April 28, 2025

Bellingham Planning Board
10 Mechanic Street
Bellingham, MA 02019

Re: Prospect Hill Estates
Definitive Subdivision Plan
Bellingham, Massachusetts

Dear Board and Commission Members,

Our firm revised the plans for the above captioned project to address the comments outstanding from BSC Group dated April 23, 2025, the Bellingham Planning Department and Kleinfelder, date October 23, 2024 . The following is a response to comments: (Responses in Bold)

Bellingham Planning Department:

1. Revised grading behind homes along Prospect Street. Earth berm shown to provide additional screening. See Sheet 21.
2. Provided flood storage compensation information. See Supplemental Sheet A.
3. Phasing information. Provided a breakdown of 3 Phases. See Sheet 1 & 10.
4. Provided construction sequence and detail information for the brook crossing along Cross Street (Peters River) See Supplemental Sheet C
5. Provided construction sequence and detail information for Hoag Brook crossing. See Supplemental Sheet B.

BSC Group Outstanding Comments, April 23, 2025:

1. Zoning Section 240-17B.
   e. 240-17B.(3) requires a narrative be submitted with the project application that includes a calculation of existing and proposed lot coverage, projected Town sewer and water demand, and discussions of other permits required for the project and its conformance with the Bellingham Master Plan. It is not clear if such a narrative has been provided for the revised design as one was not provided to BSC.

   Response: Narrative has been provided demonstrating compliance with the Master Plan. Calculation of existing and proposed lot coverages will be added to the plan. Town sewer and water demand has been submitted.

   We defer to the judgement of the Board regarding the submitted narrative and compliance with the Master Plan. Proposed and existing lot coverage should be added to the final plans, and we recommend the Board obtain written verification from DPW regarding sewer and water demand. BSC has no further comment.
   Response: Proposed lot coverages have been added to the plan. See Sheet 1.

8. BSC requests the following information with regard to the emergency access driveway to Lakeview Avenue (shown as Road F on the site plans):

    a. It does not appear that the full extent of this access road and the proposed cul-de-sac on the exiting lot on Lakeview Avenue have been included in the stormwater management calculations.

    Response: Revised See Stormwater Report.

    The areas containing the emergency access road have been included in the revised HydroCAD model and drainage calculations with new Subcatchments P23, P24, and P25.

    - We note that Subcatchment P8 has not been revised to include the additional impervious area from the emergency access road that will be collected in the drainage system within Road C and routed to Infiltration Basin 1.

      Revised Subcatchment P8, See attached Supplemental Stormwater Report

    - The water quality volume and recharge calculations for Basin #5 appear to have some minor discrepancies. The drawdown calculation uses a volume of 15,177 cubic feet; we request the applicant confirm the volume used for this calculation.

      Revised: See Attached Supplemental Stormwater Report

    - We also note that a detail has not been provided for Basin #5. We recommend this be added to the site plans.
      Revised See Sheet 40.

20. Weighted average TSS removal calculations must be provided to ensure compliance with Stormwater Standard 4. As part of these calculations, pretreatment calculations demonstrating that 44% TSS is removed prior to all infiltration BMPs must be provided due to the project's rapid infiltration rate. The southern end of Road C (Subcatchments P20 and P22 in the HydroCAD model), where it connects to Lake Street, directs runoff to what appears to be two small forebays and a swale prior to discharge to the wetland. These are not included in the model or the drainage calculations. We recommend that the model and TSS removal calculations be revised to include this area of the site in addition to the weighted average TSS removal rate noted above.

    Response: This is for treatment andconveyance. See Appendix C for TSS Removal rate.

Drainage calculations were provided that show that the forebays and swale that collect and convey runoff from the southern end of Road C are sized for the impervious area directed to them. TSS removal calculations have also been provided that demonstrate 44% pretreatment and 80% TSS removal requirements are met for this treatment train.

The revised Grading and Drainage plans show that both catch basins at the end of Road C (CB 94 and CB 95) are now directed to one forebay on the west side of the road. We recommend that the forebay sizing calculations be revised to reflect this.

Revised See Attached Supplemental Stormwater Report.

While it appears that almost all impervious area on site is directed to stormwater BMP's and the TSS removal calculations provided show that greater than 80% TSS removal is provided for each treatment train, we also recommend that a weighted average TSS removal calculation be provided for the site as a whole to demonstrate that the overall project meets the 80% TSS removal requirement.

Revised See Attached Supplemental Stormwater Report

2. Sizing calculations for the CDS water quality units must be provided in accordance with DEP's "Standard Method to Convert Required Water Quality Volume to a Discharge Rate for Sizing Flow Based Manufactured Proprietary Stormwater Treatment Practices". Water quality unit sizing calculations have been provided for DMH#4. However, these calculations are manufacturer's sizing information and not the conversion of water quality volume to flow rate as required by DEP. Manufacturer's literature is included for the CDS unit providing treatment for Recharge System #6. We recommend that a detail be included with the plans, and that sizing calculations be provided as noted above.

   The water quality calculations provided do not include sizing the CDS unit per the DEP's "Standard Method to Convert Required Water Quality Volume to a Discharge Rate for Sizing Flow Based Manufactured Proprietary Stormwater Treatment Practices". We recommend that this calculation be provided and that a TSS calculation sheet be created for this treatment train, which should also be incorporated into the weighted average TSS removal referenced in our comment above.

   Revised, CDS Unit detail provided See Sheet 38.

   Revised See Supplemental Report

Kleinfelder Review Comments dated October 23, 2024:

Pipeline Design Comments:

1. No borings or test pit logs were included. Subsurface soils information is important to determine if ledge or poor/unstable soils will be encountered. ***If required to be done prior to construction.***
2. No existing utilities are shown other than a culvert crossing. Are there other existing utilities along the 4,400-foot route? ***Area to be dig-safe prior to construction.***
3. No construction details such as trenches, manholes, paving, surface restoration, house service connections, etc. were provided. ***Details are provided in the project plan set. Sewer details are Shown on Sheet 41.***
4. Provide a construction detail for the Peters River crossing at station 2+30, and the Brook crossing at station 21+20, including stream bed inverts and existing culvert construction inverts and details.
   Construction sequence and details provided See Supplemental Sheets B & C.
5. Provide a construction detail for the connection to the existing manhole just outside the Dupre Rd. pumping station. ***There is an existing future stub at the existing manhole.***
6. Manhole covers located in cross-country off-road areas shall be constructed 6 to 12 inches above the surrounding grade in order to be easily located. ***This may be possible, however this area is as walking trail and may be an obstacle.***
7. A large portion of the pipeline route is cross-country. Ownership of some of the land is not indicated—needs to be added. If the entire pipeline route is not owned by the town, then easements will have to be acquired. ***The cross country force main is private and will remain private. The gravity sewer from Lakeview Ave. the existing manhole connection on Cross Street will become public.***

Dupre Road Pumping Station Comments:

1. The existing pump station is a prefabricated Smith & Loveless vacuum prime wetwell mounted station. It has a capacity of 450 gpm according to the shop drawing.
2. The station has adequate capacity to accommodate the proposed 150-unit residential project.
3. The Town has experienced numerous failures and operational problems since the station was constructed including:
   a. The pumping station vacuum priming system has lost prime on a number of occasions.
   b. Fittings on the suction piping within the wetwell broke causing the piping to shift requiring the station to be shut down for repairs.
   c. Levers on the check valves snapped off requiring the station to be shut down for check valve replacement.
   d. Mechanical seals on the pumps have failed causing sewage discharge and spraying inside the station.

e. Transducer (flow depth measuring device in wetwell) have failed.
f. Pumping station parts and components are proprietary and therefore difficult to obtain on short notice.

4. Since the time that this station was constructed, the town has adopted and implemented a standard waste pumping station design that uses submersible pumps. The standardized design provides multiple benefits to the town.
5. Even through the pumping station technically has available capacity, the failures and operational problems have been significant and therefore we are recommending that the station be upgraded before significant additional flows are added, in accordance with the town's wastewater pumping station standards which are attached.

The existing pumping station is the responsibility of the Town of Bellingham.

General Comments:

1. The general contractor that will be constructing the pipelines and pumping station is to be pre-qualified with the DPW before construction starts. The GC needs to be experienced in sewer and pump station construction, as well as deep excavations.
2. Electronic record drawings will be required at completion of construction and prior to final acceptance. Record drawings are to dimensionally indicate actual as-built conditions including the precise location of the gravity sewer, force main, and manholes, as well as invert elevations, pipe sizes, pipe materials and all PS components. A minimum of three swing ties to permanent features (utility poles, hydrants, building corners, etc.) shall be provided for all project components. GPS coordinates will be acceptable in lieu of swing ties.
3. Once complete, the PSs are to have all systems and components tested in accordance with the town's standard checklist, including a pump "drawdown" test to check pumping capacity.
4. Training by the pumping station/system manufacturer will be required prior to final acceptance.
5. Operation and Maintenance manuals will be required for all equipment included in the project prior to final acceptance.

The applicant is acceptable to these as a condition of approval.

Enclosed herewith are copies of the revised plans and stormwater report for your review and comment. If you have any questions please don't hesitate to contact our office.

Thank you for your cooperation in this matter.

Yours truly,
GLM Engineering Consultants Inc.

Robert S. Truax, P.E.