

Letter of Response

December 5, 2024
Via Electronic Mail

Newton Conservation Commission
Planning & Development Department
1000 Commonwealth Avenue
Newton, MA 02459

Attention: Jennifer Steel, Ellen Menounos, and Members of the Newton Conservation Commission

**RE: Response to Comments Letter
Wetland and Engineer Peer Review
528 Boylston Street
Newton, Massachusetts**

Dear Jennifer Steel, Ellen Menounos, and Members of the Newton Conservation Commission:

Please allow this letter to serve as our formal response to both a peer review letter, dated December 3, 2024, prepared by BSC Group, Inc. (BSC), and Staff Notes, dated November 21, 2024, prepared by Newton Conservation Commission staff for the above referenced project. Supporting documents, including revised Site Plans and Drainage Report have been included in this submission package.

For brevity, only comments requiring response or acknowledgment have been transposed to this letter. For the peer review comments and responses, text has been formatted in the following conditions to provide historical context:

- BSC's initial comments, dated 10/03/24, are shown in standard font
- Bohler's initial responses, dated 10/18/24, are shown in **bold** font
- BSC's supplemental comments, conclusions, and recommendations, dated 12/03/24, are shown in *italic* font
- Bohler's current responses, dated 12/04/24, are shown in ***bold italic*** font

BSC Peer Review Comments

Comment 2a:

BSC Comment (10/03/24): Subcatchment EX-3 in the existing conditions HydroCAD computations discharges into the rear of properties on Hagen Road. While this discharge may ultimately flow to Paul Brook through the Newton drainage system, we believe that a new design point at Hagen Road would be appropriate to more accurately determine if Standard 2 is met at all off-site discharge points.

Bohler Response (10/18/24): The HydroCAD model and supporting documentation within the enclosed Drain Report have been updated to reflect a more appropriate design point at the confluence of Paul Brook and the Hagen Road closed pipe connection located within Hagen Road.

BSC Conclusion (12/03/24): While we agree that the final design point at the confluence of Paul Brook and the Hagen Road closed pipe connection is an appropriate design point, we do still feel that it is appropriate to compare the pre- and post-development peak discharges at Hagen Road. This comparison would be between pre-development Subcatchment EX-3 and post-development

Subcatchment PR6b. Comparing these two subcatchments shows a reduction in peak flow rates and volumes discharged towards Hagen Road for all storm events.

Bohler Response (12/04/24): An intermediate point of analysis (POA-1), modeled as a “link” node, has been added to the pre- and post-development hydrologic models. An additional table summarizing the pre-development and post-development peak rates and volumes has been added to the Drainage Report to document the reduction in both metrics in the post-development condition.

Comment 2b:

BSC Comment (10/03/24): With the additional design point referenced above, proposed conditions Subcatchment PR6 may need to be split into two subcatchment areas – one for the runoff collected and routed towards Paul Brook and one for the runoff that will continue to flow towards the rear of the properties on Hagen Road.

Bohler Response (10/18/24): Acknowledged. An updated drainage report, including revised HydroCAD, existing and proposed drainage maps, and revised site plans will be included in a forthcoming submission.

BSC Conclusion (12/03/24): Subcatchment PR6 has been revised to reflect the portion that flow towards Paul Brook (PR6a) and the portion that flows towards Hagen Road (PR6b). As stated above, comparing PR6b to pre-development subcatchment EX-3 shows a reduction in peak flow rates and volumes for all storm events.

Bohler Response (12/04/24): Comment acknowledged. Please refer to response provided above.

Comment 2f:

BSC Comment (10/03/24): Existing conditions Subcatchments EX-1 and EX-3 and proposed conditions Subcatchment PR6 include two segments of sheet flow in their Tc calculations. Use of multiple sheet flow segments is not typical in runoff calculations. We request the Applicant provide clarification on this.

Bohler Response (10/18/24): Two sheet flow segments were utilized in Tc calculations for EX-1 and EX-3 due to significant grade change within the first 100 feet of flow.

BSC Recommendation (12/03/24): While there are no specific prohibitions against utilizing two sheet flow segments, typical practice tends towards utilizing only one. Using two sheet flow segments will result in longer Tc and, therefore, lower peak flow rates. While this results in a conservative calculation for existing flows, it may underestimate proposed flows. Therefore, we recommend utilizing only one sheet flow segment for all Tc calculations.

Bohler Response (12/04/24): The pre- and post-development hydrologic models have been revised to include singular segments of sheet flow conditions. For subcatchments EX-1, EX-3, and PR6a, sheet flow has been limited to a length of 50 feet.

Comment 3j:

BSC Comment (10/03/24): Soil test pits were performed by Bohler in December 2023. Per the City of Newton’s Stormwater Management and Erosion Control Rules & Regulations Section 5B.5. requires that any soil tests conducted between June and February must also be accompanied by a determination of the seasonal high groundwater using the Frimpter Method. No Frimpter Method analysis has been provided.

Bohler Response (10/18/24): A narrative detailing the Frimpter Method calculations performed for test pits in which groundwater was encountered has been provided. The results are generally consistent with the previously identified elevation for seasonal high groundwater.

BSC Recommendation and Conclusion (12/03/24): Two versions of the Frimpter Method narrative were submitted – one with the updated Drainage Report and one under separate cover. The version submitted under separate cover appears to be more thorough in that it more clearly indicates which test pit (TP-7) is being analyzed. We recommend this version be submitted in the final Drainage Report. The Frimpter analysis was performed for one test pit. It is not clear from the City of Newton’s Stormwater Management and Erosion Control Rules & Regulations Section 5B.5. if all test pits must be analyzed using the Frimpter method or if one is sufficient. It should be noted that if additional Frimpter analysis is required, this would also include the most recent test pits performed as these were performed in October. However, we concur with the analysis performed for TP-7 and agree that the Frimpter Method generally confirms the results of this test pit. We also agree that utilizing the observed redoximorphic features as the estimated seasonal high groundwater (ESHGW) is appropriate. Finally, we point out that, if the Frimpter calculated ESHGW were used at this location, Infiltration System 2P would still maintain greater than 4-feet of separation to ESHGW.

Bohler Response (12/04/24): The test pit location map has been incorporated into the the Frimpter Analysis included in the current Drainage Report. Additionally, Bohler did have a conversation with the Newton Engineering Department and described that the Frimpter requirement was applied to the only test pit performed that observed standing groundwater and not to those where groundwater was not encountered since that is the key dimension for the Frimpter adjustment. The Engineering Department indicated that was an acceptable approach.

Comment 3k:

BSC Comment (10/03/24): Several soil test pits have been performed in the area around Subsurface Infiltration System (2P). Due to an existing home in the location of this proposed system, the Applicant has not yet performed test pits within the limits per the requirements of Standard 3. The Applicant has indicated that additional test pits will be performed after demolition of the home as a condition of approval. Should the Commission agree to such a condition, we recommend a condition requiring these test pits to occur at the start of construction and that the soil information be submitted immediately upon completion. Should these test pits show soil or groundwater conditions conflicting with the current design assumptions, the Applicant may need to amend any Order of Conditions issued.

Bohler Response (10/18/24): Additional soil test pits were performed on 10/16 and have been included in this submission. Test pits within the footprint of the existing home will be performed prior to the start of construction.

BSC Conclusion (12/03/24): Additional test pits that confirm the previous assumptions regarding soils and ESHGW have been performed along the western edge of Infiltration System 2P. As the central and eastern portions of the proposed system are within areas that cannot be readily excavated at this time, our original recommendation regarding additional test pits as a condition of approval stands.

Bohler Response (12/04/24): The team is in agreement to the Condition for additional testing at the start of construction.

Comment 3l:

BSC Comment (10/03/24): A groundwater mounding analysis has been performed for Subsurface Infiltration System (2P). While we concur with the methodology and inputs used for this analysis, it must be noted that the actual results of this analysis cannot be determined until after groundwater and soils information are confirmed through test pits as detailed above.

Bohler Response (10/18/24): Additional soil test pits were performed on 10/16 and have been included in this submission. All systems will be located a minimum of 4-ft above the estimated seasonal high groundwater. Therefore, additional mounding analyses are not required.

BSC Conclusion (12/03/24): Despite not being required based on current information, an updated groundwater mounding analysis for Infiltration System 2P has been provided utilizing the discharge for the 100-year storm event. This analysis shows that the groundwater mound expected during this event would not reach the bottom of the system. Should the additional test pits proposed for this system (see comment above) show different results than previously performed test pits, this analysis may be required and may need to be revised.

Bohler Response (12/04/24): Comment acknowledged.

Comment 3m:

BSC Comment (10/03/24): Only one test pit (SH-TP-10) has been performed in the area of Subsurface Infiltration System (3P). This test pit is located southeast of the proposed system. The proposed system is approximately 100-feet long and there is an approximately 4-foot increase in surface elevation at the opposite end of the system. As such, we recommend at least one additional test pit be performed in the far end of the system to ensure that groundwater elevations used in design are appropriate.

Bohler Response (10/18/24): Additional soil test pits were performed on 10/16 and have been included in this submission.

BSC Recommendation (12/03/24): Test pits TP-E and TP-F were performed in the area of Infiltration System 3P. While neither groundwater nor redoximorphic features were observed in either test pit, neither test pit reached a depth of at least 4-feet below the proposed bottom of the Infiltration System. TP-E extended to an elevation of approximately 127.8, which is only 0.2-feet below the proposed bottom of the System (128.0). TP-F extended to an elevation of 125.4, which is 2.6-feet below the proposed bottom of the System. As such, we believe that this test pit data is not sufficient to conclusively demonstrate that sufficient separation to ESHGW is maintained for this System.

Bohler Response (12/04/24): Pond 3P has been relocated to the other side of this building wing and is effectively an extension to the proposed 4P system. This allows the system to be raised in elevation and shows sufficient separation from ground water testing throughout the footprint.

Comment 3n:

BSC Comment (10/03/24): One soil boring (SH-3) and one soil test pit (SH-TP-6) were performed in the area of Subsurface Infiltration System (4P). While no groundwater was observed in the boring, soil borings do not allow for observation of redoximorphic features if they exist. Additionally, the test pit was terminated due to refusal 4.8-feet below existing grade. As such, we recommend additional soil test pits be performed in this area to verify soil and groundwater information used in the design.

Bohler Response (10/18/24): Additional soil test pits were performed on 10/16 and have been included in this submission.

BSC Recommendation (12/03/24): Test pit TP-C was performed in the area of Infiltration System 4P. This test pit was extended to elevation 138.8 without evidence of groundwater or ledge. Infiltration System 4P has been split into two separate systems with significantly different bottom elevations. However, it has continued to be modeled as one system in HydroCAD. With the significant difference in elevation between the systems (3.55-feet), we believe it is more appropriate to model these as separate systems. Additionally, while the bottom of the eastern system (4Pa) is based on the results of TP-C (ESHGW = 138.8), the bottom of the western system (4Pb) is still based upon soil boring SH-3. In order to ensure that adequate separation to ESHGW is maintained, we recommend System 4Pb either be raised to match the elevation of System 4Pa or an additional test pit be performed within the limits of this system showing that ESHGW is as shown.

Bohler Response (12/04/24): The post-development hydrologic model has been revised to model each segment of System 4P (4Pa and 4Pb) as separate systems. Soil boring SH-4W. System was performed by the perimeter of System 4Pb and encountered groundwater at El. 119.6±, which is approximately 19.7 feet below the system invert. As such, Estimated Seasonal High Groundwater is not within 4 feet of the system invert. The applicant is open to a Condition requiring an additional confirmatory test pit at the start of construction and also installing a groundwater observation port in this vicinity.

Comment 7u:

BSC Comment (10/03/24): The LTPPP details snow removal and storage. Where will snow be stored on site?

Bohler Response (10/18/24): Snow storage areas will be reflected in the revised site plans in the forthcoming resubmission.

BSC Recommendation (12/03/24): Proposed snow storage areas are shown on the revised Site Layout Plan. We recommend this plan, with snow storage areas clearly identified, be included with the final LTPPP. It should be noted that there are limited areas for snow storage on site and we recommend that signs be installed prohibiting dumping of snow along areas where snow is not intended to be stored.

Bohler Response (12/04/24): Proposed signs prohibiting the storage of have been added to Sheet C-301: Site Layout Plan and the LTPPP.

Comment 7v:

BSC Comment (10/03/24): The LTPPP details pet waste disposal. Will the Project include pet waste disposal bag dispensers for residents?

Bohler Response (10/18/24): The pet waste disposal station was for a prior iteration of the proposed plan that included a dog park which is no longer a part of the proposal. The revised report will correct the discrepancy.

BSC Recommendation (12/03/24): While the waste disposal bag dispenser has been removed, we recommend one (or more) be provided if the facility will allow pets. This will help ensure residents appropriately pick up pet waste should they walk their pets on the property and help keep pet waste from impacting stormwater runoff. This requirement could be made a condition by the Commission.

Bohler Response (12/04/24): A pet waste bag dispenser has been added to Sheet L-200: Materials Plan

Newton Conservation Commission (NCC) Staff Notes

NCC Comment #1: Please provide a narrative describing how the proposed work in BVW meets the BVW performance standards.

Bohler Response: See enclosed response letter from Lucas Environmental, LLC

NCC Comment #2: ESC plans should clearly indicate where erosion control mats may be necessary.

Bohler Response: Sheet C-601: Soil Erosion & Sediment Control Plan has been revised to depicted erosion control mats, which includes all disturbed slopes where grades exceed 3:1.

NCC Comment #3: Consider varying the proposed double row of silt fence plus compost sock based on slope and upgradient disturbance.

Bohler Response: The extents of silt fence and compost sock has been revised in Sheet C-601: Soil Erosion & Sediment Control Plan.

NCC Comment #4: Consider silt fence only for the interior ESC line during wetland mitigation work.

Bohler Response: The extents of silt fence and compost sock has been revised in Sheet C-601: Soil Erosion & Sediment Control Plan.

NCC Comment #5: Consider softening the stream bank slope, now that the infiltration basin shape has changed.

Bohler Response: The proposed grades downgradient of the proposed infiltration basin have been revised.

NCC Comment #6: Sheets L300 and L450 (and other landscape sheets) need a new revision date.

Bohler Response: All landscape sheets have been revised to include the revision date of the latest issuance.

NCC Comment #7: Is there a plan to minimize browse? (lowbush blueberry is highly susceptible)

Bohler Response: See enclosed response letter from Lucas Environmental, LLC

NCC Comment #8: Huckleberry is notoriously hard to establish.

Bohler Response: See enclosed response letter from Lucas Environmental, LLC

NCC Comment #9: Willow whips (Zone 2 and 3) will not generate "trees" as indicated in the tables.

Bohler Response: See enclosed response letter from Lucas Environmental, LLC and revision to the Landscape Tables

NCC Comment #10: Where will concrete washout occur?

Bohler Response: Concrete washout will occur outside of both Resource Areas and Buffer Zones

NCC Comment #11: When can we expect plans for work on the Rt 9 culvert headwall and slope?

Bohler Response: Please see Sheet L-450: Riverfront Area Mitigation Plan, which calls for the stabilization of existing erosion at the headwall and softening of adjacent grades. Modifications to the upstream catch basin will be addressed in coordination with the Massachusetts Department of Transportation and a proposal is being included in the Project's application to the State.

NCC Comment #12: Landscape plans and notes indicate 3" and 6" of topsoil being added. These figures are inconsistent.

Bohler Response: Notation on the Landscape Plans has been modified to clarify that the addition of topsoil in the wetland mitigation areas will only be as needed to replace low quality soil that is removed. No net new fill is proposed as a result of this mitigation work.

NCC Comment #13: Temporary sediment basins and swales are not shown on the phasing plans and should not be located where the infiltration basin will be constructed (as indicated in C-602 #15).

Bohler Response: The siting of temporary sediment basins and swales within the footprint of the proposed infiltration basin will be prohibited.

Upon your review of the above, please do not hesitate to contact us directly with any questions.

Sincerely,

BOHLER ENGINEERING MA, LLC



Timothy Hayes, P.E.



Stephen Martorano, P.E.