-development beach areas don't match. Also, the post-development analysis includes a "natural beach" entry, where the pre-development analysis does not. (The "natural beach" area is not equal to the difference in the pre- and post-development scenarios.) Verify whether there will be additional beach area, and if so, whether this has been permitted by DES. Revise the HydroCAD analysis as necessary.
16. Pursuant to *Env-Wq 1507.08, Long-Term Maintenance*, provide the following with the Inspection and Maintenance Checklist:
 - a. the names of the responsible party or parties who will implement the required inspections and reporting,
 - b. an I&M log to document each I&M inspection/activity,
 - c. a plan showing the locations of all the stormwater practices described in the I&M manual,
 - d. actions to be taken if any invasive species grow in the stormwater management practices.
 - e. an item under "pervious driveway" to indicate the date of last vacuum sweeping.
17. Show a silt fence to the far south of the property, to prevent siltation entering the lake during construction of the proposed garage/barn.
18. Please add the following notes to your plans:
 - Limit the length of exposure of unstabilized soil to 45 days or less.
 - Erosion control practices are to be inspected weekly and after 0.5" of rainfall.
 - Do not traffic exposed soil surface with construction equipment. If feasible, perform excavations with equipment positioned outside the limits of the infiltration system.
 - After the infiltration system area is excavated to the final design elevation, the floor should be deeply tilled with a rotary tiller or disc harrow to restore infiltration rates, followed by a pass with a leveling drag.
 - Do not place infiltration systems into service until the contributing areas have been fully stabilized. [Only necessary if infiltrating areas in addition to the building roof.]

In addition, please be prepared to submit a CD within one week after the permit approval. The CD needs to contain all of the information submitted to the department for a permit approval, including the application, the approved plans, etc; all in PDF format. A hard copy of the *revised* plan sheets and drainage report are still needed for approval.

Please be aware that pursuant to RSA 485-A:17, **all of the information requested above must be provided in a single and complete response within the next 120 days, by July 5, 2016, or your application will be denied.** Please include the file number on your response to this request, as well as a narration of the changes from the current application. If you have any questions, please call me at (603) 271-1087 or email at: bethann.mccarthy@des.nh.gov.

Sincerely,



Bethann McCarthy, P.E.
Alteration of Terrain Bureau

cc: New London Planning Board
Peter Blakeman, Blakeman Engineering, Inc. (via email)