

This is the first in a series of articles submitted by the Route 20 Sewer Technical Advisory Committee examining a proposal to improve wastewater treatment along the commercial corridor along Boston Post Road.

The Town of Sudbury relies almost entirely on individual on-site septic systems for disposal and treatment of wastewater. On-site septic systems generally work well in the residential areas of the Town; however, relying on on-site septic systems in commercial areas poses significant environmental and economic challenges.

Since 2000 the Town has analyzed the wastewater treatment issue; based on this analysis the Town believes that the solution to the on-site septic challenges is the installation of a *decentralized wastewater treatment system* for the commercial corridor along Boston Post Road.

What is a Decentralized Wastewater Treatment System?

Decentralized wastewater treatment systems occupy the middle ground between on-site septic systems and traditional sewer systems. The basic elements of an on-site septic system are a septic tank and a leach field. The tank receives wastewater generated in a building and traps the solids allowing only liquid waste to exit through a tank outlet pipe. The wastewater flows to a leach field where it is cleaned as it percolates through the soil back to the groundwater supply. The main drawbacks to on-site septic systems are that they require a large land area to treat wastewater, and as they age are very prone to failure, creating unsanitary conditions, impaired water quality, and the need for expensive repairs.

Traditional sewer systems, like the Massachusetts Water Resources Authority, typically convey wastewater (and stormwater) from expansive areas long distances to a large, centralized treatment plant. Sewer systems are very expensive to build and maintain, pose challenges for containing development, and can redirect treated wastewater outside of watersheds, which reduces the ability to replenish groundwater supplies.

Decentralized wastewater treatment systems are located in close proximity to the source of wastewater being managed. Wastewater from multiple buildings is conveyed to a treatment facility where it is treated and then flows or is pumped to a leach field where it percolates through the soil back to the groundwater supply. Decentralized systems address the limitations of on-site septic systems as they provide a much higher level of treatment before the leaching process and are monitored, which makes them much less prone to failure. Likewise, decentralized systems address the limitations of sewer systems. They are more affordable to build and maintain and they recycle cleaned wastewater back to the groundwater supply. Finally, unlike on-site septic systems, which require large areas for wastewater treatment, and sewers, which promote sprawling development patterns, decentralized wastewater systems can play a critical role in supporting compact development and redevelopment.

What Would a Decentralized Wastewater Treatment System Look Like in Sudbury?

The Town of Sudbury is proposing a decentralized wastewater treatment system that would service the properties, which are primarily commercial, along Boston Post Road east approximately from Massasoit Avenue and west to Lafayette Drive and up Union Avenue along the industrial zones. Weston & Sampson, the Town's civil engineering consultant on this project, analyzed this area to determine the magnitude of the corridor's wastewater disposal needs

including potential new commercial growth. This analysis suggests the need for a treatment facility that can treat no less than 200,000 gallons per day of wastewater. The system would consist of pipes laid under the roads within the service area, pump stations to move the effluent properly, a treatment plant building and a leaching field. The Town has identified a suitable site for the treatment plant at 641 Boston Post Road, the former Bushey property. This site is owned by the Town and is situated away from developed residential areas. The Town also tested several sites that could serve as the system's leach field. After several years of searching, it was determined that the only appropriate site suited for this process is located on the Curtis Middle School property. Cleaned and treated water would travel 1.7 miles from the treatment facility under Horse Pond Road to a leach field under the athletic fields at Curtis Middle School and percolate back to the groundwater aquifer. While this would interrupt the use of the Curtis athletic field temporarily during construction, the field would be fully useable upon completion.

The next step in this process is getting approval at May's upcoming Town Meeting to authorize the Town to contract for the design and permitting of the system. Once designed, a final Town Meeting vote will be needed to authorize funds for construction of the system. Questions regarding this project can be sent to the Technical Advisory Committee at sewertech@sudbury.ma.us .