

The Henry Fork Wastewater Treatment Facility

The Henry Fork Wastewater Treatment Facility is located at 4014 River Road, Hickory, NC. The Henry Fork Plant serves numerous entities including Hickory, Longview, Brookford and parts of Burke County. The facility is staffed 24 hours a day, 7 days a week by State Certified Operators.

The plant is a 9 million gallon per day (MGD) Biological Nutrient Removal Facility. It uses an activated sludge process that treats wastewater for the traditional constituents while giving the city the ability to treat for nitrogen and phosphorus as well.



FLOW PATTERN

The influent flow first passes the influent sampler then travels to the bar screen. It is pumped by the main lift pumps to the grit building then flows to the equalization basin. After the equalization basin, the flow goes to the primary clarifiers then the aeration basins. The flow leaves the aeration basin and goes to the secondary clarifiers then to the contact chamber. The sludge by-product is hauled to the Regional Compost Facility for further treatment. The disinfected wastewater then goes to the cascade aerator, past the effluent sampler then discharged to the Henry Fork River.

PROCESS

- **Bar Screen**

The bar screen is used to remove large particles and debris that may cause damage or clog pumps, piping and equipment. The bar screen removes sticks, twigs, paper and other large materials.



- **Main Lift Pumps**

The Henry Fork Plant has four (4) main lift pumps that pump all the water that enters the plant. These are the only lift pumps in the plant. The water flows by gravity once it is pumped.



- **Grit Removal**

Grit Removal is a very important part of wastewater treatment. The grit removal structure removes most of the inorganic materials that come into the plant. Inorganic materials are eggshells, asphalt, sand, etc., and can be harmful to plant equipment.



- **Equalization Basin**

The equalization basin is used to steady the flow throughout the day. The flow coming into a wastewater plant is very inconsistent. As the flow comes into the plant during the day at a high rate, the equalization basin will fill up. When the flow drops off at night, the equalization basin will start to drain.



- **Primary Clarifier**

Primary clarifiers are the first step in solids removal. Settleable solids settle out and are pumped away while fats and oils float to the top and are skimmed off.



- **Aeration**

The aeration basin uses microorganisms to convert non-settable solids. The "bugs" break down organic material and allow solids to settle out. The bugs consume oxygen while they are breaking down the materials. Air is added to the aeration basin to maintain a healthy environment for the bugs.



- **Secondary Clarifiers**

Solids from the aeration basin settle out in the secondary clarifiers. Some of the solids are recirculated back to the aeration basin to increase the rate of organic decomposition. Solids are also pumped out from the secondary clarifiers to control the age of the bugs in the aeration basin.



- **Chlorine Contact Chamber**

The Henry Fork Plant uses chlorine for disinfection. The contact chamber is maze shaped to allow the chlorine to completely mix with the water. Extra chlorine residual is removed by sulfur dioxide.



- **Cascade Aerator**

The cascade aerator is at the end of the plant and is primarily used for dissolved oxygen addition prior to discharging to the river.



FURTHER INFORMATION

Thank you for stopping by our website. If I can be of further assistance or to schedule a tour, please feel free to contact me at (828) 294-0861.