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The Preserve at Abbyville and Abbyville Commons

MEMO: Revised Site Grading with 6 to 8 percent roadway

As suggested in BETA Group, Inc. review letter dated July 27, 2017 (Comment 6) we have prepared the attached Site Grading Plan for The Preserve at Abbyville and Abbyville Commons dated July 31, 2017. This plan was prepared to depict the development of the site design including roadway grading and cuts and fills.

Before we review the proposed plan with the Zoning Board of Appeals we wanted to describe the development of the site design. The original plan was developed based on a development area of approximately 60 acres and proposed 300 housing units. This proposed site area was the basis of choosing a contour to allow for the site area which would minimize disturbance of the wetland resource area and buffer zones. The connection points of the proposed roads with Lawrence Street as well as the areas of the existing building foundations and gravel pit areas were considered. This led to the proposed development shape. After discussions with the Town of Norfolk the developer agreed to reduce the unit count and increase the lot areas and frontage. The housing units were reconfigured to provide additional space between the housing units. Utilizing a reduced area and housing unit count we reduced the development area to approximately 55 acres and also elevated the site and reduced the proposed earth removal by approximately 200,000 cubic yards. The current design also considers the Town of Norfolk Subdivision Rules and Regulations (NSRR) Section 4.14.8.3 which requires leveling areas with a 2 percent maximum grade for a distance of 100 feet from the roadway right of way of each street. NSRR Section 4.14.8.1 requires vertical curves at all changes in grade and NSRR Section a minimum vertical curve length of 100 feet. The site grading plan prepared by United Consultants, Inc. dated July 31, 2017, identifies the above listed areas as well as areas where the roadways will be filled. Additionally the cul-de-sac areas were identified and would be subject to NSRR Section 4.14.9.5 which requires a maximum cul-de-sac grade of 4 percent. Once the above areas were identified we determine the area of roadways which could be changed to a 6 percent grade as was suggested by BETA. They are as follows:

- Manns Loop - 41 feet from 1 percent to 6 percent
- Manns Loop "South" – 73 feet from 4 percent to 6 percent
- Morse Road - 419 feet from 5 and 5.95 percent to 8 percent
- Thayer Circle – 95 feet from 2 percent to 8 percent
- Albert Drive – 268 feet from 6 percent to 8 percent
- Daniel Drive – 215 feet from 2.2 percent to 8 percent
- Waite Circle – 23 feet 2.5 percent to 8 percent

Taken fifty percent of the road grade change and multiply it by the length of the roadway and a width of 250 feet which was chosen to allow for the roadway width and extension into lots on each side of the roadway.

This would result in a reduction of approximately 18,000 cubic yards of material removed from the site.