

January 14, 2022

Jeffrey M. Walsh, PE Graves Engineering, Inc. 100 Grove Street Worcester, MA 01605

Subject: 75 Plain Street, Hopedale, MA Site Plan Review Application Response to Peer Review Comments

Dear Mr. Walsh,

Highpoint Engineering, Inc. has received your peer review comments regarding the Site Plan Review Application for 75 Plain Street in Hopedale, MA. Highpoint has reviewed the comments and revised the site development plans and reports accordingly. Please refer to the enclosed documents relative to this Response to Comments:

- 1. Cover letter to the Planning Board dated 01-14-2022.
- 2. Site Development Plans | 75 Plain Street, Hopedale revised 01-14-2022 prepared by Highpoint.
- 3. Long-Term Operation and Maintenance Plan | 75 Plain Street, Hopedale, revised 01-14-2022 prepared by Highpoint. This has been revised in response to comments raised by the Hopedale Conservation Commission to include a Spill Prevention Plan.

Graves' original comments are shown in *italics* followed by Highpoint's responses below in **bold**.

Zoning By-Law

1. The number of individuals present during the largest shift needs to be included on the plans to confirm compliance with the number of parking spaces requirement set in the Section 8 Table of Requirements.

A maximum of 300 employees are expected during the largest shift. This has been included in Note 3 on the Site Conformance Plan.

2. GEI has no issues relative to compliance with Section 17.6(c)(6): Use rendering impervious more than (15) percent or two thousand five hundred (2,500) square feet of any lot. The plans propose lined forebays for pre-treatment of pavement runoff, and open infiltration basins (for pavement runoff) and subsurface infiltration systems (generally for roof runoff) for the attenuation of peak runoff rates and for the infiltration of stormwater. GEI gleaned information from the hydrology computations; the information indicates that the proposed project will result in a reduction of surface water runoff volume, hence an increase in on-site infiltration, of 2.7 acrefeet or 76% during a two-year storm event and 8.1 acre-feet or 72% during a ten-year storm event.

A HIGHPOINT

Long-term maintenance of the stormwater systems, site maintenance and site housekeeping will be required to address stormwater quality after the construction phase of the project. Appendix D of the Stormwater Management Analysis addresses construction- phase and long-term operation and maintenance requirements. (§17.6(b)(6))

Noted.

3. The site plans need to specify the datum used. (§18.3(b))

The datum is NAD 83, and a note has been added to the north arrows on the plans.

4. All traffic signs and their construction details need to be included on the site plans. *§*18.3(*b*)(5))

The traffic signs have been added to the Layout & Material Plans and the Detail Sheets.

5. Any proposed exterior building lighting and construction details of any proposed lighting need to be included on the site plans. (§18.3(b)(5))

A lighting plan prepared by Illuminate dated 12/14/21 has been included with the site plans and is coordinated with the landscape plans.

6. The sizes of plants to be used in site landscaping (exclusive of the wetland replication area) need to be included on the site plans. (§18.3(b)(6))

The sizes of the plants have been added.

7. The underground and overhead electric utilities, as well as the generator and transformer pads at the northeast corner of the proposed building need to be included on Sheet C500. (§18.3(b)(7))

The referenced utilities have been added.

8. The volumes of earth material to be removed needs to be included on the site plans. (§18.3(b)(9))

The fill volume for the site has been added to the Overall Grading & Drainage Plan.

9. The coordinate system used needs to be included on the site plans. (§18.3(b)(11))

The coordinate system is Massachusetts State Plane, and a note has been added to the north arrows.



Hydrology & Stormwater Management Review

10. *GEI Reviewed the hydrology computations and found them to be in order except as noted in the following comment.*

11. The hydrology calculations for the pipe in IB-2 show that the pipe has a diameter of 15 inches, however Sheet C401 shows the pipe has a diameter of 12 inches. The information needs to be consistent.

Sheet C401 has been revised to reflect a 15" pipe diameter consistent with HydroCAD model. A headwall with a flared end section has been added to its outlet.

12. The top of stone, top of pipe, and bottom of pipe elevations for UPS 3 are not consistent between the construction detail and Sheet C402. The information needs to be consistent and consistent with the hydrology computations.

The detail has been revised to reflect the HydroCAD model and the Grading & Drainage Plan.

13. Compliance with the MassDEP Stormwater Standards and Stormwater Handbook is reasonable provided that the following comment is addressed.

14. To prevent scour at stormwater discharge points, on Sheets C401 - C406 riprap aprons need to be added at the flared end sections and the applicable text for these flared end sections needs to be darkened in the "Flared End Section with Riprap" construction detail on Sheet C802.

Rip-rap aprons, along with their respective dimensions, have been added to the Grading & Drainage plans and the detail has been revised.

15. If the plans are revised for any other reason, then it would be helpful if the soil test pit locations were added to the grading and drainage sheets (Sheets C401 - C406).

Test pit locations have been added.

General Engineering Comments

16. The symbol used for proposed site lighting needs to be included in the legends of Sheets C301 and C501.

The proposed light pole symbol has been added.

17. On Sheet C304, traffic direction arrows and a stop line need to be added to the northern end of the "dedicated vehicular access" on the northwest side of the project site.

These symbols have been added.



18. Relative to Sheet C306, GEI defers to the traffic engineer and/or traffic peer reviewer whether the four-way intersection within the site needs signage and pavement marking to define which approaches have the right of way.

19. Sheet C505 needs to include the symbols for SMH 1 and E-One DH272 Pump Station.

These symbols have been added.

20. The existing elevations need to be labeled on Sheets C600 and C601.

Existing elevations have been added.

21. On Sheet C602 along the proposed force main, the sewer manhole at Station 24+41.18 on the site plans states the invert elevation for the proposed force main is 296.0, however this elevation is listed as 295.0 on the road profile. The information needs to be consistent.

The invert is 295.0 and has been corrected on the plan view.

22. On Sheet C801, the Water, Drain and Sewer Trench construction detail needs to clarify what the 12-inch label is measuring.

The detail has been revised.

23. On Sheet C802, the Typical Water - Sewer Crossing construction detail references a note, however no note was provided.

The reference to a note has been removed.

24. On Sheet C803, the construction detail for Manhole (OCS B) does not appear to apply to the project. If the construction detail is for the outlet control structure at Infiltration Basin 2, then the construction detail needs to be updated.

The detail has been revised to match the Grading & Drainage plans and the HydroCAD model.

25. On Sheet C803, the top of berm elevation for IB 3 is listed as 238.5, however Sheet C402 shows this elevation as 238.0.

The detail has been revised to match the Grading & Drainage plans and the HydroCAD model.

26. On Sheet C803, the top of berm elevation for IB 6 is listed as 237.9, however Sheet C404 shows this elevation as 238.7.

There is one spot grade at the top of the berm of IB 6 near the southwest corner of the pond with an elevation of 237.9 so it is assumed that the stormwater will overflow from the top of the pond at this elevation and should be considered the top of berm elevation.



27. Sheet C804 includes a construction detail for bollards. The locations of the proposed bollards should be identified on the plan view sheets.

Bollard locations have been added to the plans.

28. Signs designating whether a road is trailer or passenger vehicle accessible need to be placed throughout the project site to alert drivers of vehicle restrictions.

These have been added to the Layout & Materials plans.

29. On Sheet C304, the snow storage areas at the exit from the western passenger vehicle parking lot need to be relocated to avoid blocking sight distances for vehicles exiting the parking lot.

Snow storage areas have been reconfigured. A large snow storage area (approximately 45,000 s.f.) has been added near the southwest corner of the development and grading has been adjusted to provide access to this area.

30. On Sheet C305, the snow storage areas in the swales north of the north parking lot, to the west of the western parking lot, and along the entrance road north of Infiltration Basin 1 need to be relocated to avoid impeding stormwater flow.

Snow storage areas have been relocated.

General Comments

31. GEI did not receive a copy of Sheets C100 and C101.

These sheets have been included with the revised plans.

32. The existing contour elevations need to be labeled on Sheets C401 through C406.

These have been added to the plans.

33. On Sheets G101 and G102 the text in the northeast corner of site parking is illegible.

The text has been removed from these plans.

34. On Sheet C203, the arrow from the label reading 100' Buffer Zone (TYP.) needs to be adjusted to point at the 100-foot buffer zone line.

The arrow has been adjusted.

35. On Sheet C401 there is a straw wattle and limit of work label that doesn't point to any features on this plan sheet. The labels should be eliminated from this plan sheet.



The label has been removed.

36. On Sheet C402, Forebay 3B is mislabeled as Forebay 3A.

The label has been revised.

37. The match line labels on Sheet C405 referencing Sheets C401, C403, and C405 need to be corrected.

The references have been revised.

38. Sheet C500 has a bar scale of 1'' = 40', however the plans scale to 1'' = 100'.

The scale has been revised.

GEi understands the water and sewer utility providers will review their respective utilities.

Noted.

40. *GEi understands the Hopedale Fire Department and the water utility provider will review the proposed fire hydrant locations.*

Noted.

41. *GEi did not review for compliance with the Wetlands Protection Act Regulations (310 CMR 10.00)*

Noted.

Additional drafting revisions have been made to the plans for clarification. There are no subsequent revisions to the Stormwater Report. Thank you for your review of the proposed project. If you have additional questions or comments, please feel free to call or email at any time.

Sincerely,

Douglas J. Hartnett, P.E. Principal

Karpanich

Hilde Karpawich Project Manager

Enclosures: cc: Stephen Chapin, Chairperson – Hopedale Planning Board William Buckley, GFI Partners Joseph Antonellis, Esq.