

THE TOWN OF HILLSBOROUGH
Annual Wastewater Quality Report (Fiscal Year 2005)
Wastewater Treatment Plant Discharge Permit #NC0026433
Wastewater Collection System Permit #WQCS00077
August 1, 2005

The Town of Hillsborough owns and operates a wastewater treatment plant located at 355 Elizabeth Brady Road. The plant is able to process 3 million gallons of wastewater per day. The average flow through the plant is 0.753 million gallons per day and is discharging at about 25% of its capacity. The plant is scheduled to receive a full-scale upgrade within five years. Money has been budgeted for a study in FY06, which will be followed by the upgrade at the existing site.

The Operator in Responsible Charge is Alvin Bolick and his back-up is Gloria Whittaker-Driver. The phone number at the plant is 732-2681. The Town of Hillsborough WWTP operates under Permit #NC0026433 issued by the State. Hillsborough's Collection System operates under Permit #WQCS00077.

During fiscal year 2005 (July 2004 – June 2005) the Wastewater Treatment Plant had daily chlorine limit violations during parts of March and April. Please refer to the chart below for the exact dates and violations. The cause of the violations was determined to be the result of a malfunction with the dechlorinator and the spectrophotometer. The dechlorinator adds sulfur dioxide at the end of the treatment process before the treated wastewater is released back into the river. The spectrophotometer gives the chlorine readings of the daily samples. Once the dechlorinator and spectrophotometer were repaired and recalibrated, the violations stopped.

Chlorine Limit Daily Violations – Chlorine Daily Limit is .017

mg/l		mg/l	
March	Result (mg/l)	April	Result (mg/l)
22 nd	.04	1 st	.021
23 rd	.02	5 th	.021
24 th	.03	8 th	.021
28 th	.06	11 th	.032
29 th	.03	13 th	.021
30 th	.05	12 th	.021
31 st	.03	18 th	.021
		19 th	.021
		22 nd	.019
		27 th	.022

We currently have 27 pump stations pumping to the Wastewater Treatment Plant through the collection system. The flow passes through a grinder and is then pumped to the grit basin before it enters the primary aeration basin. The aeration basin mixes the wastewater and allows the bacteria to break down and consume the waste. Our system is aerobic, meaning the bacteria need oxygen to survive and stabilize the waste. The mixed waste goes into the primary clarifier where the sludge settles to the bottom and the water is skimmed off. The sludge is pumped out and re-circulated to the primary aerator to be processed again. The water goes into the secondary aeration basin where more bacteria continues to breakdown the waste. The particles in the water are settled out again in the secondary clarifiers. Once the wastewater has been through both aeration basins and clarifiers it is pumped through a filtering process. It is then put in a chlorine contact chamber where chlorine is added to the water for a minimum of 30 minutes. The chlorine is then removed from the water, and the water is discharged into the Eno River. After recirculation, the sludge collected from the waste is passed through the sludge thickener and stored in one of 3 digesters and treated with lime. It is then removed with a tanker truck to be spread on agricultural lands as fertilizer.

Pump Station Update:

- The Town is scheduled to put at least one pump station out of service this year. We have received an EPA STAG grant to cover 55% of the cost to convert Lakeshore Pump Station to a gravity outfall. The addition of this outfall will decrease the annual number of Sanitary Sewer Overflows, since the majority of them occur at Lakeshore.
- Within the next 18 to 24 months the Town will eliminate another 2 pump stations when the outfall is completed to service the newly annexed Waterstone Development. These stations are Cornwallis Hills on Pointe Place and Old Mill on Beckett's Ridge Drive. Even though we are aware of the need of at least one additional pump station to service part of the Waterstone Development, an engineering firm is looking into using an existing station on Pheobe Drive. If this works, we will get an upgraded station with a generator that serves a much larger area.

Reportable sewage spills that were over 1000 gallons and/or reached surface waters are listed on the chart below. All spills were cleaned up, solids removed and lime applied, when applicable, to neutralize the site. No adverse environmental impact was noted after each spill was removed.

Sanitary Sewer Overflows Over 1,000 gallons during FY04 (July 2004 – June 2005)

<u>Date</u>	<u>Location</u>	<u>Cause of Spill</u>	<u>Spill Volume (gallons)</u>	<u>Volume Reaching Surface Waters(gal)</u>
8/30/2004	Lakeshore Pump Station	Inflow/Infiltration-excess rains	1,700	1,700

How to Prevent Fats, Oils and Grease from Damaging Your Home and the Environment

Too often, grease is washed into the plumbing system, usually through the kitchen sink. Grease sticks to the insides of sewer pipes (both on your property and in the streets). Over time, the grease can build up and block the entire pipe.

Home garbage disposals add grease to the plumbing system. These units shred solid material into smaller pieces, and cause grease to go down the drain.

Commercial additives, including detergents, that claim to dissolve grease may pass grease down the line and cause problems in other areas.

The results can be:

- Raw sewage overflowing in your home or your neighbor’s home
- An expensive and unpleasant cleanup that often must be paid by **you, the homeowner**
- Raw sewage overflowing into parks, yards and street
- Potential human contact with disease-causing organisms
- An increase in operation and maintenance costs for local sewer departments, which causes **higher sewer bills** for customers

What we can do to help

The easiest way to solve the grease problem and help prevent overflows of raw sewage is to keep this material out of the sewer system in the first place.

There are several ways to do this.

- Never pour grease down sink drains or into toilets.
- Scrape grease and food scraps from trays, pots, pans, utensils, grills and cooking surfaces into a can or the trash for disposal (or recycling where available).
- Do not put grease down garbage disposals. Put baskets/strainers in sink drains to catch food scraps and other solids, and empty the drain baskets/strainers into the trash for disposal.

Speak with your friends and neighbors about the problem of grease in the sewer system and how to keep it out. Call your local sewer system authority if you have any questions.

This report is being made available to the customers at Town Hall and the Town Hall Annex. The customers were notified of this report in the two local papers, The News of Orange County and the Chapel Hill Herald. Users may also obtain a copy of the report from our web site at www.ci.hillsborough.nc.us.

Certification:

I certify under penalty of law that this report is complete and accurate to the best of my knowledge. I further certify that this report has been made available to the users or customers of the named system and that those users have been notified of its availability.

Julie Vance Fogleman, Utilities Analyst, Town of Hillsborough

Date