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Land Use Agencies
Town of Woodbridge



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May 30, 2025

Mr. Robert Klee, Chairman
Woodbridge Town Plan and Zoning Commission
11 Meetinghouse Lane
Woodbridge, Connecticut 06525

RE: 804 Fountain Street
Woodbridge, Connecticut

Dear Mr. Klee and Members of the Town Plan and Zoning Commission,

At the request of Woodbridge Land Trust, I have reviewed the most recent plans submitted by the applicant for the above-referenced project. Specifically, I reviewed the following documents and have the following comments.

Plans and documents Reviewed:

1. Site plans by Rose Tiso & Company, revised to 3/25.
2. Site Engineering Report of March 21, 2024
3. Town of Woodbridge Zoning Regulations, Section 5.7 Stormwater Management

Executive Summary:

- A. The stormwater management system will not adequately reduce non-point source pollutant loads which will result in increased pollutant loads being discharged to the downgradient wetland system. Increased pollutant loads will be directed to the delineated inland wetland area along the Merritt Parkway.
- B. The design of the stormwater management system does not comply with the CT DEEP 2024 Storm Water Quality Manual.
- C. The erosion control plan is not in compliance with the CT DEEP 2024 Guidelines for Soil Erosion and Sediment Control.

Site Plans:

Sheet SP-1:

1. The turning movement plan for the fire truck and garbage truck is not complete. It does not show the complete movements required to enter and then exit the site.

Sheet SP-2:

2. No elevations for the top and bottom of the rock cut have been provided on the plan.

3. No volumes for earth removal and earth fill have been provided.
4. Drainage for the underbuilding parking area is shown to be directed to the proposed on-site drainage system. This is not allowed by CT DEEP. CT DEEP requires that drainage from an underbuilding or underground parking area to be directed to the sanitary sewer system after being treated by a hydrodynamic separator.
5. Many proposed contour lines are not labelled on the plan, making it difficult to follow.
6. No curbing is shown for the driveway and parking islands. Will curbing be installed?
7. The proposed slope in the north corner of the site has slopes steeper than 2:1. How will these slopes be stabilized?
8. Has permission been obtained from the State of Connecticut DOT to perform the substantial earthwork proposed within the Right of Way of Fountain Road?
9. A modular block retaining wall is shown along the southeast side of the access driveway. The wall varies in height from 1' to over 15'. The wall is approximately five (5) below the southeast end of the gallery system so there will be a conflict of the geogrid for the modular block retaining wall and the gallery system.
10. The proposed underground detention system consists of 1,216 lf of 4' x 4' concrete galleries with the bottom of the crushed stone to be set at elevation of 277.0'. The system crosses the existing contours substantially as stated below:
 - a. Southeast corner, bottom of stone is at existing grade, thus entire system is in fill material.
 - b. Southwest corner, bottom of stone is 15' below existing grade.
 - c. Northwest corner, bottom of stone is 14' below existing grade.
 - d. Northeast corner, bottom of stone is 11' below existing grade.
11. No deep test holes which are at least three (3) feet below the bottom of the stone layer have been done as required by the CT DEEP 2024 Storm Water Quality Manual. The design of the underground detention system is not in compliance with the 2024 DEEP Manual.
12. No double ring infiltration tests were done for the underground detention system as required by the 2024 DEEP Manual. The design is not in compliance with the 2024 DEEP Manual.
13. It has not been demonstrated that the requirements of the 2024 DEEP Manual to reduce pollutant loads for Total Suspended Solids (TSS), Total Phosphorous (TP), and Total Nitrogen (TN) have been met by the design.
14. There is negligible treatment of the runoff which will be generated by the driveway and the southern end of the parking lot. This runoff will be directly discharged to the level spreader near Fountain Road and will drain to the off-site wetland along the Merritt Parkway.
15. There is a series of invert elevations shown for drainage structure, S-7. It is unclear which invert elevations go to which drainage pipes. This condition also exists for many other drainage structures which makes a complete evaluation of the drainage system impossible to complete.
16. Using the length and distance of drainage pipes provided on the plan, many of the drainage inverts are not correct.
17. A hydrodynamic separator is proposed to treat the runoff. It appears to be in an online configuration which significantly reduces the ability of the hydrodynamic separator to reduce non-point source pollutant loads.

18. The only stormwater treatment devices are standard catch basins with a 24" sump and an online hydrodynamic separator. These systems will only remove the following percentages of non-point source pollutant loads:
 - a. Catch Basins with 24" deep sumps:
 - i. Total Suspended Solids = 5%
 - ii. Total Petroleum Hydrocarbons = 0%
 - iii. Metals = 0%
 - iv. Phosphorous = 6%
 - v. Nitrogen = 0%
 - b. Online Hydrodynamic Separators:
 - i. Total Suspended Solids = 29%
 - ii. Total Petroleum Hydrocarbons = 42%
 - iii. Metals = 26%
 - iv. Phosphorous = 0%
 - v. Nitrogen = 0%
19. The 2024 CT DEEP Storm Water Quality Manual requires the following percent reductions of certain non-point source pollutants for new developments:
 - c. Total Suspended Solids = 90%
 - d. Total Phosphorous = 60%
 - e. Total Nitrogen = 40%
20. Based upon the removal efficiencies stated in comment #18 above, the design will not achieve the CT DEEP requirements in comment #19.
21. The table on this sheet stating that there will be no impervious areas directly connected for post-development conditions is wrong. This site plan is all directly connected impervious area which are not being adequately treated. This plan as proposed is in violation of the Town of Woodbridge MS4 permit.
22. There are no provisions for snow storage on the site. If snow is to be stockpiled on the site, it must be in a location where it will drain to the stormwater management system.

Sheet SP-2A:

23. No comment on this plan.

Sheet SP-3:

24. No contours are labelled for the proposed sediment basin, so the claimed storage volume cannot be confirmed.
25. No volume calculations have been provided for the sediment basin.
26. A diversion swale is shown to direct runoff to the sediment basin, but no grading has been provided for the diversion swale.
27. As the diversion swale crosses the driveway, how will it be maintained while there are vehicles entering and exiting the site?
28. Only a singular perimeter erosion control measure has been provided consisting of a silt fence backed by a hay bale. This is simply inadequate for this site and will fail in the field.
29. Erosion control measures are shown perpendicular to the existing and proposed contours which will cause concentrated flow to occur along the face of the silt fence. This design

is not in compliance with the CT DEEP 2024 Guidelines for Soil Erosion and Sediment Control.

30. There are no provisions for handling the runoff to be generated from the upland area above the rock cut during the excavation phase.

Sheet SP-4:

31. The construction narrative is generic and not specific to this site.
32. No phasing plan has been provided for the project.
33. No provisions have been provided for how the rock will be removed. Will a crusher be located on site? How many cubic yards of rock and/or earth are to be removed from the site? How many trucks trips will be necessary to remove rock and earth material from the site?
34. The detail for the silt fence with hay bale backing is not a redundant barrier. If the silt fence is overtopped by runoff so will the hay bale which will result in the discharge of turbid water toward the wetland system along the Merritt Parkway.
35. A detail of stone check dams is shown on the plans; however, no check dams are shown on the erosion control plan.

Sheet SP-5:

36. The detail of the ADS Duraslot Level Spreader is not a level spreader and will result in concentrated flow and not overland flow being discharged from this system.
37. The detail for the Reinforced Retaining Wall does not provide any dimensional information as to the height, width and depth of the blocks. It appears to be only valid up to a wall height of 10', while according to the site plan, the wall height will be up to 15'.

Sheet SP-6:

38. The detail of the Rock Face Stabilization conflicts with the grading shown on the site plans.

Sheet SP-7:

39. No comment.

Sheet SP-8:

40. No comment.

Site Engineering Design Report:

41. Page 1: It is stated that the design of the stormwater system was designed in accord with the 2004 CT DEP Storm Water Quality Manual. This manual has been replaced by the 2024 version which must be applied.
42. Page 1: It also refers to the 2002 Erosion Guidelines which have been replaced by the 2024 version which must be applied.
43. Page 2: NOAA 14 rainfall amounts from Milford were used in the hydrologic analysis. Rainfall rates for Woodbridge must be used, not those from Milford.
44. Page 4: It is stated that the discharge from the stormwater detention system will connect to an existing pipe in Fountain Road. However, the site plans show the discharge to a level spreader on the site and not Fountain Road. What is correct?

45. Page 4: Table 4 shows time of concentrations (Tc) for PDA-2 and PDA-3 which are less than 6 minutes. The minimum Tc for TR-55 Urban Hydrology is 6 minutes.
46. Page 5: It is stated that an isolator row is being provided in the gallery system. No isolator row is shown on the site plans, so it does not exist.
47. Page 5: It is stated that the observed infiltration rate was 6" per hour, but the DEEP default rate of 0.52"/hour was used. No infiltration test results were found in this report or on the site plan.
48. Page 5: It is stated that the impervious percentage is 43.5% over the area of 4.119 acres. This equates to 1.79 acres, which is greater than the value of 1.62 acres cited on page 1. What value is correct?
49. Page 5: It is stated that a storage volume of 26,271 cubic feet is provided in the gallery system which exceeds the Water Quality Volume (WQV). No calculations have been provided to support the claim of 26,271 cubic feet being provided. Additionally, the WQV must be fully contained below the invert of the lowest outlet pipe. Because of a lack of information, this requirement cannot be confirmed.
50. Due to the lack of deep test holes and appropriate infiltration testing, it cannot be confirmed that any infiltration will occur with the proposed gallery system. If no infiltration occurs, then there will be a substantial increase in post-development runoff volume for all storm events. It is well documented in professional literature that increased runoff volumes will cause adverse physical impacts to the stream channel morphology. These impacts include erosion of the channel banks, widening of the channel section due to erosion and the deposition of eroded sediments downstream of the erosion.
51. No pollutant loading analysis has been provided for the stormwater system which will show numerically the pollutant loads to be generated by the site on an annual basis and how the stormwater management system will reduce the pollutant loads to achieve the required reductions under the CT DEEP 2024 Storm Water Quality Manual.

Section 5.7 – Stormwater Management – Woodbridge Zoning Regulations

C. General Requirements:

1. Information provided.
2. Information provided.
3. Information not provided.
4. Information provided.
5. Information not provided.
6. Information provided.
7. Information not provided.
8. Information not provided.
9. Information not provided.
10. Information not provided.
11. Information not provided.
12. Information not provided. (all subsections)

D. Stormwater Peak Flows:

1. Information provided.
 - a. Not provided.
 - b. Not provided.

- c. Not provided.
- d. Not provided.
- e. Information provided.
- 2. Information provided.
- 3. Information provided.

G. Site Planning and Design:

- 1. Not in compliance.
- 2. Not in compliance.
- 3. Not in compliance.
- 4. Not in compliance.
- 5. Not in compliance.
- 6. Not in compliance.
- 7. Not in compliance.
- 8. Not in compliance.
- 9. Not in compliance.
- 10. Not in compliance.
- 11. Not in compliance.
- 12. Not in compliance.
- 13. Not in compliance.
- 14. Not in compliance.
- 15. Not in compliance.

H. Stormwater Infiltration:

- 1. Concentrated Stormwater Runoff: Not in compliance.
- 2. Stream Channel Protection: Not in compliance.
- 3. Over-Bank Flooding Protection: Not in compliance.
- 4. Specific Data Required: Most information provided.
- 5. Engineering Data Required: Most information provided.
- 6. Hydrological and Soil Data Required:
 - a. Information provided.
 - b. Information provided.
 - c. Information not provided.
 - d. Information not provided.
 - e. Information not provided.
 - f. Information not provided.
 - g. Information not provided.
 - h. Information provided.
 - i. Information provided.
 - j. Information provided.
 - k. Information provided.
 - l. Information not provided.
 - m. Information provided.
 - n. Information provided.
 - o. Information not provided.
 - p. Information provided.
 - q. Information not provided.
 - r. Information not provided.

7. Required Data Submission:

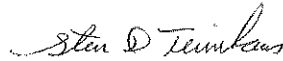
- a. Information provided.
- b. Information partially provided.
- c. Information partially provided.

8. Exemptions: None requested.

- 9. Standards and Criteria for Decision: to be determined by Planning and Zoning Commission.
- 10. Maintenance Covenants: Information not provided.

Please contact my office if you have any questions concerning this information. A copy of my professional CV is attached for inclusion in the record.

Respectfully submitted,
Trinkaus Engineering, LLC



Steven D. Trinkaus, PE