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Ms. Kathleen Colwell
Planning Division Director
Department of Economic and Community Development
41 Pleasant Street
Methuen, MA 01844

May 20, 2022

Re: 46 Old Ferry Road, Methuen, MA
Civil Engineering Peer Review

Dear Ms. Colwell and Members of the Planning Board:

On behalf of the City of Methuen, TEC, Inc. reviewed documents as part of the civil engineering peer review for the project proposed at 46 Old Ferry Road. Triple G, LLC ("Applicant") submitted the following documents prepared by Fieldstone Land Consultants, PLLC ("Fieldstone"), which were reviewed by TEC for conformance with the City of Methuen Zoning Ordinance, Massachusetts Stormwater Handbook, and industry standards and best management practices:

- Site Construction Plans for "Pie Hill Warehousing", 46 Old Ferry Road, Methuen, MA 01844, prepared by Fieldstone, dated April 4, 2022.
- Stormwater Management Report, prepared by Fieldstone, dated April 4, 2022.
- Revised Traffic Assessment, prepared by Vanasse & Associates, Inc., dated April 1, 2022

Upon review of the documents and plans, TEC has compiled the following comments for the Board's consideration:

Site Plan Review

1. The Site Plans call for 134 proposed parking spaces, however, 136 proposed parking spaces are shown. TEC recommends the parking calculations be updated.

2. Labels should be added on the Site Plans detailing the width of proposed parking spaces.

3. An adequate buffer has not been provided between the project and the existing residential property at Lots 1008-79-11A and 1008-79-11F. TEC recommends updating the Site Plans to show a 60-foot buffer from the property line in conformance with Section VI-B (12.a) of the Zoning Ordinance.

4. The Site Plans call out *"Snow Storage"* with no delineation of areas. TEC recommends updating the Site Layout to include delineated areas for snow storage.

5. The Site Plans call out a *"50' Wetlan Buffer"*, this label should be updated on multiple sheets.

6. The Lighting Plan sheets are both labeled "LT-1", the sheets labels should be updated.

7. Multiple drainage structure labels on the Grading and Drainage Plans reference connections to numerous structures that do not match structure shown. For example:

    1. CB4 is proposed to DMH8 when it is shown to be routed to DMH6
    2. DMH6 is proposed to DMH9 when it is shown to be routed to DMH5
    3. CB3 is proposed to DMH8 when it is shown to be routed to DMH2

8. TEC recommends that the Applicant label both contours around the drain inlets on the south side of the site for consistency on the Drainage and Grading Plans.

9. There is limited lighting proposed along the access driveway. TEC recommends that the Applicant update the Site Plans to provide light along the entire length of the access driveway.

10. The Applicant should coordinate with the City of Methuen Fire Department for preferred locations for fire hydrants.

11. The water connection should be coordinated with the Methuen Department of Public Works.

12. Per Section XII-C.3.a., the Applicant should submit a study to document that the project will minimize the volume of cut and fill, the number of removed trees 6" caliper or larger, the length of removed stone walls, the area of wetland vegetation displaced, the extent of stormwater flow increase from the site, soil erosion, and threat of air and water pollution.

13. Per Section XII-C.3.d., the Applicant should submit documentation to prove the project will minimize visual intrusion by controlling the visibility of parking, storage, or other outdoor service areas viewed from public ways and places.

14. Per Section XII-C.3.f., the Applicant should submit documentation to prove the project will minimize unreasonable departure from the character, materials, and scale of buildings in the vicinity, as viewed from public ways and places.

Stormwater Management Review

15. The pre-development watershed maps show that there is greater than 2 acres of gravel surface at the site. Based on review of historical aerial maps, TEC believes that there should be significantly less gravel surface in the pre-development modeling. TEC recommends that the watershed map be updated with ground covers using aerial imagery from 2016. Additional detail is required on the watershed map to prove the ground covering.

16. The Proposed weir for P14: SC-740 chambers is 5.6' above the bottom elevation of the pond. Given use of SC-740 "which use 6 in. of stone and 2.5' chamber height" the weir is positioned 2.1' above the top of the system. TEC does not recommend designing the lowest outlet above the top of the basin. Typically, underground systems are designed to keep the peak water elevation below the top of the basin.

17. Infiltration basins should be placed at a minimum 50 feet away from any slope greater than 15% per the Infiltration Basins BMP in the Massachusetts Stormwater Handbook.

18. Infiltration basin P14 is proposed within 5-feet of a proposed retaining wall and 2:1 slope. The construction detail of the retaining wall shows grid reinforcement that would directly conflict with the subsurface basin. Additionally, the design would either promote a hydrostatic pressure on the retaining wall, or allow the stormwater to breakout and flow through the retaining wall's drain system. TEC does not find that this is an acceptable design practice.

19. The following comments relate to the test pits conducted for the Stormwater Management Report:
    a) The location of test pits detailed in the report are unclear on the Site Plans. TEC recommends that the Applicant update test pit information to match both the Site Plans and Stormwater Management Report.

    b) The Applicant should also include existing surface elevations on delineated test pits.

    c) The Applicant should differentiate the nomenclature used for "DH" markings and "TP" markings.

    d) Additional test pit data is required within the location of each stormwater BMP, consistent with Volume 2 Chapter 2, "One soil sample for every 5000 ft. of basin area is recommended".

20. Multiple proposed drainage structures (catch basins, drain manholes, subsurface infiltration chambers, etc.) show peak elevations during 2 & 10 year storm events well above proposed rim and inlet elevations. The applicant should revise their stormwater modeling to prevent peak elevations from exceeding the "top" of proposed drainage structures.

21. Multiple proposed drainage structures show rim and invert information that do not match the site plans.

22. The Applicant should show pipe sizing and velocity checks for all proposed drainage connections.

23. Based on the information from *"TP21B"* and proposed basin contours, the proposed top of basin "approximately 160" is 3' below the Estimated Seasonal High Water Table. The applicant should address how groundwater will be handled.

24. The Applicant should include mosquito control in the Operation and Maintenance Plan in accordance with the Massachusetts Stormwater Handbook.

Massachusetts Stormwater Standards:

25. Along with providing discharge velocities for each outlet, the Applicant should include rip-rap sizing calculations to be fully in compliance with the Stormwater Standard 1.

26. Updates to the proposed Stormwater Management systems may occur. TEC in unable to confirm if the Applicant has fully complied with Stormwater Standard 2.

27. To be in full compliance with Stormwater standard 3 the Applicant should provide:

    a) A Storage table detailing the storage volume below each infiltration structure,

    b) A 72-hour Drawdown Analysis to confirm each infiltration BMP will drain within 72 hours,

    c) A Mounding Analysis for all infiltration BMPs within 4-feet of seasonal high groundwater.

28. The Applicant should provide a Water Quality Volume computation to confirm their compliance with Stormwater Standard 4.

29. The Applicant should confirm the proposed use of the building. It is unclear if the project would be considered a LUHPPL under Standard 5. If the building is proposed as general "industrial" use, then it would be considered a LUHPPL and will need to provide a stormwater system that meets the higher standard.

30. To comply with Stormwater Standards the Applicant should include pretreatments in the TSS removal form for each BMP.

31. The Applicant should provide a figure in their Stormwater Management Report detailing various critical areas that could be present on site to comply with Stormwater Standard 6.

32. The Applicant says, on page 2 of the Stormwater Management Report, *"As a redevelopment project it falls under stormwater standard 7 of the Massachusetts Stormwater Handbook."* The proposed work is designed to take place on an undeveloped site, therefore does not meet the redevelopment criteria.

33. The Applicant should include both a Construction Period Pollution Prevention Plan within their Stormwater Management Report to comply with Stormwater Standard 8.

34. The Applicant should include an Illicit Discharge Statement within their Stormwater Management Report to be in full compliance with Stormwater Standard 10.

Please do not hesitate to contact me directly if you have any questions concerning our comments at 978-794-1792. Thank you for your consideration.

Sincerely,
TEC, Inc.
"The Engineering Corporation"

Peter F. Ellison, PE
Director of Strategic Land Planning