

ALLEN ENGINEERING & ASSOCIATES, INC.

Civil Engineers, Surveyors & Land Development Consultants

January 10, 2023

Town of Hopedale Planning Board Hopedale Town Hall 78 Hopedale Street Hopedale, MA 01747

Re: **COMMENT RESPONSE LETTER** *Hopedale Ridge - Definitive Subdivision* On Overdale Parkway Hopedale, MA 01747 Black Brook Realty, Hopedale Select Board & Ricardo Lima – Owners/Applicants

Dear Board Members:

Allen Engineering and Associates, Inc. (AEA) has received written comments for the above referenced "Definitive Subdivision" plan from the Planning Board's peer reviewer, Graves Engineering, Inc., dated June 14, 2022 as well as various questions penned by Planning Board member Kaplan Hasanoglu dated January 10, 2023. Below are the comments in standard font with responses to each in **bold font.**

Responses to Graves Engineering, Inc. comments 6/14/22:

Zoning Bylaw, Subdivision Rules & Regulations Review

Zoning By-Law

1.GEi has no issues relative to compliance with the Zoning By-Laws except as noted in the following comment.

Response: No Response Necessary

2. The parking spaces for the proposed 12-space parking lot scale to 9 ft. x 18 ft (the dimensions are not currently specified). Per the by-law, the minimum standard dimensions are 9 ft. x 19 ft. (§8.1.a & §8.1.b)

Response: The design plans have been revised to show 9' x 19' spaces. Also, the number of parking spaces has been reduced from 12 to 4.

Subdivision Rules and Regulations

3. The plans propose private septic systems for each lot instead of sanitary sewer lines in the public way. The results of percolation tests and water table information need to be provided. (§111.C.2.o)

Response: AEA has revised the plan set to show the location of the soil testing on each lot. The soil testing for each lot is also attached.

4. The plans propose a roadway width of 20 feet instead of 30 feet. The existing roadway width in the vicinity of the project is approximately 20 feet. Considering the width of the existing roadway, GEi does not have an issue with the proposed width of 20 feet. GEi defers further consideration of the pavement width, if any, to the Planning Board. (§IV.A.2)



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Response: Based on lengthy discussion with the Planning Board, the revised design plan set now shows a paved width of 24 feet. This is still below the regulation of 30 feet, therefore an amended waiver has been requested.

5. The plans propose overhead electrical wires as an extension of the existing overhead wires on Overdale Parkway instead of underground utilities. In GEi's opinion, it would be prudent to provide underground electrical and communications utilities rather than overhead utilities. GEi defers to the Planning Board regarding this matter. (§IV.F)

Response: Based on lengthy discussion with the Planning Board, the revised design plan set now shows underground utilities. The waiver for overhead utilities has now been withdrawn.

6. The plans do not currently propose fire hydrants or fire cisterns. It is GEi's understanding that Overdale Parkway does not currently have a water main or fire hydrants, and the Hopedale Fire Department has reviewed the plans and stated it has no issues regarding public safety. GEi defers further consideration of this matter, if any, to the Planning Board. (§IV.J)

Response: Based on lengthy discussion with the Planning Board, the revised design plan set now shows a 20,000 gallon cistern. The waiver request has been revised accordingly.

7. GEi understands the proposed compacted 1" thickness of top course bituminous asphalt is per the regulations. Nevertheless, GEi recommends a minimum thickness of 1.25" for ease of construction and durability. (§V.B.5)

Response: AEA has revised the pavement detail as suggested.

8. The plans need to include proposed trees along the roadway. Trees can't be planted in the right-of-way where a roadside swale is proposed. Consideration could be given planting trees outside the right-of-way in the temporary construction easement wherever existing trees are removed. For example, Sheet G-1 shows earth cuts on Lots 3, 4, 5 and 6, and earth fills on Lots 9 and 10 that will require tree removal. (§V.G)

Response: The revised design plan set now shows trees to be planted on individual lots as there is not enough space in the Right Of Way for the trees. The waiver has been amended accordingly.

9. The plans do not propose any street lighting. Consideration should be given to providing a streetlight at the cul-de-sac adjacent to the parking area. (§V.H.4)
 Response: The owners have agreed to install a new street light at the end of

the cul-de-sac near the 4 proposed parking spaces. The design plans are revised accordingly.

Hydrology & Stormwater Management Review

10. GEi reviewed the hydrology computations and found them to be in order except as noted in the two following comments.

Response: No response necessary.

11. The modeling of Subcatchment 8S (shown as Subcatchment 9S on the Proposed Drainage Plan) needs to be reviewed by the design engineer. GEi estimated the total



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area of this subcatchment to be approximately 67,000 square feet but the subcatchment was modeled as having 42,282 square feet. Also, the Proposed Drainage Plan will have to be updated to be consistent with the hydrology model relative to Subcatchments 8 and 9.

Response: AEA has revised the HydroCad model as well as the Proposed Drainage plan as indicated. The results can be found in the revised Drainage Analysis Report.

- 12. The modeling of the infiltration basin's outlet control structure needs to be revised for the following reasons:
 - a. The 8" diameter opening was modeled in the horizontal plane instead of the vertical plane. **Response: AEA has revised the Hydrocad model as indicated.**
 - b. The grate at the top of the structure (at elevation 495.00) was modeled twice.
 Response: AEA has revised the Hydrocad model to reflect one 24"x48" grate.
 - c. The grate at the top of the structure was modeled in the vertical plan instead of the horizontal plane.

Response: AEA has revised the Hydrocad model as indicated.

d. The top of the outlet control structure is proposed to be elevation 495.00. The top slab of a drainage structure such as this is typically 8" thick, so the bottom of the top slab will be elevation 494.3+/-. Approximately half of the 12" diameter orifices proposed at elevation

493.75 will be blocked by the top slab.

Response: AEA has raised the elevation of the overall OCS as well as changed the outlets at 493.40 to be 4 - 10" diameter orifices. These changes will ensure the integrity of the OCS.

13. Compliance with the MassDEP Stormwater Handbook is reasonable except as noted in the five following comments.

Response: No response necessary

14. In the infiltration basin, there needs to be at least one (1) foot of freeboard as measured from the 100-year peak water surface to the top of the impoundment. As modeled in the hydrology computations, there will only be 0.31 feet of freeboard.

Response: AEA has added one foot of freeboard as indicated.

15. The infiltration basin needs to have an emergency spillway. **Response: AEA has added an emergency spillway as indicated.**

16. Information on Sheet G-1 of the plans shows the infiltration basin's outlet pipe to have a slope of 0.083 (although in the hydrology computations the pipe was modeled with a slope of 0.735). The pipe slope is too steep and will result in excessive water velocities. The slope of the pipe needs to be reduced such that the water velocity will not exceed 10 feet per second.

Response: AEA has revised this culvert to be set at 1.67% which will reduce the velocity below 10 ft/sec.



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17. Access to the infiltration basin on Lot 10 is proposed along the side of a 3H:1V (33%) slope; the access is too steep and will not be usable by maintenance equipment. Grading on the access way needs to result in a cross slope no greater than 4%.

Response: AEA has revised the location and slope of the basin access as shown on the revised plan set.

18. For adequate total suspended solids (TSS) removal, the Concrete Drop Inlet construction detail on Sheet D-1 needs to be revised to provide a four-foot-deep sump instead of a two- foot deep sump.

Response: AEA has revised the drop inlet to show a 4 foot sump as indicated.

General Engineering Comments

19. GEi understands the proposed 12-space parking lot will serve as public parking for visitors to the adjacent Hopedale Parklands. If so, the parking lot requires accessible parking in accordance with the Massachusetts Architectural Access Board.

Response: After many discussions with the Town Agencies AEA has shown 4 new parking spaces, one of which will be ADA compliant.

20. On Sheet G-1, the pipe information (slope, length) for the proposed drainage system should be included.

Response: AEA has revised Sheet G-1 as indicated.

- 21. A construction detail for the surface treatment and gravel base of the proposed 12space parking lot needs to be included in the plans **Response: AEA has added the pavement detail as indicated.**
- 22. A construction detail for the proposed concrete headwalls needs to be included in the plans. **Response: AEA has added a detail for the headwalls as indicated.**
- 23. On Sheet G-1, the proposed limit of clearing currently passes through the proposed infiltration basin and needs to be revised. **Response: AEA has revised Sheet G-1 as indicated.**

General Comments

- 24. On Sheet L-1, the professional land surveyor's statement needs to reference the Town of Hopedale instead of the Town of Upton. Response: AEA has revised the sheet as indicated.
- 25. Sheet G-1 shows the infiltration basin extending onto Lot 9. Sheet L-1 needs to be revised to include the proposed grading, drainage, and access easement on Lot 9. **Response: AEA has revised Sheet L-1 as indicated.**



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Responses to Planning Board Member Kaplan Hasanoglu questions 1/10/23:

Is there enough soil present to cleanse the water from these septic systems? How does this impact the water quality for current Overdale Parkway residents?

Response: AEA has performed On Site Soil Investigations in compliance with Massachusetts CMR 310.15 (Title 5) along with the Hopedale Board of Health agent and found the soil to be able to support the 10 new septic systems. Attached hereto are the soil logs.

If the ledge is a problem for a trench to support the installation of sewer lines, why is it not a problem for the rest of the development?

Response: The soil logs referenced above to not show any problem with ledge as it pertains to the installation of 10 new septic systems.

This same concern should be applied to the development as a whole since ledge will be a greater issue when digging out the other 22 much larger areas (10 foundations, 10 septic tanks, a cistern, and a retention pond) than it will be for a sewer trench up the existing road.

Response: The new foundations, septic systems and cistern will be place at or above any ledge.

How great of a concern is well failure, water vein impacts, or general threats to existing wells for current residents?

Response: The new 10 lots have been designed in accordance with Massachusetts Title 5 which defines the well and septic system sizes and setbacks.

Also, is the development going to endanger/adversely affect the amount and/or overall quality of the water supply for both existing and future residents (The "10 more straws to our drinking glass" concern mentioned above)? whether the area has been deemed appropriate for adding 10 new septic systems, and/or whether there is any threat to existing septic systems.

Response: The new 10 lots have been designed in accordance with Massachusetts Title 5 which defines the well and septic system sizes and setbacks.

Overall concerns related to hydrology/drainage issues for current and future residents (see above), especially during extreme weather events which shall likely be more frequent and more intense in the coming years due to the effects of climate change.

Response: The 10 lot subdivision has been designed using the most up to date stormwater rainfall estimates (NOAA).



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Sincerely, ALLEN ENGINEERING & ASSOCIATES, INC.

Mark E. Allen, PE President

cc: Jeffrey Walsh, P.E. – Graves Engineering, Inc. Black Brook Realty Ricardo Lima

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