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**CIVIL ENGINEERS**  
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December 13, 2023

Please see the following in response to the consultant and neighbor comments received December 12, 2023.

1. Plans are not a survey; text is legible. Digital form supplied can be viewed clearly.
2. Proposed septic field is 45-57 feet from wetlands. No further hydraulic analysis required. This office has designed and observed septic fields closer than 45 feet to wetlands with no nitrogen dilution analysis. Approval is by Health Department, not CT DEEP.
3. Sanitarian observed and was satisfied with number and location of test holes. Nine test holes dug and observed on lot.
4. Down gradient test hole was dug and observed (TH 9).
5. Extent of select fill and all other relevant items shown on septic cross section (Septic Plan, Detail Sheet.)
6. All elevations and components shown on Septic Plan.
7. MLSS calculations shown on Septic Plan (52 feet; 77 feet provided).
8. Type and length of septic field shown on Septic Plan.
9. THs 3 and 8 are adequately in the proximity of both proposed retention systems.
10. Soil profiles were similar for all 9 holes observed; worst hole used in design.
11. The 2004 CT Stormwater Manual is not the applicable regulation. It is only a guideline. Each town has their own Stormwater management policy. Wilton's is informal, and regarding vertical separation of retention to ledge, in line with all other towns in Fairfield County. 24" separation is the widely accepted practice. The Town Engineer has reviewed the application, and made no comment regarding this item.
12. The separate retention for the pool drain was specifically requested by DPW. It is dedicated only for that purpose. The stormwater retention system handles only stormwater runoff.
13. While the HydroCAD model shows an overflow at the top of the Cultecs, the overflow of retention actually occurs at the downspout cleanouts or drain grates. These are higher than the top of the retention system, and more conservative in design.
14. Construction pad is symbolic on plan, not intended to be scaled. Fifty foot pad can be provided.

15. Coarse particle separator is a structure with a 2' sump, providing suspended particle removal from runoff.
16. Elevation of house, pool and patio shown on cross section (Detail Sheet, Drainage Plan). Not specifically germane to drainage or septic.
17. NA
18. Stationing generally shown on roadways, not driveway profiles. Profile is mainly to show grades, slope of driveway, not infrastructure.
19. a-h Again, relevant policy is 24" vertical separation from ledge. Plan calls for this to be provided; ledge is to be removed to a depth of 24" in any area it doesn't naturally occur, with relief to downgrade area to be provided to allow relief flow.
20. While the HydroCAD model shows an overflow at the top of the Cultecs, the overflow of retention actually occurs at the downspout cleanouts or drain grates. These are higher than the top of the retention system, and a more conservative in design.
21. Again, the 2004 CT Stormwater Manual is not the regulation. Porous asphalt is allowed and commonly used in all Hydrologic classification groups, including Type D. As an example, the Town of Greenwich will *only* allow rain gardens or porous asphalt in Type D soil. Regardless, the soil type here is Type B, not Type D.
22. Again relevant policy is 24" vertical separation from ledge. Plan calls for this to be provided; ledge is to be removed to a depth of 24" in any area it doesn't naturally occur, with relief to downgrade area to be provided to allow relief flow.
23. Clean common fill is assumed to be used for any replacement material.
24. NA
25. Culverts are shown on the Detail Sheet, ROW plan. 15 units are proposed.
26. Angle sectors to be filled with concrete; shown on Detail Sheet, ROW plan.
27. Box Culverts to be installed as per manufacturer's detail; Detail Sheet, ROW plan.
28. Box culverts to be open on sides, allowing flow and migration of animals. No headwall needed. Tall curb to be formed on deck to contain aggregate and asphalt.
29. Only area of box culvert footprint to be disturbed.
30. Disturbance to be limited to footprint of driveway. Double silt fences and haybales to contain erosion and siltation.
31. Runoff will flow through porous asphalt into aggregate. From there it will percolate into the soil and groundwater table, or be directed away from ledge to lower areas. This is a standard application of stormwater management.

32. Coarse particle separator provides 25% TSS removal. Underground retention structures provide 90% TSS removal. This treatment train will remove 92.5% TSS. Aggregate beneath porous asphalt removes 90% TSS. The required 80% TSS removal is met.
33. 100 foot Wetlands setback is shown on plan.
34. Per contractor, trees can be cut to stumps, stump grinded to property line. Grinding can be done precisely and not invasive to adjacent properties.
35. Self evident; all trees shown on plan.
36. Swale and underdrain flow to wetlands.
37. Soil scientist to specify; can be as Town of Wilton desires.
38. Porous asphalt can be last item installed, after all heavy machinery is removed from site.
39. Silt fencing to be installed in solid ground.
40. CT DEEP guidelines are not applicable regulation or policy.
41. Galleries and porous asphalt aggregate provides retention to fully mitigate a 25 year rainfall event. Swales are provided as an extra measure as an environmental concern. They are not assumed or calculated to have any retention value.
42. NA; not responsible for off site runoff.
43. TSS removal requirement met, as described above (#32).
44. 2004 CT Drainage Manual not the relevant regulation. Meeting the Water Quality Volume is not a Town of Wilton requirement. This application has been reviewed by DPW, and no comment was made regarding this item. Regardless, the WQV is provided, and by directing surface runoff to an underground system it is captured and treated relative to runoff from site.
45. Groundwater Recharge Volume is met; runoff is percolated back into the ground to recharge the groundwater table. This application has been reviewed by DPW, and no comment was made regarding this item.
46. While the HydroCAD model shows an overflow at the top of the galleries, the overflow of retention actually occurs at the driveway drain grates. These are higher than the top of the retention system, and more conservative in design.
47. Incorrect; infiltration will occur, and runoff percolate back into soil and groundwater table. Where ledge occurs within 24" of bottom of proposed system, it will be removed in the footprint of the system and to a lower area as necessary.
48. Same as #46.
49. Same as #47.
50. Same as #46.

- 51. Same as #47.
- 52. Same as #46.
- 53. Same as #47.
- 54. Same as #46.
- 55. Same as #47.
- 56. Same as #46.
- 57. Same as #47.
- 58. Same as #46.
- 59. Same as #47.
- 60. Same as #46.
- 61. Same as #47.
- 62. Same as #46.
- 63. Same as #47.
- 64. Drainage analysis was done and submitted for SFR. DPW has reviewed.
- 65. Bridge would have to have a 160' span to keep the abutments out of the wetlands, and make the bridge a more desirable alternative environmentally to the box culverts. The bridge would require a crane to lift large structural elements, which would not fit or could not operate in a narrow accessway. This makes the alternative not feasible, along with its prohibitive cost.
- 66. There would be no abutment in the wetlands; see above.

Town Engineer comments of 9/12/23 were addressed in the 11/10/23 plan and report revision.

Fire Marshall comments were addressed; the box culverts are HL 93 rated, which is greater than the weight of the Fire truck mentioned. The angle in the driveway at the culverts is 28 degrees, less than some turns in other driveways and Town roads.

Respectfully submitted,

Wayne D'Avanzo, P.E.

Principal

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