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May 10, 2023

Hingham Planning Board
210 Central Street
Hingham, MA 02043

Subject: 16 Bishops Lane, Definitive Subdivision Plan

Dear Planning Board Members:

This is to advise that we have reviewed the following documents pertaining to the proposed definitive subdivision at the subject site:

- Definitive Subdivision Plan (12 sheets), dated March 24, 2023, prepared by Merrill Engineers and Land Surveyors (Merrill)
- Stormwater Management Report, dated March 24, 2023, prepared by Merrill
- Waiver Request letter from Merrill, dated March 28, 2023
- Traffic Engineering Peer Review letter from Mr. Jeffrey S. Dirk, PE of Vanasse & Associates, Inc., dated May 1, 2023

The purpose of our review has been to evaluate conformance with Hingham Zoning By-Laws (ZBL), Planning Board Rules and Regulations (R&R), MassDEP Stormwater Management Standards (SMS) and good engineering practice.

Background

The 3.51± acre site is comprised of two parcels at 0 and 16 Bishops Lane. The parcel at 0 Bishops Lane is vacant woodland and 16 Bishops Lane contains an existing single-family dwelling, paved driveways, a pool, lawn, landscaped and wooded areas. The property is located within the Residence A Zoning District. Bishops Lane is an existing ±325-foot-long private way with a forty-foot-wide right-of-way. The proposed definitive subdivision would extend Bishops Lane about 445 feet and create six new lots, a drainage lot, an unbuildable lot and four residential lots, one of which would contain the existing dwelling.

The proposed subdivision roadway would be a 770± foot long dead-end cul-de-sac roadway. The extended portion of the road would have a twenty-two-foot-wide travel way, 12-inch Cape Cod berms and grass strips located within a forty-six-foot-wide right-of-way. No sidewalk is proposed. The plans indicate that the proposed “roadway, drainage facilities, and other utilities within the extended subdivision road shall remain private and the maintenance, repair and improvement thereof shall be the responsibility of the Applicant and/or the owners of the lots within the subdivision.”

The stormwater system would consist of catch basins, drain manholes, high-density polyethylene (HDPE) pipe, a hydrodynamic separator and an open-air stormwater basin. Each dwelling would be served by municipal sewer with a new sewer main proposed in the road from an existing stub near South Street through Sta. 5+83. A new 8-inch ductile-iron water main, connected to the main in South Street, would provide water service to the dwellings. Natural gas service would be provided by a new gas main connected to the existing gas main in the existing Bishops Lane. Electric, telephone and CATV utilities would be located underground and connected to an existing utility pole along South Street.

The Applicant is requesting waivers from the following:

- R&R §4.B(3)(a) which requires a minimum of 250 feet of stopping sight distance for a Minor Street. The Applicant is requesting this be reduced to 146 feet. This is a safety concern and we do not support the granting of this waiver. We agree with Mr. Dirk that a sight distance analysis for both intersection and stopping sight distance should be provided.
- R&R §4.B(3)(a) and Table 1, which limit the maximum centerline grade of the road to be 8%. The Applicant is requesting this be increased to 10%. We agree with Mr. Dirk's concern about vehicles being able to stop in all weather conditions with the 10% grade transitioning to a 4.5% grade.
- R&R §4.B(3)(f) which requires a leveling area be provided with a maximum grade of 3% for a distance of 100 feet. The Applicant is requesting the grade of the leveling area be increased to 4.5%. This is a safety concern, especially during winter weather conditions, and we do not support the granting of this waiver.
- R&R §4.G and Table 1 which require a sidewalk on one side of a minor street. The Applicant is requesting that no sidewalk be required. We note that there is a sidewalk along South Street and a sidewalk along Bishops Lane would provide a valuable pedestrian connection.
- R&R §5.B4(1) which requires street trees to be planted at fifty foot spacing. The Applicant is requesting that street trees be allowed in areas where feasible. However, they are proposing to plant the required number of street trees.

Comments

Compliance with the Planning Board Rules and Regulations

1. R&R §3.C.2(1) requires all existing trees over one foot in diameter to be shown on the plans.
2. R&R Table 1 requires a minimum centerline radius of 200 feet. The centerline radius on the extended portion of Bishops Lane will comply with this requirement but the existing portion of Bishops Lane has a centerline radius of less than 100 feet. We note that the

transition from the existing right-of-way to the proposed right-of-way is offset in order to comply with the 200-foot centerline radius on the proposed roadway extension.

3. As noted above, the existing portion of Bishops Lane has a right-of-way width of forty feet where forty-six feet is required (Table 1). We believe a waiver would be required.
4. R&R §4.C(3)(d) requires that all drainage discharges into basins be above the 10-year flood elevation. The invert into the stormwater basin should be raised to meet this requirement.
5. R&R §4.C(3)(e) requires a concrete or masonry headwall at the outfall end of all drains. A flared end section is proposed at the discharge into the stormwater basin.
6. R&R §4.L(6) requires documentation that there will be a minimum of 1,000 gallons of water per minute at the proposed fire hydrant(s). Documentation should be provided to verify this.
7. R&R §4.L(7)a requires a ten foot wide electric easement around all Hingham Municipal Lighting Plant (HMLP) infrastructure. The Applicant should coordinate with HMLP as necessary, and the easements should be shown on the definitive plan.
8. R&R §5.L1(4) requires HDPE drain pipe to have rubber gaskets. The Typical Utility Trench Detail on Sheet C7.1 should specify rubber gaskets for the drain pipe. This should also be specified in Grading and Drainage Note 3 on Sheet C7.6.
9. There should be a loam and seed detail and/or the Typical Roadway Section on Sheet C7.1 should specify a minimum of six inches of loam in accordance with R&R §5.A4(3).
10. R&R §5.C4(1) requires granite Hingham Highway bounds to be set at all street intersections and at all points of change in direction or curvature of streets. This is specified and bounds shown where required along the extended roadway on Sheet C3.1. However, no bounds are shown along the existing portion of Bishops Lane. A bound/monument detail should be shown on the plans.

Stormwater, Erosion Control & Utilities

1. The test pit that was excavated in the vicinity of the stormwater basin was only excavated to a depth of four feet. Additional soil testing is required in the footprint of the basin to confirm consistent soils across the basin. The test pits should also be excavated to a minimum depth of ten feet to make sure there is sufficient overburden soil to accept the proposed recharge of stormwater.
2. We measure the areas of the contours within the stormwater basin to be about 100 s.f. less than the contours areas listed in the HydroCAD model. Merrill should check this and adjust the model as necessary.

3. We question the purpose of the low flow channel within the stormwater basin. These are typically constructed to provide a means of draining the basin in the event of standing water. However, there is no outlet for the channel. Should the channel remain, and an outlet be provided, a normally closed valve should be provided so that the basin would only be drained when necessary.
4. Much of the proposed drainage will be very deep, with depths of over twenty feet. Installation of the drainage as well as future maintenance will be difficult, especially with the ledge on the property. We suspect significant blasting will be required.
5. The second TSS removal calculation sheet in the Stormwater Management Report does not take credit for the First Defense proprietary treatment unit.
6. The Long Term Pollution Prevention Plan / Operation and Maintenance Plan (O&M) references subsurface infiltration chambers for roof runoff. If chambers are proposed for roof runoff they should be shown and detailed on the plans.
7. The O&M also specifies biannual inspection of the First Defense units in the narrative but quarterly inspections in the checklist. Quarterly inspections should be specified in both.
8. The erosion control details on Sheet C7.5 reference hay bales. The Hingham Conservation Commission does not allow the use of hay or straw. We recommend that all references to hay or straw be changed to mulch or other materials acceptable to the Commission.
9. The location(s) of stabilized construction entrances should be shown on the plans. A separate erosion and sedimentation control plan would be helpful.
10. There appears that there may be a vertical conflict between the proposed sewer and water mains at about Sta. 2+35.
11. The Proposed Sanitary Sewer Manhole Detail on Sheet C7.3 has a Section A-A symbol, but no section view is included.
12. The Water Service Detail on Sheet C7.2 specifies that the minimum service line is to be two-inch diameter. This is large for a single-family dwelling. We recommend consulting with the Weir River Water System to determine the appropriate service sizes.

Roadway & General

1. As noted above, the road is proposed to be private with all maintenance responsibilities to be borne by the homeowners. Should the Board approve the project, we recommend this be a condition of approval.
2. The geometry of the exiting Bishops Lane right-of-way should be shown on the plans.

3. The Reinforced Block Retaining Wall Detail on Sheet C7.3 shows a guardrail above the wall. The guardrail should be shown in plan on Sheets C4.1, C5.1 and C6.1.
4. The plans should show the Tree Yard as required by ZBL §I-I.5.h, along with a tree protection plan and an inventory of trees including the number, sizes and types of protected trees that will be removed as part of the project as well as the number, sizes and types of replacement trees, to confirm compliance with ZBL §I-I.6.d(ii).
5. There are a lot of ledge outcroppings shown on the plans. There will be extensive ledge removal required for roadway construction and utility installation, especially for the deep drain lines and structures.

Please give us a call should you have any questions.

Very truly yours,

PGB Engineering, LLC

By:



Patrick G. Brennan, P.E.



PGB