

In 1978, the original three million gallons per day (MGD) plant was replaced by a 22 MGD, two-stage biological treatment plant, which uses bacteria to consume the dissolved and suspended organic wastewater material. In 1986, expansions and modifications to the facility were completed to provide 38 MGD of secondary treatment capacity for the central region. In 1994, the plant was upgraded to 43 MGD, and in 2005 the plant was rerated to its current capacity of 55.7 MGD as a result of additional upgrades.

The George T. Lohmeyer (GTL) Wastewater Treatment Plant is a regional facility located in Port Everglades. The region was formed in March of 1978 to centralize wastewater treatment and eliminate the need for eight separate treatment plants.

GTL occupies approximately 10 acres of land comprised of a series of buildings, reactors, holding tanks, and pump stations. A pretreatment building, an air scrubber facility, and an oxygen control and compressor building is located on site. Oxygen storage tanks, cooling towers, oxygen reactors, sludge pumping stations, sludge dewatering facilities, clarifiers, screening processes, and disinfection facilities are also located on site. Five disposal wells, approximately 3,500 feet deep, are located about one mile from the site.

The plant operates 24 hours a day, 365 days a year to provide continuous wastewater treatment for the cities of Fort Lauderdale, Wilton Manors, Oakland Park, and Port Everglades, as well as sections of Tamarac, the Town of Davie, and unincorporated Broward County.

A state-of-the-art security system protects the plant, its employees, and the public's infrastructure. A large diesel generator also provides emergency backup power for critical processes in the facility.

GTL is named after former Utilities Director George T. Lohmeyer in memory of his dedicated service to the City of Fort Lauderdale and his efforts in making this facility a model plant.

About GTL's Staff

GTL has a specialized staff of employees with technical expertise and varied backgrounds including operators, mechanics, maintenance workers, technicians, and electricians.

The Florida Department of Environmental Protection certifies all wastewater operators. The size and complexity of the GTL plant requires an operator with a Class "A" license to be on site or be available approximately 40 hours per week. An operator with a Class "C" license must be on site at all times.

Operators support the plant 24 hours a day, 7 days a week. Some of their responsibilities include scheduling sampling and adjusting settings for the changing characteristics of the wastewater and flow rates throughout the day.

Operators also check all plant equipment and report any failures or problems to the maintenance staff. They also collect samples for analysis and regulatory reporting.

The maintenance staff repairs and/or replaces equipment and supports preventive maintenance activities throughout the facility. Their expertise and diligence is vital to meeting the regulatory requirements.

The management team coordinates and supervises the operation and maintenance activities and is involved with the budgeting, scheduling, training, and reporting needs for the plant. In addition, a process control engineer is required to maintain and upgrade the computer and other control systems.



City of Fort Lauderdale
Public Works Department
949 N.W. 38 Street
Fort Lauderdale, FL 33309
954-828-8000
www.fortlauderdale.gov

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George T. Lohmeyer

Wastewater Treatment Plant

No FOGs = No Clogs

Many sewer line back ups and breaks are caused by fats, oils, and grease (FOG). By practicing the following tips you can help keep GTL and the City's collection system operating efficiently, which helps prevent expensive repairs.

- Grease or other liquids should never be poured down a drain or flushed down a toilet. Cooking oils such as frying up and salad oils, meat drippings, bacon fat, greasy leftovers, butter, food scraps and sauces coat sewer pipes on your property and the main pipe in the street. This grease eventually builds up and creates clogged drains or blockages that can cause raw sewage to back up into your home, which may result in costly repairs and messy cleanup.
- Cooking oils should be properly disposed of by pouring them into an empty milk carton, frozen juice container, or another type of non-recyclable container and thrown out with garbage once cooled down.
- Scrape or wipe off food grease and scraps from dishes and pots with paper towels before washing them.
- Put fat trimmings in the garbage instead of in the garbage disposal.
- Pouring hot water and detergent down a drain is only a temporary solution to break up grease. Small amounts of grease that accidentally get into the drain should be flushed right away with cold water.
- Use a basket/strainer in the sink drain to catch food scraps and empty it into the garbage to dispose of them.

Effluent Pump Discharge
Check Valve



Secondary Clarifier
Walkway

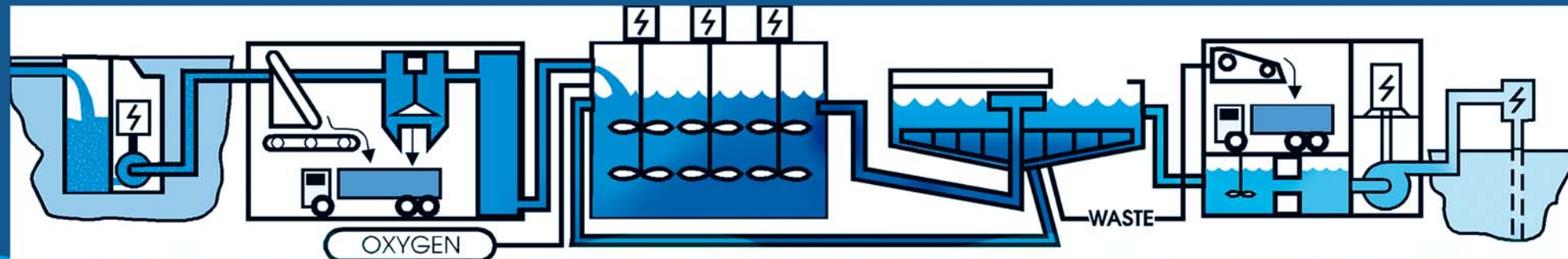


Return Sludge
Pump Station



The Wastewater Treatment Process

The primary purpose of operating a wastewater treatment facility is to preserve the environment and protect the health of the community. This is accomplished by safely collecting and processing wastewater generated by residents and businesses within the community. From the time it leaves a property to the time it is safely disposed of, wastewater undergoes several screening processes and treatment. The flow of wastewater from its origination point to its final disposal is outlined below.



Collection System

Wastewater, also referred to as raw sewage, travels through a collection system of pumps and underground pipes to GTL where it will be converted into its final form called effluent.

Pretreatment

Large debris and inorganic materials such as sand and silts are removed with specialized pretreatment equipment. Pretreatment protects process equipment and eliminates untreatable waste.

Oxygen Reactor

Following pretreatment, the wastewater undergoes biological oxygen-activated treatment, which occurs when it is combined with cultured microorganisms and pure oxygen at the head of the reactor. The microorganisms ingest organics and grow within the reactor when vigorously mixed. This water is then delivered to a clarifier.

Secondary Clarifier

A clarifier provides a tranquil "calm zone" where the microorganisms form clusters. These clusters consume any remaining organics. The clear, treated water is removed and disinfected with chlorine before final disposal. The remaining sludge at the bottom of the clarifier is transported back to the head of the reactor or removed from the treatment process as a waste product.

Waste Activated Sludge

To balance the system, a portion of the settled sludge is removed from the treatment process. Water is removed from this sludge prior to disposal.

Effluent Disposal

The effluent flows to a pump station that pumps it approximately 3,500 feet below ground, via five 24-inch diameter deep injection wells, into a mineral rock formation known as the Boulder Zone. To protect the environment, effluent is deemed "acceptable" as long as it meets or exceeds federal, state and local regulations.