Open Comments
Defer to Board
Conditions of Approval

GREEN
A Lochner Company

PROJECT NAME Beaver Brook Road PEER REVIEW
DATE 7/25/2025
UPDATED: 11/12/2025
PROJECT NO. 25008.04

## Peer Review Comment Form

| NO. | SHEET NO. | SECTION | GREEN'S COMMENT | Applicant's RESPONSE | CONFIRMED BY | DATE |
|---|---|---|---|---|---|---|
| **Stormwater Review** | | | | | | |
| | **PLANS & DETAILS** | | | | | |
| 1 | 1 | § 38-16. Erosion and Sediment Control Plan. C.7. | An erosion control barrier is shown in the details but not shown on the plans. Please revise plans to show where the erosion control barrier will be installed. | **The proposed erosion control barrier location has been added to the revised site plans.** | MW | 9/26/2025 |
| 2 | 1 | § 38-16. Erosion and Sediment Control Plan. C.7. | How will the SCMs be protected during construction? Please consider adding notes to the plan that explains how and when this protection will happen. If erosion control barrier are to be used, then these should be show on the plans. | **Erosion Control notes have been added to the revised plans on Sheet 3. The proposed erosion control barrier location has been added to the revised site plans.** | MW | 9/26/2025 |
| 3 | 1 | MA Stormwater Handbook V2CH2 | MA stormwater handbook recommends an infiltration basin have a minimum 50 ft distance from any slope greater than 15%. The infiltration basins are located on a slope where it slopes down greater than 15%. There is concern of potential breakout in the slope. Please revise the slope or provide a measure to mitigate breakout in the slope. | **A cross-section for each stormwater management area has been added to the revised plans. An impermeable core has been specified within each berm to prevent potential breakout in the slope** | JT | 9/26/2025 |
| 4 | 1 | MA Stormwater Handbook V2CH2 | MA stormwater handbook recommends a minimum 50 ft distance between an infiltration basin and a soil absorption system. The proposed reserve leaching area is within 50ft of the northern infiltration basin. Please revise. | **The plan has been revised to provide a 50-foot offset from the proposed reserve leaching area to the proposed infiltration basin.** | MW | 9/26/2025 |
| 5 | 1 | | It is recommended to continue the swale to the northern infiltration basin to make sure the runoff gets to basin and doesn't bypass it. Please revise. | **The swale design has been revised. It is currently proposed as a drainage channel that routes the stormwater runoff from the driveway to a deep sump catch basin. The catch basin was implemented to add additional TSS & to limit disturbance.** | MW | 9/26/2025 |
| 6 | 2 | | The OCS-1 detail has a callout for a 6" orifice in the same location as the 12" pipe leaving the OCS. Please explain how the 6" orifice works with the 12" pipe in the same location. | **The 6" orifice has been removed in OCS-1 & the 12" outlet pipe has been revised to a 6" outlet pipe.** | JT | 11/112025 |
| 6A | 1/4/HydroCAD | | The pipe leaving OCS-1 is shown to be 6" per the detail and HydroCAD model, but the callout for FES-1 shows that is 12", please clarify. | **The callout for FES-1 has been revised for consistency.** | JT | 11/112025 |
| | **STORMWATER MANAGEMENT REPORT** | | | | | |
| 7 | Recharge Calculations | MA Stormwater Handbook Standard 3 Recharge | A drawdown calculation was only performed for the infiltration basin. A drawdown calculation shall be provided for all SCMs. Please revise. | **Drawdown calculations have been revised & provided for both infiltration basins. On-site soil testing has confirmed that the underlying soils are HSG "B" rather than HSG "C" as shown on the NRCS Web Soil Survey.** | JT | 9/26/2025 |
| 8 | Recharge Calculations | MA Stormwater Handbook Standard 3 Recharge | The recharge calculations show that the recharge volume required is 1,002 cf but the provided is 889. Therefore, the recharge requirement is not met. Please revise to meet the recharge requirement. | **Both stormwater management areas have been revised & their supporting calculations have been updated. Please refer to the attached Stormwater Report.** | JT | 9/26/2025 |
| 9 | Water Quality Calculations | MA Stormwater Handbook Standard 4 Water Quality/ Stormwater Management and Erosion Control Regulations 4.1.3.5.2. | The water quality calculations shows that the required water quality volume is 1,477 cf but only 889 cf is provided. Therefore, the water quality requirement is not met. The TSS calculations show that 85% TSS removal is achieved but Littleton Regulations require 90% TSS removal. Please revise to meet the water quality requirement. | **Additional treatment has been provided to each stormwater management area to achieve 90% TSS. Please refer to the attached Stormwater Report.** | JT | 11/12/2025 |
| 9A | Water Quality Calculations | MA Stormwater Handbook Standard 4 Water Quality/ Stormwater Management and Erosion Control Regulations 4.1.3.5.2. | The required water quality calculations have been changed from 1" to 0.5" and no longer meet the Town treatment requirement to provide 90% TSS and 60% TP removal by providing 1" of water quality volume. The proposed water quality volume does not meet the 1" water quality requirement as 1,335 cf is provided when 1,477 is required. Please revise. | **The drainage design has been revised to meet the 1" water quality volume. This was achieved by raising the outlet pipe within Infiltration Basin #2 from 239.50 to 239.70. This effectively raises the lowest outlet from the basin, thus increasing the provided recharge volume within the BMP.** | JT | 11/12/2025 |
| 10 | Pretreatment Calculations | MA Stormwater Handbook V2CH2 | A grass channel is proposed for pretreatment prior to discharge to the infiltration basin. When impervious surfaces sheet flow use a vegetated filter strip on a gentle slope or pea gravel diaphragm. The vegetated filter strip shall meet the requirements of the MA stormwater handbook. Grass channels shall not exceed 1 feet per second and depth shall not exceed 4" during the 24 hour water quality storm event. Provide a minimum of 1 foot of freeboard above the 10-year storm event. Please provide back up calculations to show the grass channel meets the requirements of the MA stormwater handbook. | **The swale design has been revised. It is currently proposed as a drainage channel that routes the stormwater runoff from the driveway to a deep sump catch basin. The catch basin was implemented to add additional TSS & to limit disturbance.** | JT | 9/26/2025 |
| 11 | Pretreatment Calculations | | The TSS calculations indicate there is a sediment forebay pretreating the southern infiltration basin. The sediment forebay is not shown on the plans. Please show on the plans and provide backup calculations showing it is sized for the receiving area. | **Both stormwater management areas including each respective sediment forebay has been revised & their supporting calculations have been updated. Please refer to the attached Stormwater Report.** | JT | 9/26/2025 |
| 12 | O&M | MA Stormwater Handbook V2CH2 | The MA Stormwater Handbook recommends inspecting Grassed Channels semi-annually the first year and once a year thereafter. Please revise. | **The swale design has been revised. It is currently proposed as a drainage channel that routes the stormwater runoff from the driveway to a deep sump catch basin. The catch basin was implemented to add additional TSS & to limit disturbance.** | JT | 9/26/2025 |
| 13 | O&M | § 38-18. Operation and Maintenance Plan. B. 3. | Signature(s) of the owner(s) required for O&M plan. We recommend this be made a condition of approval. | **The Applicant has no dispute with this requirement.** | | |
| 14 | Test Pits | § 38-17. Stormwater Management Plan. C.5. | It appears that no test pits were performed. Please perform test pits in accordance with Chapter 38 and the MA stormwater handbook. Please provide ESHGW for each SCM to confirm adequate separation to groundwater and bedrock is provided. | **On-site soil testing has been conducted. The testing has confirmed that the underlying soils are HSG "B" rather than HSG "C" as shown on the NRCS Web Soil Survey. The HydroCAD Model has been updated accordingly. Please refer to the included test pit data on the revised Site Plans on Sheet 3.** | | |

Open Comments
Defer to Board
Conditions of Approval

## Peer Review Comment Form

PROJECT NAME Beaver Brook Road PEER REVIEW
DATE 7/25/2025
UPDATED: 11/12/2025
PROJECT NO. 25008.04

| NO. | SHEET NO. | SECTION | GREEN'S COMMENT | Applicant's RESPONSE | CONFIRMED BY | DATE |
|---|---|---|---|---|---|---|
| 14A | Plans: Sheet 3 & HydroCAD | § 38-17. Stormwater Management Plan. C.5. | The Test pits were taken in July and September. Per regs, test pits to determine ESHGW must be performed between November and April. We defer to the board if this is acceptable. | | | |
| 15 | MA Stormwater Checklist | | The MA stormwater checklist and illicit discharge statement is missing. Since the Littleton Bylaw requires compliance with the Stormwater Standards please provide. | **The MA Stormwater Checklist & Illicit Discharge Statement have been included in the revised Stormwater Report.** | MW | 11/7/2025 |
| 15A | Appendix I: Illicit Discharge Statement | | Please sign illicit discharge statement. | **The illicit discharge statement has been signed and attached to the revised Stormwater Report.** | MW | 11/7/2025 |
| 16 | HydroCAD | | Per direction of the conservation commission, please revise calculations to use the NRCC rainfall data for the 100 year storm event which is 7.98". | **The 100 year storm event has been revised to 7.98". Please refer to the attached HydroCAD Report in the revised Stormwater Report.** | MW | 9/26/2025 |
| 17 | HydroCAD | MA Stormwater Handbook V2CH2 | The peak elevation for the 100-year storm for the northern infiltration basin is elevation 241.77 and the top of the basin is at elevation 242. It is recommended that the basin have 1' of freeboard. Please revise. | **Both infiltration basins have been revised & each basin provides 1-foot of freeboard. Please refer to the added SWMA details on Sheet 4.** | JT | 9/26/2025 |
| 18 | Watershed Plans | | The watershed plans indicate there is only one discharge point to the north instead of indicating multiple discharge points which would include discharging to each of the wetlands and the property to the north. Please clarify why the wetlands were not considered as discharge points. | **A larger DEP documented wetland exists just north of the property in which all of the smaller wetlands along the northern property line are tributary to. This larger wetland system was delineated as a common discharge point (Design Point A).** | JT | 9/26/2025 |
| 19 | Watershed Plans | | The watershed plans are cut off at the southern property line. The watershed boundary should extend to the south to include the full catchment area. Also, the boundary between A.3 and A.1 seems incorrect southeast of the southern building. The boundary should go straight south and not turn east before the property line. The concern is that the areas going to the infiltration basins are larger than what is modeled and the basins may not have capacity to handle the additional runoff from the property to the south. Please revise. | **Watershed boundaries have been extended south to ensure that each infiltration basin has been designed with sufficient capacity. Subcatchment A.1 has been revised to extend directly south.** | JT | 9/26/2025 |
| | **New Comments 9/26/2025** | | | | | |
| 20 | 1 | | The weir dimensions for both basins do not match between HydroCAD and plans. Please revise. | **The weir dimensions have been revised on the Site Plans.** | JT | 11/112025 |
| 21 | 1&4 | | The slope outside of Infiltration Basin #1 appears to be steeper than 2:1 in the plan view, which contradicts with the information from the detail. It is not recommended for landscaped slopes to be steeper than 2:1. Please verify slopes. | **The grading outside of Infiltration Basin #1 has been revised to a 2:1 maximum. All mitigation plantings have been located on the 2:1 berm. The last two vertical feet are proposed at a 1:1 to meet existing grade within the property boundaries, where no plantings are located.** | JT | 11/12/2025 |
| 21A | 1&4 | | The plans show a landscaped 1:1 slope to existing grade. This is too steep for a landscaped slope. It is recommended slopes this steep should be supported by rip rap. Please revise. | **The proposed shrubs have been located further away from the area where the 2:1 slope transitions into a 1:1 slope. The 1:1 slope which ties into the existing grade has been reinforced with rip rap.** | JT | 11/12/2025 |
| 22 | 2 | | For the Low Profile Catch Basin detail, please indicate sump depth (4' is recommended). It is unclear what the material is for the 6" minimum dimension at the bottom of the detail since the different hatches are not labeled, please clarify. The opening is listed as 24"x48" which does not seem feasible since the diameter of the structure is 48", please revise. There is a minimum of 31" dimension from the finished grade to the invert but CB-2 has a distance of 24", please revise design as needed. Both catch basins are called CB-2, please revise. | **Each catch basin has been labeled as CB-1 or CB-2. The Low Profile Catch Basin detail has been removed from the Plan Set.** | JT | 11/112025 |
| 23 | 3 | | For the Deep Sump Concrete Catch Basin detail, please clarify what the 1.0' and 7" dimensions are referring to. Based on the rims and inverts for both catch basins, it would seem that neither would be constructable with this configuration. Please clarify where the structure shown in this detail will be implemented. | **The eronious dimensions have been removed. The detail has been revised for consistency. Rim and invert elevations have been adjusted such that both CB-1 & CB-2 are specified as a Deep Sump Concrete Catch Basins.** | JT | 11/112025 |
| 24 | 3 | | ESHGW for SWTP-1 and -2 says that it is >36". The ESHGW elevations are noted as >261.3 & >261.1 respectively. The bottom of infiltration basin 1 is elevation 261. Therefore, the test pits were not deep enough to confirm adequate separation to groundwater (at least 2' separation). Please include SHGW elevation in Infiltration Basin #1 detail. Please revise design or perform deeper test pits. If separation to groundwater is greater than 2' but less than 4' a mounding analysis is required. | **The basin has been revised to provide a 2-foot minimum offset to observed depths which did not show any signs of ESHGW. A mounding analysis has been provided despite no ESHGW observation. The mounding analysis conservatively assumes an ESHGW elevation at the bottom of the higher test pit.** | JT | 11/112025 |
| 25 | 4 | | For OCS-1, it is recommended that the stone that is underground be wrapped in filter fabric. The stone appears to be exposed on one side, are there any concerns with this stone staying in place? Please indicate the rim elevation of the OCS-1. Is the rim a grate? If so, the grate should be modeled in HydroCAD. It is recommended that the OCS has 2' separation to groundwater since is it acting similar to a leaching basin. | **OCS-1 has been removed. The outlet pipe has been revised to daylight into the side of the basin berm equipped with rip-rap & a flared end section.** | JT | 11/112025 |