



October 19, 2020

Mr. John Lee, Chairman
135 School Street
Walpole, MA 02081
United States

**Re: Diamond Hill Estates – Dupee Street
Comprehensive Permit (40B) Peer Review
Walpole, Massachusetts**

Dear Mr. Chairman:

Tetra Tech (TT) has reviewed specific submittal materials for the above-referenced Project to assist the Town of Walpole Zoning Board of Appeals (Board) in its Comprehensive Permit review of the proposed Diamond Hill Estates development. We found the plans and supporting documentation to be professionally done and generally thorough in their analysis. However, the site is very narrow, and the proposed development density leaves very little room for normal traffic access and circulation or to accommodate some routine or unanticipated needs.

Comments provided below are intended to inform and prompt discussion as well note where minor changes or edits should be reflected for the record. We reserve the option to provide additional comments as the design and discussion advances. Our review is based on materials received from the Board comprising the following pertinent documents:

- Comprehensive Permit Application package prepared by Wall Street Development Corp.
- A plan (Site Plans) set titled "Site Development Plan..." "Diamond Hill Estates" Walpole, Massachusetts", dated February 26, 202 (Rev. Aug 5, 2020), prepared by GLM Engineering Consultants, Inc. (GLM).
- Stormwater Management Report (Stormwater Report) dated August 5, 2020, prepared by GLM.
- "Traffic Assessment for Diamond Hill Estates" dated February 21, 2020 prepared by Green International Affiliates, Inc. (GIA).
- "Traffic Assessment Update for Proposed Residential Development" Memorandum dated June 2, 2020 prepared by GIA
- "Supplemental Traffic Information" Letter dated July 16, 2020 prepared by GIA.
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- A June 2, 2020 "Traffic Assessment Update for Proposed Residential Development" Memorandum prepared by GIA.
- An architectural plan set dated June 5, 2020, prepared by Morabito Architects (MA).
- Comment letters from Town Boards, Commissions and Departments.

The Plans and accompanying materials were reviewed for good engineering practice, overall site plan efficiency, stormwater, utilities, traffic and public safety. In general, the plans and supporting materials were well prepared and we appreciate the clarity and completeness of documents provided. Our initial comments are provided below.

Site Plans

The Site Plans were generally well organized, clear, readable and professionally done. Although some information may be missing or confusing, they are suitable for review.

The principal concern is the lack of available right-of-way width on Dupee Street. Plans suggest a variable approximately 27-foot wide right of way width is available in which to accommodate those public way functions for which Walpole Subdivision Regulations require 46 feet (single-family) and 52 feet (multi-family). The net result is a constrained public access way of 20 feet which is substantially narrower than the 26 feet otherwise required by Walpole Subdivision Regulations. The constrained right of way makes the development hypersensitive to density-related issues on the proposed home sites.

The following specific comments are offered to identify areas where additional information is required, or changes are requested to address questions or support further review.

General Comments

1. Please clarify if any of the proposed development is, or is intended to become, the responsibility of the Town or its departments. For example, the plans note that portions of Dupee Street are maintained by the Town. This note should be removed unless Dupee Street has been accepted by the Town or the Town has committed to a specific maintenance responsibility.
2. The Project includes 12 units with a single narrow means of access that is constrained by driveways/buildings and stormwater detention basin along most of its length.
3. The proposed layout and density leave very little available space for snow storage and none are identified on the plans.
4. Driveways are currently shown as 24' deep which we recommend maintaining at a minimum to ensure adequate space is available for at least one non-garage space. We also recommend the decision include a condition that garages be maintained as viable parking spaces given the lack of any available space elsewhere in the development.
5. The proposed building footprint shown on the Site Plans appears to be different (smaller) than that shown on the Architectural Plans. The site is extremely tight and any increase in building size may have impacts on site viability.
6. We request the applicant provide a Construction Phasing Plan showing the anticipated sequence of construction and identifying proposed locations and sizes of construction staging and stockpile areas.

Existing Conditions Plan

7. Please clarify the current ownership status of Dupee Street. In particular is it considered part of the development project or is it part of a larger right of way or shared use parcel.
8. It is important to note that the existing Dupee Street travel way is not centered on the available right of way but rather skews heavily to the west.
9. The garage and associated driveway to House No. 257 should be shown on the plans. Given the skewing of the existing Dupee Street travel way, properties along the east side of Dupee Street will be more affected than those on the west side.

10. Intersecting sidelines for Sybil and Victoria Street properties should be clearly shown given the proximity of project impacts to, and potential trespass onto, those properties.
11. Existing tree line and limit of clearing should be shown on the plans.

Layout Plan

12. It is unclear what improvements are proposed for Dupee Street north of Change Street. In particular, it's unclear how existing driveways will be impacted and how the modified width will transition to High Plain Street. All roadway improvements should be shown on the plans.
13. What is the justification for stopping the Cape Cod berm at the location shown?
14. Subdivision Regulations clearly require dead end streets to be "provided with cul-de-sacs at the closed end with a turnaround having an outside street line diameter of at least one hundred and four (104) feet". The turnaround shown is substantially below these requirements and is proposed within an "easement". Any turn around should be within the dedicated right of way.
15. The proposed edge of road appears to go through an existing utility pole south of House No. 6.
16. The roadway geometry opposite Units 11 and 12 does not appear to provide adequate width to back out of those driveways.
17. There are no provisions for guest parking.
18. A dividing line is shown between driveway sections. Please clarify what this line represents.

Grading and Utilities Plans

19. Temporary construction easements will likely be required to install new catchbasins given the anticipated depth of excavation and the proximity to the abutting parcel.
20. The proposed detention pond is constructed in retained fill with an emergency spillway that discharges over the top of a proposed wall 2'-3' above grade and directly onto Dupee Street. This is a very atypical installation and will at a minimum require strict operation and maintenance assurances and additional construction details to ensure water does not infiltrate through the embankment and that the energy of the water is adequately dissipated. The applicant should provide documentation that the pond does not qualify as a "dam".
21. A hydrant is proposed immediately adjacent to the edge of road without any proposed curb to protect it. Given the narrowness of the roadway additional protection for the hydrant may be required to prevent damage from plows or vehicles.
22. Water and sewer lines appear to be only separated by 6 feet. At least 10 feet of separation should be maintained.
23. No sediment forebay is shown for the detention pond.
24. We request clarification on what the notations "TC" and "CF" refer to within the propose building. The elevations assigned appear to not reflect adjacent grading.
25. Contours appear to be missing between the buildings. Please add contours or show walls if otherwise.

26. The proposed looped water system is a significant benefit to the quality and quantity of water available to the development. However, the proposed connection geometry is awkward with two 90-degree bends in a short distance. We recommend the two bends be eliminated in exchange for a 'T' connection and that a valve be added to allow isolation of the Project loop.
27. Please note 100-year water surface elevation on pond.
28. We recommend adding outlet control structure OCS elevation data (i.e. rim, orifices, etc.) into Grading and Utility Plan.
29. Please note datum reference on any plans where elevations are shown, also show benchmark references where possible.
30. Please add top/bottom of wall elevations to the Grading and Drainage Plans.
31. The Project will disturb greater than an acre of area and will be discharging to the public stormwater system in High Plain Street and as such will require an NPDES Construction General Permit. Please provide a summary of how runoff will be managed during construction assuming the proposed detention basin cannot be used for management of construction runoff.
32. The development will result in a modest new demand on municipal water and sewer infrastructure. We recommend the applicant provide the Board a simple memorandum or similar documentation by a licensed Massachusetts engineer demonstrating the Project can be served adequately without impacts to existing or proposed infrastructure or its users. At a minimum the documentation should describe and quantify proposed demand, describe existing infrastructure serving the site, provide calculations demonstrating available capacity/service and describing improvements, if any, needed to town infrastructure to serve the project.

Roadway Profile

33. It's unclear if a level landing area is provided for vehicles on Dupee Street approaching High Plain Street. If not, we recommend one be provided given the consistent downward slope of Dupee Street.
34. Please show the transition back to grade at the top of the Profile.

Stormwater Report

35. Summary tables indicate peak runoff during the 2-year storm to Design Point 1 increases under post development conditions. This does not meet Stormwater Standard 2. Standard 2 does not provide for consideration of "overall" project increases. Applicant must demonstrate that peak rates of runoff do not increase to abutting properties
36. Elevations provided in the Summary of Retention Basin table do not match elevations on plans.
37. Please number tables in future submittals for ease of reference.
38. Pond modeling applies an infiltration rate over "wetted perimeter". Stormwater Standards specify using only bottom area. Please address in future submittals.
39. It appears that a variable infiltration rate has been used in the pond modeling. Stormwater Standards specify using static infiltration rates. Please address in future submittals.
40. Final plans should include monitoring well at infiltration basin location.

41. Given the nature of the emergency spillway please provide the rainfall intensity at which the basin is expected to overtop.

Traffic

42. The project accurately forecasts the relatively minor increase in new traffic in comparison to current volumes on High Plain Street. Project traffic is not expected to significantly impact operations at nearby intersections.
43. Required site distances were calculated based on the posted speed of 35 mph. Based on conditions observed during our site visit, it appears that actual vehicle speeds may be significantly higher. We recommend the applicant document the 85th percentile speed and confirm adequate site distances based on the 85th percentile speed. This is consistent with requests made by the Town Engineer and is important record information for support of an eventual ZBA decision.
44. Site distance triangles based on the 85th percentile speed should be shown on the approved plans.
45. As noted earlier, proposed accommodations for fire truck turnaround are less than ideal and likely prone to being blocked by visiting/resident vehicles or plowed snow. We recommend a cul-de-sac turnaround as described in the Walpole Subdivision Regulations be provided to accommodate emergency vehicles and others seeking to change direction such as delivery vehicles. The Project may also consider providing a secondary means of turning in case the primary turnaround is blocked.
46. Fire truck turning movements should be shown on the Site Plans to confirm movements incorporate the most current design and all related improvements such as curb, wall and hydrant locations.
47. Pedestrian volumes are expected to be low and the dead-end configuration suggests vehicles using Dupee Street will either be residents or those known to residents decreasing likelihood of irresponsible vehicle speeds or operation. Given the already constrained roadway and right of way width it would be very difficult to provide room for a sidewalk on either side of the road.
48. Any plans for widening Dupee Street at its intersection with High Plain Street must maintain pedestrian movement along High Plain Street.

These comments are offered as guides for use during the Town's review and additional comments are likely to be generated as additional or revised documentation is submitted. If you have any questions or comments, please feel free to contact us at (508) 786-2200.

Very truly yours,



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Vice President



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