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July 05, 2021

Ms. Christine Stickney
Interim Town Planner
Planning Board
Town of Hingham
210 Central Street
Hingham, MA 02043

Re: 4 Jordan Way (Lot 4A), Site Plan Review

Ms. Stickney and Members of the Planning Board;

In response to the review letter provided to the Planning Board by Chessia Consulting Services, LLC dated June 17, 2021, attached for your review and approval are 6 sets of the revised plans for the above noted site. The plans have been revised in response to the comments..

In order to assist with the review, we have maintained the chronology of comments and responses to date. Our responses to the review engineer comments from the most recent letter, which are highlighted in green, are highlighted in gray. All of our prior responses are highlighted in yellow.

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.

Current comments are in *italic type* following my initial comment.

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.

Not addressed.

The driveway turnaround is located in an area of blasted ledge and is only 110 square feet of pavement. There were never any trees in this area prior to the development based upon the ledge as shown. However, because we do have the capability, we will be planting additional trees just outside of that location to help re-create what was erroneously listed as a Tree preservation Area.

The response claims this is a small area with no trees and is in blasted ledge. The Tree Preservation Area should be revised, if this is accepted by the Board, as it would no longer function as a tree preservation area. Based on a site visit on June 17, 2021, the area

impacted appears to be more filled than blasted. There is a spine of ledge that is exposed in three locations and had not been blasted or removed. I reviewed construction inspection data and it is not clear that the older mulch log in this area was inspected, as appears to have been installed at a later phase and not during the initial start of the project. In any case, the older section of mulch log appears to be well east of the Tree Preservation Area in the northern section and should be shown on the plan. Alternatively, a new mulch log could be installed at the approved limit of work. It is unclear if this section of mulch log was staked out by a surveyor. As recommended in prior letters and meetings, identifying the approved location of the Tree Preservation Area in the field would be useful in determining the current impacts in the area and potential mitigation. This has not been performed to date.

The older section of mulch log was installed by T.A.Iaria when they started placing the fill for the 2 leaching areas. Based upon the recent survey some of this fill will be removed to create storage for the proposed stormwater facility at 49 Canterbury.

Based upon the proposed grades shown on the approved subdivision plans for the driveway and the utilities, the area of the turnaround is located in the area where the blasting limits would have encompassed this area. It is important to note that no excavation was conducted on the lot except what was needed to create the access driveway. Based upon the proposed driveway grades shown in the subdivision plan Sheet C-213, the surveyor would have definitely laid out blasting in this area. Based upon some recent excavation in the tree preservation area I have not found any native soils remaining in that area, which would tend to confirm that the area was prepped for blasting.

There are a number of older stakes in the field that remain from the original survey to stake out the limit of clearing and the tree preservation area on Lot 4A. Some additional stakes have been added at the westerly edge of the tree preservation area to assist with the review.

- The Board should review the proposed landscaping. I note that a landscaping plan has not been provided and is typically required.

A landscaping plan has been provided. The Board should review the plan.

The landscaping plan has not been revised, the Board should review the plan. I note that part of the fill proposed for a tree planting area is on the abutting property and may not remain as that side, although not proposed to be cut on the approved plans is not in a tree preservation area and it appears that part of the area of woods indicated to remain on that lot has already been cleared.

The proposed trees will be similar to those recently planted on Lot 3A in that they will form a buffer between the 2 lots. Any activity on this area would adversely impact one lot or the other regardless of which owner implemented the changes. Therefore it is highly unlikely that any changes will be made to these plantings once installed.

- Based on our site visit of May 6, 2021, it appears that the tree preservation area has been altered on the east side of the lot. The plans scale approximately 55-60 feet between areas where the driveway is proposed and there is a significantly larger area that has been disturbed to the east of the tree preservation island in front of the proposed house.

As explained at the hearing, this area was cleared by the original roadway contractor. It has been in this state since the spring of 2019 and has been in clear view since, as well as at pre-

construction meetings for the 2 adjacent Lots. As stated previously, this area was clear of trees based upon the ledge. Subsequently, there was never any orange fencing erected in this location except around the septic system areas at 47 & 49 Canterbury Street (or Lot 4 and Lot 5 as they were referred to at that time). In addition, the site and related orange fencing was inspected prior to the start of any clearing.

The Board should review this aspect of the plans. The Response states that the area has been cleared since 2019. This may be the case but it is not consistent with the approved plans. The Response also claims that there were no trees in this area due to ledge. If that is the case the Applicant should not have proposed it as a Tree Preservation Area, and should have raised the issue prior to any site disturbance. Based on a review of the adjacent ANR lot (39 Canterbury) part of the woods that was not to be disturbed on that lot has been cut. I recommend that the Board require the Applicant to survey the current limit of existing woods in the area together with the location of the currently installed mulch log. *We have conducted the additional survey to locate the fill on the adjacent ANR lots and all of the trees within 50' of the existing mulch logs. We have also updated the plan to show the as built conditions of the driveway area which eliminates the need to show the proposed grades.*

- The revised plans will require a filing with the Conservation Commission for work in the 100 foot buffer zone.

I will leave that issue with the Conservation Commission agent as to the nature of the filing and whether or not one is required although I will pass along the review engineers' requirement.

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.
No comment required
3. Pre-Application Submittal.
Not applicable, the lot is part of the approved subdivision.
No comment required
4. Submittal Requirements:
 - a. The submittal does not include 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.

The existing grades on the lot have been labeled as well as the timing and source of the contours. The driveway has been graded in conjunction with the development of 47 & 49 Canterbury Street. As built contours have not been developed to date since that phase of the development was initiated. This is why existing contours are not shown in that area. The proposed contours for the driveway blend with the contours that existed prior to the development of the subdivision

Contour data has been added and the notes on Sheet 4 reference the sources. Some of the data is based on more recent surveys and some is from the subdivision plans.

The Grading Sheet (Sheet 4 of 4) has been added has been modified and now shows the existing conditions on site.

Contours have been revised to show current conditions. This was a request from the Planning Board.

The as built contours of the driveway area have been surveyed and added as well as the grades of the embankment around the septic fill area. We have also added an overlay sheet to compare the approved plan with the proposed plan and we have reprinted the site plan from the approved subdivision.

- 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.
No comment required
- c. No data on traffic circulation has been provided. As a single-family lot, it is not typically required to perform a traffic analysis.
No comment required
- 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.
No comment required
- 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.

The proposed roof system has been sized to match the system as proposed in the subdivision. The system as proposed is 30 units (5 rows of 6) as opposed to the 32 units (8 rows of 4) shown on the subdivision plans. Although slightly smaller, the house has been reduced in size and by moving the system south, it will actually have some native soil beneath it as opposed to be in blasted ledge as proposed in the subdivision, some infiltration will actually occur.

The driveway will be paved, the walkways will be brick pavers as noted on the plans. A quick review of the approved calculations indicates that a CN Value of 98 was used for all driveway and walkway surfaces. In addition, the site as proposed is less impervious than shown on the subdivision so any changes in surface conditions will not impact the drainage results.

The approved street trees have been added to the plans.

Landscaping Plans were not provided. The trees as shown will be planted in order to establish the forest cover in the area delineated as a tree preservation area in the subdivision. The tree cover in this area was extremely sparse based upon the area of exposed ledge originally. Since there are no trees remaining in the tree preservation area the plantings are proposed to hopefully establish the forest in this area. A landscaping plan will be forth coming.

Proposed street trees have been added to the plans. There is a brick walkway now proposed from the front door to the driveway. The drainage system has not changed. The Board should determine if they would like driveway and walkway details. A Landscaping Plan has been provided. The Board should review the Landscape Plan.

The brick walkway is part of the Landscape Plan which has now been submitted. We have not provided a cross section of other driveways to date. They have all been 2-1/2" of pavement over a 4-6" thick processed gravel base. Based upon the construction traffic that has been using this driveway I have no concerns regarding compaction for the final pavement.

The design of the drainage system for the roof has been revised to the southwest of the house. The Landscape Plan has not been revised. Based on the Response driveway cross sections have not been requested by the Board for previous lots.

The revised landscaping plan has been included.

- 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.

The existing conditions are based upon a recent survey that was done to identify the ledge removal quantities. The grades have not been changed beyond the house and driveway area and reflect the grades in place at the time of the subdivision approval. The as built condition of the driveway area has not been surveyed to date. This driveway was installed in Phase 3 of the development and continues to provide construction access to 47 & 49 Canterbury Street lots.

The rock that has been stockpiled on the lot is temporary and comes from Lot 5A. Based upon my conversation with the contractor, it is scheduled to be removed next week. The trees are recent blow downs and will also be removed next week.

The walls are less extensive because we are not proposing the significant cuts indicated on the subdivision plans. As originally proposed, the yard area behind the house was proposed to be graded for a walkout basement which would then be sloped to match the lower grade at the tree preservation area. We have chosen to leave the yard area at its current elevation and provide the slope protection at the far edge to minimize the cuts.

The stormwater system for the roof was moved to an area where it could be installed without any ledge removal. In addition, based upon the contours, some groundwater recharge may actually occur in its current location as opposed to the location identified in the subdivision plans. The house as proposed is slightly smaller, regardless, a reduction in the number of chambers from 32 to 30 is not a significant difference especially when you consider that the benefits of the unit was not even considered in the overall drainage analysis for the subdivision and there is some real opportunity for infiltration.

An additional contour was added near the base of the wall to complete the grading. We also added the ledge in that area to help show the relationship with the grading and the wall. The original limit of clearing was right up to the tree preservation area limits, so the proposed clearing is approximately 3,000 square feet less than approved.

The waiver from the Board of Health regulations for the foundation will be applied for next week similar to every other foundation in the subdivision.

More grading has been indicated and notes specify the source of various surveys. At this time the current condition on the lot is not indicated in the disturbed area where ledge has been blasted and graded to level off the lot. There is also a rock pipe and tree/stump pile that is located in the tree preservation area on the east side. It is my understanding that the Contractor will be removing this pile. As noted there has been work performed in the easterly tree preservation area. The Board may require the Applicant to stake out the approved line for review in the field. I recommend that the Building Inspector review proposed retaining walls or determine that they do not require a permit. The Board of Health may require a variance for the foundation.

The existing conditions in the area of the house have been surveyed and are now shown on sheet 4. As can be seen, the site has been graded to rough grade and is now ready for loam & seed. Based upon the ledge at the easterly side of the lot we are now proposing to move the roof system to the westerly edge of the parcel. This should help to save some additional trees on the eastern side of the lot. Any stockpiles located on this lot is ledge removed from the lot.

The current plan indicates existing conditions based on a recent survey according to the Response. I revisited the site on June 17, 2021 and the tree/stump pile has been removed. Based on current observations there is some fill in the Tree Preservation Area, and the slope of the fill is not indicated on the survey plan as it appears in the field based on my observations. I recommend that the plans indicate the clearing limit as it currently exists and the location of existing trees if any remain in the Tree Preservation Area on the northerly end of the site. Trees have been indicated on the southerly side of the lot, one of which is on the development side of the mulch log. The plans do not indicate any existing trees in the immediate proximity of the proposed driveway area. As previously recommended, identifying the approved Tree Preservation Area would be helpful to understand what remains and what the Board may require for mitigation as well as identifying soil depth as requested by the Board at the previous hearing. I reviewed the approved subdivision plans and there was a test pit (Test Pit 2 roughly at the proposed location of the driveway extension into the Tree Preservation Area) and it listed refusal at a depth of 70 inches below grade, which would be sufficient for trees to be established. It is proposed to add fill for a new planting area over ledge. Ledge appears to be located 20 feet to the east of the edge of the Tree Preservation Area based on the contours on the plans. At this time it is

unclear if the existing soils have been removed from this area, but it appears that the fill was place over existing soils.

I did conduct 2 test pits in the tree preservation area and was only able to penetrate 16-18" to ledge. All of the excavated material was rock fill with no trace of existing soils. I did not conduct test pit 2 so I cannot confirm its location or results. Regardless, the recent observations cannot confirm those results.

All of the remaining tress in the tree preservation area near the limit of clearing have been located and are shown on the site plans.

The tree preservation area has been delineated in the field.

See the survey on the new plans as to current conditions on the adjacent lot area.

- 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.

A test pit was done in this area earlier and is shown on the subdivision plans. The results indicated that there is 2.5' of native soils above the ledge. The test pit location is shown on the plan.

There is a label "D 11" on the plans that appears to be a test location but there is no log provided. As noted the site is predominantly ledge, or blasted ledge based on site observations.

The roof system has been moved and, in my opinion, will be constructed out of blasted ledge. The requirement for test pits is now moot.

No further comment required.

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

All of the Stormwater issues associated with the development of this lot have been addressed in the subdivision. Since overall impervious as proposed will be less than shown in the subdivision, no further calculations or certifications are required to demonstrate compliance with the Policy.

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.

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.

No comment required

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.

Satisfied, this Standard would be met.

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.

The liner has been increased to include the east side of the units. Although, the ledge outcrop to the east of the unit should help prevent any real breakout in that direction.

Subject to the above modifications this Standard would be met.

Satisfied, 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.

A test pit was conducted in conjunction with the subdivision and is shown on the plans. It indicates that there is 2.5' of native soil above the ledge in this area. Accordingly, some infiltration will actually occur.

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.

The Board should address this issue, as noted most of the site is ledge or blasted ledge.

In order to provide soil beneath the system, we would have to locate the system in the area where there are trees growing. Since the approved subdivision had the system in ledge, the system will now be in the area where the ledge has been blasted also. I see no reason to remove any additional trees to make room for this system.

Comment remains, the Board should make a determination relative to waiving infiltration based on soil conditions for this lot. I note that this requirement was waived for the subdivision.

We anticipate that this will be addressed the same way every other lot in the subdivision has been addressed in the site plan approval process.

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.

Cleanout manhole at the inlet is now shown.

Satisfied

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

Observation ports and a cleanout manhole are now shown on these units consistent with the approved subdivision.

This Standard would be met.

Standard 5 – Higher Potential Pollutant Loads

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

No comment required

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.

No comment required

Standard 7 – Redevelopment Projects

The project would not be considered a redevelopment

No comment required

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.

No comment required

Refer to other comments regarding the Tree Preservation Area. At this time the tree preservation area fencing and most of the sediment controls have not been installed. It is my understanding based on a discussion on May 6, 2021 with the Contractor that

some of the fencing will be installed this week and the mulch sock is in the schedule but has been delayed due to recent rain.

At this point, the fencing in the front area has been set and the erosion control around the back of the site has been set also. There is no further requirement for any activity beyond the limits of the mulch log. I see no point in setting any additional construction fencing outside of the mulch log.

The Response states that there is no need for construction fencing at the Tree Preservation Area as the mulch log has been set. Based on the plans the mulch log stops in the southeast part of the lot and leaves approximately 140 feet of the Tree Preservation Area unprotected. Based on my observations, there is an older mulch log there but it is not indicated on the plans and appears to be well into the Tree Preservation Area limits in the northerly part of the Tree Preservation Area. Since there has been issue with encroachment into this area it would appear to be appropriate to install whatever is necessary to prevent further encroachments.

The mulch log on 47 & 49 Canterbury Street lots and Lot 5A has been located and is well outside 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.
Satisfied.

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.
this Standard would be met.

Standard 10 – Illicit Discharge

A signed Certification Statement has not been provided as required.

There are no new calculations required nor are there any additional outfalls beyond what was shown and certified in the subdivision. Accordingly, there is no need for another Certification Statement. The certification statement filed with the subdivision remains valid.

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Comment remains.

Once again, there are no calculations required. All of the issues associated with the stormwater were addressed in the subdivision. Simply, the certification associated with the calculations submitted with the subdivision remains valid.

This Certification is for the Lot having no illicit discharges, the Board could defer it to the occupancy permit if they have the ability to require it at that time as it has not been provided at this time.

We anticipate that this will be addressed the same way every other lot in the subdivision has been addressed in the site plan review process.

- i. It does not appear that any lighting is proposed.
No comment required
- j. It is unclear if the Board requires or requests and other materials not identified above regarding the project.
No comment required

Thank you for this opportunity to respond. If you have any further question or comments regarding the submission, please do not hesitate to contact me. I look forward to speaking with the Board to discuss this further.

Very truly yours,



Gary D. James, P.E.