



January 24, 2020

Ms. Marcia Gasses  
Town Planner and Land Use Administrator  
Town of Barrington  
P.O. Box 660  
Barrington, New Hampshire 03825

Subject: Turbocam International – Tax Map 233, Lot77 / Tax Map 233, Lots 1.2 & 1.4  
Stormwater Engineering Review

Dear Ms. Gasses:

As requested, we have completed our review of the following plans and materials submitted for the above referenced project:

- Plan set consisting of 16 sheets, produced by Emmanuel Engineering, with a date of November 5, 2019, with a revision date of January 6, 2020.
  - Drainage Analysis, produced by Emmanuel Engineering, dated September 13, 2019, with a revision date of January 7, 2020.
1. Drainage Analysis. We recommend that the applicant provide stormwater BMP worksheets to confirm methodology for WQV sizing of the underground system and for the sediment forebays.
  2. Drainage Analysis. We recommend that the applicant provide full size, 24 x 36 inch pre- and post-development watershed drainage plans so that the watershed delineations and time-of-concentration delineations can be reviewed at a scale that is legible.
  3. Sheet C4. Grading and Drainage Plan. The proposed structure “DMH1” could not be found on the structure table.
  4. Sheet D7. PRETX Details. We recommend that the applicant revise the PRETX-DROP (PT3) Catch Basin detail to indicate that the structure must meet H-20 loading. Additionally, we recommend that the applicant add notes to all concrete structure details that indicate the structures must be installed in accordance with New Hampshire Department of Transportation Standards and Specifications for Road and Bridge Construction, as required by Barrington Site Plan Review Regulations 4.7.8.
  5. The Drainage Report does not include a copy of a US Department of Agriculture (USDA) – Natural Resource Conservation’s (NRC) Custom Soil Resource Report as obtained by the USDA – NRCS’ website to support the soil identification and associated hydraulic soil group classification. We recommend that the Drainage Report include the Soil Resource Report.
  6. No percolation information was provided to support the 3.0-inches per hour infiltration rate defined in the HydroCAD model for the subsurface infiltration Reservoir. We recommend that the applicant revise the drainage Report to include a narrative that describes the infiltration rates used and provides supporting data.

7. We recommend that the applicant indicate on the plans the proposed drainage pipe type in accordance with Barrington Site Plan Review Regulations 4.7.7(5).
8. We recommend that the applicant provide the perforation pattern requirements for the proposed perforated pipe.
9. Bioswale BR1 has a 1.0-inch vertical orifice at elevation 226.00' defined in HydroCAD that does not appear to be shown in the details on Sheet D2 or elsewhere on the plans. Similarly, Bioswale BR2 has a 2.0-inch vertical orifice at elevation 227.00' defined in HydroCAD that does not appear to be shown in the details on Sheet D2 or elsewhere on the plans. We recommend that the applicant revise the plans as needed to show these outlet orifices.
10. We recommend that the applicant identify the proposed snow storage areas in accordance with Article 4.15.1 of the Site Plan Regulations.

If you have any questions or comments, please do not hesitate to contact us.

Very truly yours,

DuBOIS & KING, Inc.



Jeffrey A. Adler, P.E.  
Sr. Project Manager