

Think **that** can go  
down the drain?

*Think again!*

**City of Wilson**  
**Wastewater Collection**  
**and Treatment System Report**  
Fiscal Year 2016-2017



# "I've Never Had A Clog, So There's No Problem!"

Wishful thinking! Just because grease makes it down the drain doesn't mean it isn't building up in your pipes and sewer lines. Over time, it can cause a nasty clog and sewer can backup or overflow!

## What is FOG?

FOG stands for Fats, Oils, and Grease. These can get into the sewers and cause problems for the wastewater treatment system.

## Some common sources of FOG include:

- Animal fats
- Fatty food scraps
- Lard
- Cooking oil
- Shortening
- Butter or margarine
- Gravy and other sauces
- Creamy or oily sauces
- Salad dressings
- Marinades
- Milk fat
- Dairy products

## How FOG Clogs Pipes

Just as fat accumulates and causes blockages in human arteries, oil and grease can solidify and accumulate in household pipes, restricting the flow of wastewater and causing sewer to backup and overflow.

- **How it starts:** FOG separates from other liquids as it goes down your drain. The FOG cools and sticks to household pipes and sewer pipes.
- **A matter of time:** Over time, pipes become clogged and sewage flow becomes restricted.



- **Odor can be an early sign of problems:** As wastewater flow slows in the pipe due to restrictions, it allows sewer gases to increase. This can lead to corrosion of pipes and manholes. When these corrode, it can allow sewer gases to escape, causing odor concerns.
- **Nowhere to go but back:** The clogged pipe eventually backs up and can flood your home with wastewater or it can cause it to overflow onto the street.
- **A threat to the environment:** The untreated wastewater can then flow to local waterways, potentially harming the environment.
- **The cost to ratepayers:** Not only is FOG costly to the environment, it is also costly to ratepayers, as the costs of repairing clogged pipes must be passed on to customers.

## Stop the Clog!

The majority of sewer backups and overflows caused by FOG originate in residential areas. You can help prevent clogs by learning about FOG and how to properly dispose of it.

**Some major misconceptions can lead to big clogs in your sewer pipes.**

*“Hot water dissolves grease!”*

**Not true!** Using hot water and soap to “dissolve” oil and grease and wash it down the drain will not work. Grease will still stick to pipes after it cools.

*“My in-sink disposal takes care of grease!”*

**Also not true!** A garbage disposal won't make fatty and greasy food scraps disappear. Once they've passed the disposal, they can still clog the pipe.

*“It's okay to pour liquid oils down the drain!”*

**False!** Liquid cooking oils float on water and easily adhere to sewer pipes. The oily film can collect food particles and other solids that will create a blockage.

## What should you do? It's easy!

**Follow these three simple steps, and you can make sure your pipes keep flowing properly.**

### CAN IT!

Once cooled, pour leftover oils and grease into a sturdy container, like an empty coffee can or glass jar and discard it in a trash can.

### SCRAPE IT!

Before washing, scrape out fats, oils and grease residuals from pots, pans and dishes into the trash can.

### TRASH IT!

Put fatty and greasy food scraps in the garbage, not the drain.

## HOMINY CREEK WATER RECLAMATION FACILITY (WRF)



The WRF is located in Wilson at 3100 Stantonsburg Road. It is a state-of-the-art regional treatment plant that processes wastewater for approximately 20,000 metered customers and a service population of approximately 52,500. The City of Wilson also treats wastewater from the Town of Black Creek, the Town of Lucama and the Town of Sims.

The term water reclamation defines the treatment or processing of wastewater to make it reusable with specific treatment reliability. Reclaimed water must also comply with very stringent water quality criteria. The term water reuse defines the use of treated wastewater for beneficial uses, such as agricultural irrigation and industrial cooling. The City of Wilson is committed to reusing reclaimed water in areas that drinking water is not needed such as irrigation water for Wedgewood Golf Course, Burt Gillette Athletic Complex and industrial process/cooling water. The reclaimed water system is part of the City's water conservation plan.

### NPDES PERMIT COMPLIANCE

The WRF was compliant with all NPDES permit limits this year.

### Table Definitions & Key

**PPM (Parts per Million)** - a unit of measurement. Parts per million compares to 1 minute in 2 years.

**BOD (Biochemical Oxygen Demand)** - a required test that determines the amount of oxygen required by microorganisms to consume pollutants. BOD is measured in PPM.

**TSS (Total Suspended Solids)** - a required test that measures the amount of suspended solids in a sample. TSS are measured in parts PPM.

**FC (Fecal Coliform)** - a required test used to determine the presence of disease causing organisms. FC are harmless but are used as indicators of other organisms (if FC are present others may be present). FC is measured as number of colonies per 100 milliliters of sample.

**MGD (Million Gallons per Day)** - a unit of measurement for flow volume.

### PLANT PERFORMANCE

Pollutant	Concentration
<b>Ammonia Nitrogen</b>	<b>PPM</b>
Average	0.03
Permit Limit	1.0/3.0 (summer - monthly/weekly) 2.0/6.0 (winter - monthly/weekly)
<b>Biochemical Oxygen Demand</b>	<b>PPM</b>
Average	1.4
Permit Limit	5.0/7.5 (summer - monthly/weekly) 10.0/15.0 (winter - monthly/weekly)
<b>Total Phosphorus</b>	<b>PPM</b>
Average	0.34
Permit Limit	2.00 (quarterly)
<b>Total Suspended Solids</b>	<b>PPM</b>
Average	0.13
Permit Limit	30.0/45.0 (monthly/weekly)
<b>Total Nitrogen</b>	<b>Lbs/Yr</b>
Pounds Discharged	66,262
Permit Limit	157,886
<b>Fecal Coliform</b>	<b>Colonies/100 milliliters (ml) of sample</b>
Average	4
Permit Limit	200/400 (monthly/weekly)
<b>Chronic Toxicity</b>	
Test Performed Quarterly	Passed all
Permit Limit	Pass or Fail
<b>Flow</b>	<b>Million Gallons per Day (MGD)</b>
Average	9.03
Permit Limit	14.00 (monthly)



## SANITARY SEWER OVERFLOWS (SSOs)

Sanitary sewer overflows (SSOs) occur when untreated sewage is discharged into the environment prior to reaching the sewer treatment facility. These typically occur at manholes, pump stations, or broken sewer pipes. Infiltration/inflow (I/I) is unwanted water that enters the sewer collection system through deteriorating older pipes, leaking manholes, illegal connections such as roof drains, etc. During heavy rains, pipes can become overloaded from I/I and cause SSOs. Pipe stoppages caused by fats, oils and grease can also lead to SSOs. Replacing and rehabilitating these lines and manholes reduces I/I into the sanitary sewer system, thus protecting the public health, improving treatment plant efficiency and reducing system maintenance. Generators provide emergency back-up power for pump stations and help prevent SSOs.

During fiscal year 2016-2017, the City of Wilson experienced nine (9) reportable SSOs. The WRF treated 3.3 billion gallons of wastewater during this period.

### September 15, 2016

116 Beacon St. W  
Total: 10,100 gallons  
**Cause** - Pipe Failure

### Caused by heavy rain from Hurricane Matthew (>10 inches):

#### October 9, 2016

600 block of Goldsboro Street S near Spruce Street S  
Total: 640 gallons

#### October 9, 2016

600 block of Mercer St. SW near Walnut Street SW  
Total: 640 gallons

#### October 9, 2016

700 block of Vance Street E near Vick Street E  
Total: 640 gallons

### Caused by heavy rain event (>8 inches):

#### April 25, 2017

Intersection of Grove Street N and Turner Avenue N  
Total: 1,200 gallons

#### April 25, 2017

Intersection of Canal Drive NW and Kincaid Ave NW  
Total: 2,100 gallons

#### April 25, 2017

Intersection of Mercer Street SW and Park Drive SW  
Total: 1,750 gallons

#### April 25, 2017

200 block of Beacon Street W near Park Avenue W  
Total: 1,860 gallons

#### April 26, 2017

Intersection of Aycock Street SW and Pickett Street SW  
Total: 1,420 gallons

**Customers who observe a sanitary sewer overflow should report these as emergencies to the City of Wilson Unified Communications Center at (252) 399-2424.**

**Cientes que observan un desbordamiento del drenaje sanitario, deben reportar estas situaciones de emergencia al centro de comunicaciones unificadas de la Ciudad de Wilson, al telefono (252) 399-2424.**

## COLLECTION SYSTEM MAINTENANCE AND PROJECTS COMPLETED:

- 57 miles of pipe cleaned (about 16% of the entire 359-mile system - 10% required)
- 8,045 feet of pipe replaced
- 153 sewer services replaced
- 147 manholes rehabbed
- 32 grease blockages cleared from sewer mains

## DISPOSABLE DOES NOT MEAN FLUSHABLE

Flushing paper towels and other garbage down the toilet wastes water and can create sewer backups and SSOs. The related costs associated with these SSOs can be passed on to ratepayers. Even if the label reads "flushable", you are still safer and more environmentally correct to place the item in a trashcan.



- ✗ Baby wipes, diapers
- ✗ Cigarette butts
- ✗ Rags and towels
- ✗ Cotton swabs
- ✗ Medicated wipes (all brands)
- ✗ Syringes
- ✗ Candy and other food wrappers
- ✗ Clothing labels
- ✗ Cleaning sponges

- ✗ Toys
- ✗ Plastic items
- ✗ Aquarium gravel or kitty litter
- ✗ Rubber items such as latex gloves
- ✗ Sanitary napkins
- ✗ Hair
- ✗ Underwear
- ✗ Disposable toilet brushes
- ✗ Tissues (nose tissues, all brands)



## FOR MORE WATER QUALITY INFORMATION

**City of Wilson - Water Resources**  
(252) 399-2492

[www.wilsonnc.org/water-resources](http://www.wilsonnc.org/water-resources)

**N.C. Environmental Education**  
[www.eenorthcarolina.org](http://www.eenorthcarolina.org)

**Lower Neuse Basin Association**  
[www.lnba.net](http://www.lnba.net)

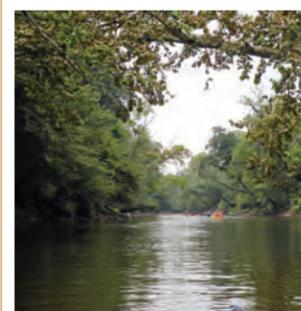
**River Guardian Foundation, Inc.**  
[www.riverguardfdn.org](http://www.riverguardfdn.org)

**NCDEQ**  
(919) 733-2321  
[www.deq.nc.gov](http://www.deq.nc.gov)

**Water's Worth It**  
[www.watersworthit.org](http://www.watersworthit.org)

**Sound Rivers**  
[www.soundrivers.org](http://www.soundrivers.org)

## PROTECTING THE NEUSE RIVER



The Lower Neuse River Basin Association, Inc. (LNBA) and the Neuse River Compliance Association, Inc. (NRCA) are 501(c)(3) non-profit corporations comprised of municipalities and industries located in the Neuse River Basin. The mission of these organizations is to monitor and preserve the waters of the Neuse River and Neuse River estuary through innovative and

cost-effective wastewater treatment and reduction strategies. The NRCA group is composed of 24 wastewater treatment facilities located in the Neuse River Basin. NRCA was issued North Carolina's first basin-wide NPDES permit for nitrogen control January 1, 2003 and was reissued in January 1, 2008 and January 1, 2014. The group was given a mandate to reduce their Total Nitrogen discharge by 30%. Through the combined efforts of its entire membership, the NRCA exceeded the mandated 30% nitrogen reduction by removing over 60% of their nitrogen loading to the Neuse River estuary since 1995.

The City of Wilson is proud to be a charter member of both the LNBA and NRCA.