March 7, 2019

Sue Hall, Dover Planning Board

Reference: Haven Meadows Preliminary Subdivision Plans, dated 2/7/19.

Sue,

Craig Hughes and I reviewed the materials submittal as requested by the Planning Board after their informal meeting with the applicant on February 25, 2019 and submittal of a formal application for a subdivision on February 26, 2019. The submittals included plans dated February 2, 2019 and drainage calculations dated 2/13/19 and delivered 2/27/19.

The plans show 7 proposed lots on a proposed road connecting to Haven Terrace near parcel 6-03 (vacant lot) and house #8 Haven Terrace. The plans show two roadway configurations, including a loop road, about 2,475 feet long, and a cul-de-sac road, about 1,100 feet long. The loop road is approvable under the zoning by-laws and approval of the cul-de-sac road layout needs relief from zoning.

Construction of the loop road would require demolition or moving (if feasible) the existing house at 8 Haven Terrace. In both cases, there would be a wetland crossing with more impact on the wetland due to the loop road crossing, about 12,000 SF, verses about 5,000 SF, for the cul-de-sac. The loop road would require twice the amount of site work and road construction for the same number of houses as the cul-de-sac and the run-off mitigation would proportionately larger. In either case, there would be a Homeowner's Association formed to operate and maintain the storm water drainage system due to the infiltration pond requirements.

The applicant is asking for relief from zoning regulations to allow construction of the cul-de-sac road and is asking for approval of the proposed subdivision with the cul-de-sac road. The preliminary information submitted is in support of the construction of the cul-de-sac, but would need further refinement.

1) The drainage calculations would need to be expanded to include any impact of the proposed road on the existing culverts at Haven Terrace. These culverts may need to be up-graded to a 25-year storm.
2) The use of the infiltration pond on lots 3 and 4 is sized for the 100-year storm but must be reconfigured due to the depth of water and over-flow outlet. There is no existing stream in the area so "all water" would be infiltrated and only an emergency overflow outlet would be provided. The easement around the pond must also be enlarged to allow for maintenance.
3) The road box culvert would need to be sized for at least a 50-year storm for safety access. Drainage calculations would need to be expanded to include any stream head/tail water condition that may impact the culvert.
4) The roadway retaining wall design would need to be submitted along with a soil engineering report for the walls and roadway construction.

5) The drainage system would remain private and a Homeowner's Association must be formed to provide for adequate operation and maintenance of the road drainage system and infiltration pond. This would include periodic Engineering reports.
6) Standard town compliance requirements must be added to the plans for consideration of approval and acceptance as a town road when completed.

Based upon the above considerations, a cul-de-sac roadway layout for 7 house lots appears to be a more practical approach for development of this site. There would be: fewer construction impacts; less Homeowner's Association work in management of the drainage system; and less town roadway maintenance once the road is accepted as a town road serving 7 houses.

If you have any questions, please contact me.

Thank you,

Michael J. Angieri, Town Engineer

CC: Craig Hughes