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November 2, 2022

Hopedale Planning Board
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**Subject: Hopedale Ridge
Overdale Parkway
Definitive Subdivision Plan Review**

Dear Planning Board Members:

On October 6, 2022 Graves Engineering, Inc. (GEI) was requested to opine on the subject of extending the town's sewer utility to the proposed Hopedale Ridge subdivision so that the project may be served by public sewer instead of individual private septic systems. GEI was advised that one of the applicant's arguments countering extension of the sewer utility is the risks of causing septic systems at existing houses along the sewer extension route to fail due to anticipated blasting of ledge and encountering of tree roots.

In GEI's opinion, the long-term advantages and short-term disadvantages of extending the sewer utility should be weighed against maintaining the status quo of individual septic systems along the sewer extension route and at the proposed project. If the project is approved and constructed, in GEI's opinion it is inevitable that at some point, now or in the future, the sewer utility will be extended to serve the proposed dwellings.

Advantages of Extending the Sewer Utility

1. Septic systems have a finite service life before failure occurs. If the project is approved and constructed with individual septic systems, in GEI's opinion it is inevitable that at some point in the future the sewer utility will be extended to serve the project's dwellings. Extending the sewer utility now provides the immediate benefit of a permanent wastewater disposal solution.
2. Existing dwellings with septic systems along the route of the sewer utility extension will benefit from the availability of public sewer proximate to their properties. For any existing dwellings with an impediment(s) to constructing a new septic system (e.g., low permeability soils, high groundwater, limited land area, steep topography), connection to a public sewer can be more beneficial to the landowner than siting a replacement septic system.
3. GEI understands that the nearest location for connection to the sewer system is Moore Road near the intersection of Freedom Street. As such, the likely sewer extension route would be along Moore Road, Freedom Street and Overdale Parkway to the project. GEI estimated the route would be approximately 1,700 linear feet from the connection point to the end of the Overdale Parkway pavement in front of #21 Overdale Parkway. In GEI's opinion, this is a natural extension of the existing sewered area and not an unreasonably long extension of the sewer utility.
4. It appears that the sewer utility can be extended using a gravity sewer line; a sewer pump station does not appear to be necessary.

Disadvantages of Extending the Sewer Utility

1. Disruptions such as interruptions of access to existing properties, noise, and dust during sewer utility construction can occur. However, the disruptions would likely be limited to normal construction hours.
2. Potential impacts to bedrock wells from vibrations associated with rock removal if rock is necessary. Blasting is one method to remove rock, and any blasting must be performed in accordance with local and State regulations. Breaking rock with a hydraulic hammer mounted on an excavator is another common method of removing rock. Both types of rock removal are common. It is the contractor's responsibility to choose a rock removal method, and such a decision should include consideration of potential impacts to nearby receptors such as wells.
3. Potential impacts to existing septic systems from vibrations associated with rock removal if rock is necessary. Septic systems are constructed in soil overburden, not in bedrock. While there may be the potential for impact to septic systems, in GEI's opinion this potential is less than that of potentially impacting bedrock wells.
4. Potential impacts to mature trees along the sewer route. Whereas GEI is a civil engineering firm, we cannot opine of potential impact to trees from encountering major tree roots. Nevertheless, the installation of utilities along an established corridor such as an existing street is an accepted practice.

Finally, the *Hopedale Rules and Regulations Governing the Subdivision of Land* at §IV.H requires a developer to connect to an existing sanitary sewer whenever an existing sanitary sewer is within 2,000 feet of a proposed subdivision. The existing sewer system is approximately 1,350 feet from the nearest subdivision boundary. In summary, GEI is not aware of compelling circumstances that would preclude the project from being connected to the existing sewer utility.

We trust this letter addresses your review requirements. Feel free to contact this office if you have any questions or comments.

Very truly yours,
Graves Engineering, Inc.



Jeffrey M. Walsh, P.E.
Principal

cc: Mark E. Allen, P.E.; Allen Engineering & Associates, Inc.
Timothy Watson; Hopedale Water & Sewer Department