TOWN OF HILLSBOROUGH

The Pump Station Effect

Pump stations keep sewage flowing in low areas but are expensive to operate and require a large amount of staff time. Hillsborough has more pump stations per customer than surrounding water and sewer systems.

Background

A pump station is an intermediate collection chamber that uses pumps to transfer or lift wastewater from a lower elevation to a higher elevation, where the wastewater can flow by gravity. A pump station pumps into a pressurized main called a force main, which terminates into a sewer manhole. There, it can flow by gravity toward the Wastewater Treatment Plant.

This building houses a pump station on Elizabeth Brady Road. A generator helps ensure it continues to operate, preventing sewer spills.

Although capital costs to build gravity water lines are greater, the gravity lines are less expensive to operate over the long haul, making gravity the most cost-effective way to transport water.

Hillsborough has more pump stations than a typical municipality because of its terrain and likely because the infrastructure was preferred decades ago due to its low upfront costs. Some of the pump stations were built by developers and turned over to the town to own and operate.

Improper disposal of rags and wipes into the sewer system can clog a pump, increasing costs.

Expenses related to pump stations

Pump stations require electricity, maintenance on the pumps, and weekly inspections. Most pump stations also require expensive generators and redundant — or spare — pumps. In addition, failures can result in much larger sanitary sewer overflows than from a gravity sewer, with subsequent fines from the state.

Customers who improperly dispose of grease and rags into the system can clog the pumps. If a clog is not too severe, staff can clean the pumps. If it is severe, the pump can break or burn out, requiring a replacement

Effect on rates

Because Hillsborough's utilities system is small, the cost of operating the town's pump stations is spread over fewer customers.

101 E. Orange St., PO Box 429, Hillsborough, NC 27278
919-732-1270 | www.hillsboroughnc.gov | @HillsboroughGov

Sewage Pump Stations			
System	**Pump Stations**	**Customers**	**Customers per Station**
Durham	63	93,541	1,462
Greensboro	50	108,263	2,165
Orange Water and Sewer Authority (Carrboro/Chapel Hill)	21	21,308	1,015
Hillsborough	24	7,602	316

Source for customers data: 2021 Local Water Supply Plans

When comparing pump stations based on number of customers, Hillsborough has:

- 462% more stations than the City of Durham.
- 685% more stations than the City of Greensboro.
- 321% more stations than the Orange Water and Sewer Authority, which provides service to the towns of Carrboro and Chapel Hill.

Hillsborough has been working to reduce the number of pump stations it operates. Since 2005, two pump stations have been eliminated. Eliminating these stations is costly initially as gravity sewers also must be constructed.