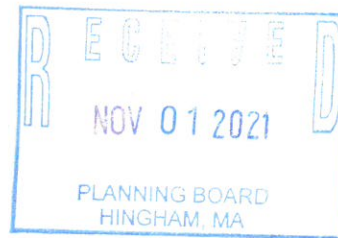


## Chessia Consulting Services LLC



October 30, 2021

Ms. Emily Wentworth  
Community Planning Director  
Town of Hingham  
210 Central Street  
Hingham, MA 02043

RE: Downer Estates  
Definitive Subdivision  
Review of Partial As-built Plan

Dear Ms. Wentworth:

In response to your request, Chessia Consulting Services, LLC has reviewed the plans for the above referenced project for Compliance with the Planning Board Certificate of Action. The data reviewed included the following information:

Plans entitled:

- “Definitive Subdivision Plan Downer Estates Off Planters Field Lane Hingham Massachusetts” dated January 23, 2017 last revised 8-27-20 prepared by Merrill consisting of 13 sheets. (Approved Plans)
- “Interim As-Built Plan Downer Estates Off Planters Field Lane Hingham Massachusetts” dated October 20, 2021 prepared by Merrill. (As-built)

Supporting Documents

- The Certificate of Action dated April 11, 2017.
- The Certificate of Action dated July 14, 2020 to modify the plans by waiving the gravel requirement to allow gravel to meet M1.03.1 MassDOT specifications.

I visited the site on October 25, 2021 to review conditions compared to the As-Built and for use in determining the remaining work to complete the project.

### **CERTIFICATE OF ACTION**

#### D. General Conditions

3. An interim as-built plan shall be provided prior to the release of any lots demonstrating the drainage system installation at a minimum. Upon completion of the way a final as-built shall be provided. As-built plans shall be in electronic and hardcopy format.

## As Built Plan/Construction Issues:

1. The as-built plan partially indicates the drainage system. Some of the manholes are identified as paved over so determining inverts is not feasible at this time for these manholes, although they could have been surveyed prior to paving. I note that the plans specifies two "First Defense" treatment units, one for each pair of catch basins. These should be identified on the plans. I noted that the cover for DMH 2 was on the shoulder. The catch basins list the water level but not the invert. The water level may be the invert and the pipe is not visible as there are hoods installed but the surveyor should also calculate the invert based on the hood dimensions or otherwise determine that the water level is at the invert.
2. Inverts for the system associated with Water Quality Swale #1 (WQS 1) are higher by about 4 inches than the plan. Based on the inverts there is less than 2.5 feet of cover by .3 to .4 feet (3.7 to 4.8 inches). As long as there is sufficient pitch water should still flow. The swale is smaller than the design based on scaling the As-Built and comparing it to the Approved Plan. The design engineer should certify that the size is sufficient. I did not review the initial plans and do not have the design calculations in my files. I recommend that spot elevations be added to the bottom of the swale.
3. The outlet for WQS 1 is a precast concrete weir. The sides of the weir are not completely backfilled such that runoff would flow around the ends and the system would not function as designed. In addition, the outlet weir notch is lower than the stone outlet protection down gradient of the notch. This should be corrected to allow runoff to flow out of the swale.
4. Water Quality Swale #2 should have a gravel access road according to the plans. This was not identified on the plans or in the field. There are no details for the access drive. This should be addressed, the grades are accessible. Inverts that are identified on the plans for the stormwater collection system are within typical tolerances.
5. The outlet for WQS 2 is also a precast concrete weir. There are two pieces of older precast concrete, one on each side of the weir that are not mortared and water would flow through the cracks such that the system would not function as designed. In addition, the outlet weir notch is lower than the stone outlet protection down gradient of the notch. This should be corrected to allow runoff to flow out of the swale.
6. There are a few thin patches of vegetation in the basins that should be overseeded. The basins are mostly stabilized at this time, some of the growth appears to be weeds.
7. Most of the bounds have been set at this time although two were not found and one is propped against the retaining wall and was not set. The bound next to the electric box between lots 1 & 2 and the one at the radius point to the north at Planters Field Road could not be found.
8. No plantings, i.e. street trees or plantings proposed in the cul de sac island have been installed and growth on the shoulders and cul de sac island appears to consist of clover and weeds. The grade of the shoulders will need to be raised with a shim

of topsoil and planted with suitable seed. The cul de sac has a planting plan detail in the Approved Plan.

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

