

Chessia Consulting Services LLC



April 20, 2021

Planning Board
Town of Hingham
210 Central Street
Hingham, MA 02043

RE: Engineering Review
#4 Jordan Way (Lot 4A)
Site Plan Review

Dear Members of the Board:

In response to your request, Chessia Consulting Services, LLC has reviewed the above referenced project under the Site Plan review procedures in the Zoning By-Law. The submittal was also reviewed for general engineering design standards, and DEP Stormwater Management Policy/drainage design. The data reviewed included the following information:

- Plans entitled:
“4 Jordan Way Hingham, MA” dated March 07, 2021, consisting of 4 sheets prepared by James Engineering, Inc. (Plans)

I have previously visited the site on several occasions as part of subdivision review and construction. This project is for a lot in the approved Definitive Subdivision. I most recently visited the site on April 15, 2021 to observe site conditions on the lot.

The site is located off the cul de sac on the south east end. At this time the roadway has been constructed to binder. This lot was listed as part of Phase 2 on the SWPPP. The building area appears to have been mostly cleared at this time based on my site visit. The Lot should have the tree preservation area marked with orange construction fencing in accordance with the SWPPP. This fence has deteriorated and has not been maintained. This should be done immediately for all areas except those that have been competed as part of the construction of existing houses (Lots 2A and 3A). The proposed sediment barrier should also be reviewed and replaced/maintained as necessary.

As this lot is part of the overall site development and calculations, there are no new calculations provided. I have compared the proposed plan to the approved plan and listed any data that the Board may request under site plan review.

GENERAL PLAN REVIEW:

The proposed project would develop a new residential house on a previously approved subdivision lot. At this time the roadway is complete to binder and only the driveway will be necessary to fully access the lot.

The following issues are considered the most significant for the Board to consider in review of the project:

- Part of the driveway is proposed in the Tree Preservation Area and should be relocated outside of this area.
- The Board should review the proposed landscaping. I note that a landscaping plan has not been provided and is typically required.

Section I-I Site Plan Review:

1. Purpose:
No comment required.
2. Procedures:
It is assumed that the appropriate information has been submitted to initiate the review process. The Board should review the project relative to the specific subsections of this section.
3. Pre-Application Submittal.
Not applicable, the lot is part of the approved subdivision.
4. Submittal Requirements:
 - a. The submittal includes a locus plan. The Owner/Applicant is listed as Canterbury Street LLC on the Plan. The required zoning setbacks and area dimensions should be listed on the Plans. The actual setbacks are indicated. The lot is in the Residence C district and exceeds lot area requirements and complies with setback requirements. The plans indicate existing and proposed contour elevations in the vicinity of the proposed work but are incomplete. Existing grades elevations should be labeled and the source of the data referenced on the grading plans. It is unclear that the proposed contours connect to existing contours in some locations. Structures within 100 feet of the property line are indicated on the plans.
 - b. The plans are drawn to scale (1" = 60' and 1" = 20') and indicate the proposed building footprint. Building elevations and floor plans were not provided but may not be required for a residential dwelling.
 - c. No data on traffic circulation has been provided. As a single family lot, it is not typically required to perform a traffic analysis.
 - d. The Application does not request any relief from zoning requirements. Since the site includes over 20,000 square feet of land disturbance and would alter

2,500 square feet of land with a slope of over 10% a site plan review is required under Section IV-B 6 b.

- e. The plans indicate proposed utility connections to existing stubs that have been approved through the Subdivision process, including various modifications. A low pressure sewer pump would discharge to the main in the cul de sac. Other utilities including water, gas and electric/cable services would also connect directly to the roadway. A stormwater system consisting of a roof leaders and an underground chamber system is proposed. The stormwater system design differs from the approved plan. Primarily the location has been changed to the rear of the lot and has few chambers (2) and a smaller outlet (4" PVC pipe proposed versus a 6" PVC pipe approved). Refer to comments on the stormwater systems under h. below. Surface materials for driveways and walkways are not indicated but are proposed to be impervious. There are no details on the plans for these features. It is unclear if the Board will require details for the driveway and walkway. The plans do not indicate the proposed street trees as indicated on the subdivision plans. The only proposed trees on the lot are 8 evergreen trees in the tree preservation area on the east side of the lot. No landscaping plan has been provided at this time. The Approved plans had much more extensive landscape plantings proposed for the lots, refer to Sheet L-202.
- f. The submittal includes a grading plan. The existing conditions plan does not include any elevation labels. The plans should identify the source of the topography for the existing conditions. The site has been cleared and there are stockpiled soils, trees and stumps dumped along the edge of the altered and filled area. I note that the SWPPP does not indicate that this area was to be used for stockpiling. The Plans should at a minimum indicate the limits of site alteration to compare to the approved plans. The project was previously approved with a slightly larger stormwater system in a different location for roof runoff. No updated stormwater analysis has been provided. The concept is essentially the same. Traffic volume is unlikely to be a concern. Refer to comments under Stormwater Management Regulations below for drainage design. The grading plan indicates a slightly smaller house (3,557 sf approved plan versus 3,250 sf current plan). It is proposed to move the house a few feet further north and have an angle between the garage and house. The garage would be 0.2 feet higher in elevation. There are fewer retaining walls proposed and a section of rock slope added on the proposed plan. I recommend that the Building Inspector comment on the proposed masonry wall, it is proposed as a maximum height of 4 feet. A detail for this wall has been provided. Grading around the wall is incomplete. The plans include a foundation wall detail with a foundation drain. The outlet for the foundation drain is indicated on this plan. A waiver from Board of Health requirements for the basement will likely be required as ledge is typically considered the elevation of groundwater by the Board of Health.
- g. This item requires information to assess the impact of the development on soil, water supply, ways and services. There are no test pit logs included in the Application for this lot although other tests indicate shallow depth to ledge

with soils reported as sandy loam or loamy sand where tested. Groundwater is generally shallow and estimated either by redox features or assumed at refusal (ledge) which varies in depth across the site.

- h. The regulations require compliance with DEP Stormwater Management Policy as discussed below:

STORMWATER MANAGEMENT REGULATIONS - EROSION AND SEDIMENT CONTROL:

The DEP Stormwater Management Regulations consist of ten standards. The standards were reviewed using the Massachusetts Stormwater Handbook Documenting Compliance (MSHDC) together with other sections of the Handbook as appropriate. This section of the correspondence lists the standards and identifies whether the submittal complies, does not comply or if additional information is required to demonstrate compliance.

This project would not be considered a redevelopment.

Standard 1 – Untreated Stormwater

This standard requires that no new untreated point source discharges are created and that point source or sheet flow discharges do not result in erosion into or scour of wetlands. This standard is required to be met for redevelopment projects.

The approved design has an outlet to the east and the proposed plan would discharge to the south. The water would ultimately end up in the pond in either case.

To demonstrate compliance data on the proposed outlet the submittal should include either dimensions and details for the outlet or reference to subdivision details for outlet protection. If different than the approved outlet any associated calculations should be provided.

Standard 2 – Post Development Peak Discharge Rates

This standard requires that the peak rate of discharge does not exceed pre-development conditions and that the design would not result in off-site flooding during the 100 year storm. I note that it is not permitted to increase runoff or flooding to abutting properties without appropriate easements, etc.

This lot did not include the subsurface system in the calculations and the impervious area proposed is slightly smaller so there would not be an increase in runoff.

The subsurface system should include design features to prevent flow from weeping through the proposed slope and masonry wall and slope. There is a proposed barrier along the wall side but it should also extend along the reinforced slope side.

Subject to the above modifications this Standard would be met.

Standard 3 – Recharge to Groundwater

This standard requires that designs provide on-site recharge to mimic pre-development conditions. Calculations to demonstrate compliance are based on soil conditions, and certain methodology as outlined in the MSHDC.

No site specific testing has been performed to determine if any suitable soils exist on the site but given other areas tested it is questionable that there would be sufficient soil depth on the site. The Board should determine if testing will be required.

Based on site conditions it is unlikely that suitable soils exist in a location on this lot that would be suitable for infiltration.

The Board should determine if this Standard should be waived due to soil conditions or if additional testing is required.

Standard 4 – 80% TSS Removal

This standard requires runoff be treated to remove suspended solids (TSS) to at least 80% removal.

The runoff from the roof would be considered clean relative to pretreatment. The driveway is designed to flow to the subdivision roadway and that portion of the system has been approved. The design does not include access manholes as indicated on the approved plans for the isolator row in the roof treatment system. These should be added to the plans and a detail provided consistent with the manufacturers specifications.

This Standard could be met subject to comments under other Standards and the addition of access manholes to the isolator row.

Standard 5 – Higher Potential Pollutant Loads

The project is not considered a source of higher pollutant loads, this standard is not applicable.

Standard 6 – Protection of Critical Areas

Based on a review of Mass GIS mapping the site is not located in a critical area. According to the submittal the discharge of the municipal stormwater system is outside of the Weir River ACEC and this part of the standards would not apply.

Standard 7 – Redevelopment Projects

The project would not be considered a redevelopment

Standard 8 – Erosion/Sediment Control

This standard requires construction phase erosion controls. In this case the project is subject to the approved SWPPP.

This Standard would be met through the existing SWPPP subject to relocation of various components outside of the Tree Preservation Area.

Standard 9 – Operation and Maintenance Plan

This standard requires long term maintenance of non-structural and structural BMP's and requires a specific inspection schedule, etc.

The proposed subsurface system is similar in design to other approved systems and a modification to the O&M would not be required. I note that a manhole at the isolator row for access to maintain the systems should be added as noted under Standard 4.

As the lot is part of the Homeowners Association the approved O&M would apply to this lot.

This Standard could be met, but the design will need to be modified to comply with access requirements for the proposed system.

Standard 10 – Illicit Discharge

A signed Certification Statement has not been provided as required.

- i. It does not appear that any lighting is proposed.
- j. It is unclear if the Board requires or requests and other materials not identified above regarding the project.

The Board should review the comments and determine if all of the information required under Section 7. Review Standards and Approval have been addressed by the Applicant prior to arriving at a decision.

I appreciate the opportunity to assist the Planning Board on this project and hope that this information is sufficient for your needs. This report is for the Hingham Planning Board and associated Hingham land use agencies only and provides no engineering, planning or other advice that may be relied upon by any party or agency other than the Town of Hingham. I would be pleased to meet with the Board or the design engineer to discuss this project at your convenience. If you have any questions please do not hesitate to contact me.

Very truly yours,
Chessia Consulting Services, LLC

John C. Chessia, P.E.
JCC/jcc