



Reducing Grease in
Our Sewer System

“FOG” is the acronym
for Fats, Oils, &
Grease



**Town of Nashville Public Utilities
Grease Education**



Public Utilities Sewer Workers maintain the sewer system throughout our town.

We are constantly making improvements and repairs to our sewer system to ensure that you, our valued customer continues service without interruptions, and back-ups.



Public Utilities Sewer Workers



#1- Blockages

#2- Sanitary Sewer
Overflows (SSO's)

#3- Inflow and
Infiltration(I&I)

#4- Lift Station Power
Outages

#5- Lift Station
Maintenance



Sewer Related Problems



Most all of sewer blockages are caused by accumulation of grease in sewer lines.

Accumulation of grease also occurs in household plumbing.

Blockages cost the Town as well as Homeowners thousands each year!



Sewer Blockages



Grease is singled out for special attention because of its poor solubility in water and its tendency to separate from the liquid solution.

Grease lines the surface of sewer pipes and decreases pipe capacity.

Grease in a warm liquid may appear harmless. But as liquid cools the grease or fat congeals and causes nauseous mats on the pipes and on the surface of digesters and tanks at the wastewater treatment facility



Why is grease such a problem?



Every month the Town of Nashville sewer is tested for contaminants and we are charged for excessive levels of contaminants.

Most of our contaminants are directly related to FOG.

If surcharges continue to rise, ultimately the consumer will pay the price!



“FOG’s” cause our Sewer Charges to excel



We are noticing elevated levels of FOG in sewage lift stations that serve residential areas .

This means that homeowners are contributing a large amount to our elevated levels of Fat's Oil and Grease.



FOG in Lift Station Served by a residential area



We are required by the State of North Carolina to clean at least 10% of our system per calendar year.

We have exceeded this requirement for the past ten years.

We utilize the use of our sewer jet to clean these lines.

Areas deemed to be heavy in grease are targeted for cleaning



Preventive Maintenance



Sanitary Sewer is high in organics and pathogens (disease causing organisms)

Oxygen demand by bacteria's in streams and water ways suffocate fish and plant life.



Sanitary Sewer Overflows (SSO's)



Commercial users are monitored and charged for their input to the sewer system.

All commercial users have to meet criteria such as grease interceptors.



Commercial Users



Sewer Systems have been a necessity practically since the beginning of time.

A **sanitary sewer** is a type of an underground carriage system for transporting sewage from houses or industry to treatment or disposal. In some areas, sanitary sewers are separate sewer systems specifically for the carrying of domestic and industrial wastewater, and are operated separately and independently of storm drains, which carry the runoff of rain and other water which wash into city streets



What is a Sanitary Sewer System?



The majority of sewer blockages in the Town of Nashville are caused by “FOG” (Fats, Oil, & Grease)

Fats Oil & Grease: Organic polar compounds derived from animal and/or plant sources that contain multiple carbon chain triglyceride molecules.

Includes oils, fat, cellulose, starch, proteins, and wax



Blockages



Fats are organic compounds that are not easily decomposed by Bacteria.

Fats that are discharged to the sanitary sewer, may coat or congeal, and accumulate in the collection lines, in pumps and on other equipment.

These problems add additional cost to the Town's over all operating expense.



Why is grease a problem?



Controlling FOG at the source –

*Reduces Collection System cost as well as homeowners.

*Reduces the potential for blockages and overflows for home occupants as well as the Town facilities.

House Bill 1160 – Clean Water Act of 1999 includes civil penalties for wastewater violations up to \$25,000 per day



Controlling “FOG”



Fats oils and grease are generated by preparation of cooking of food products.

These products include butter, margarine, lard, vegetable fats, oils, meats, nuts and cereal.



Where does “FOG ”come from?



In order to reduce grease intake and discharge to the City of Rocky Mount daily (24/7) maintenance occurs to all of our 14 Sewage Lift stations.

Such Maintenance includes the removal of floating grease.



Preventive Maintenance



Along with problems of FOG we also frequently experience pump failures related .

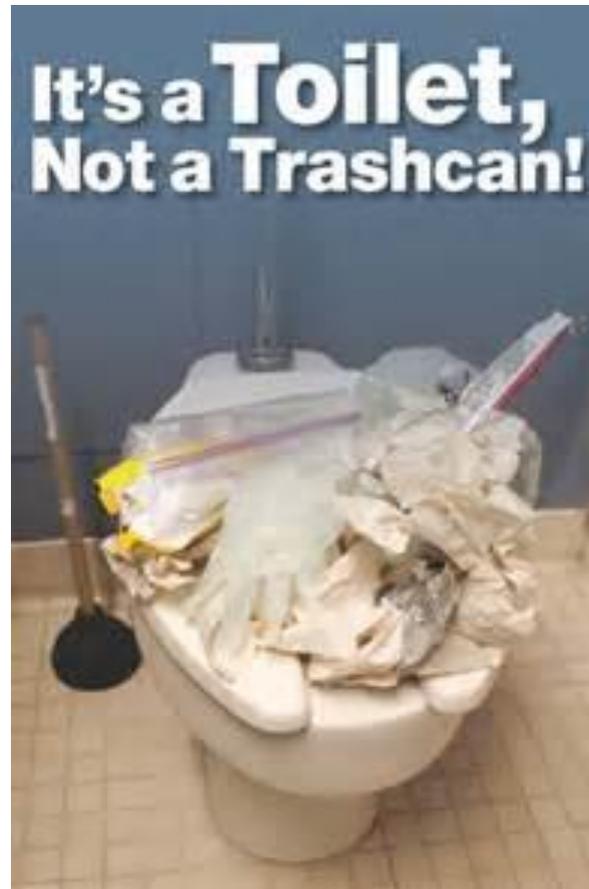
This particular problem was related to a towel and other foreign matter bound inside of the pump



Maintenance



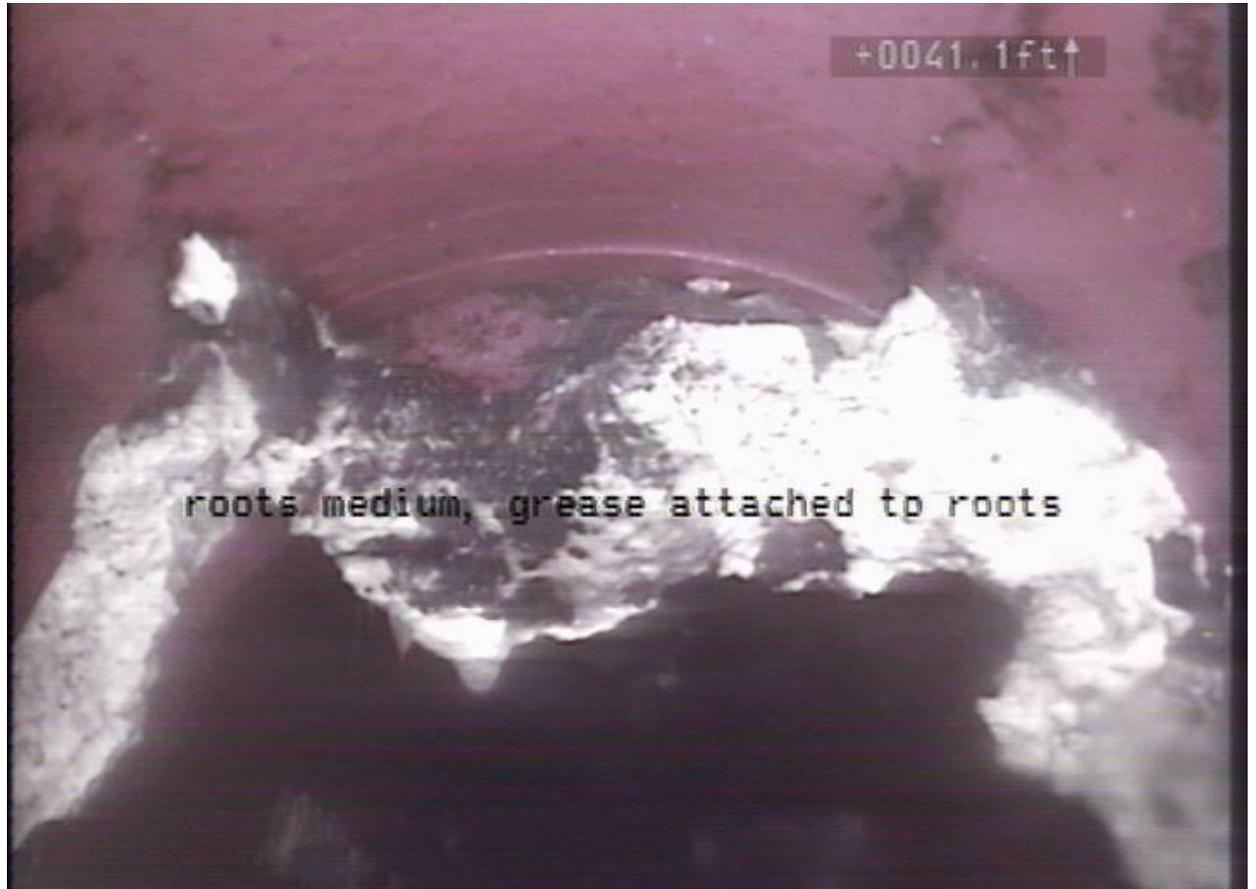
All material dropped in sanitary sewers has potential of causing major blockages.



**Never Dispose waste products in the
Sanitary Sewer**



Fine roots have gathered at a joint in our sewer system and FOG has accumulated at this connection.



Accumulated FOG in Sewer



Smoking sewers determine where there may be a possibility of rain water entering our sewer system.



I & I testing



The largest part of your utility bill is Sewer.

Sewer accounts for over 53% of the average Town of Nashville utility bill.

If The Town of Nashville exceeds parameters , they are charged accordingly.

Ultimately, you the consumer will absorb the expense.

TOWN OF NASHVILLE
P.O. BOX 987
NASHVILLE, NC 27856-0987
PHONE: (252) 459-4511

CUSTOMER COPY
145430

METERED SERVICE FROM: 03/18/2010 TO: 04/19/2010				ACCOUNT NUMBER	
CODE	PREVIOUS	PRESENT	CONSUMPTION	AMOUNT	145430
	PREVIOUS BALANCE			197.55	
P	PAY WATER			-55.05	
P	PAY SEWER			-121.98	
P	PAY RECYCLE / GARBAGE			-16.16	
P	PAY FEDERAL MANDATE			-4.36	
W	186	190	4000	16.75	
S	186	190	4000	43.08	
G	GARBAGE AND RECYCLE			16.16	
F	Federal Mandate (W&S)			4.36	
				TOTAL DUE	80.35

PRESORTED
FIRST CLASS MAIL
U.S. POSTAGE PAID
NASHVILLE, NC
Permit No. 1

SERVICE ADDRESS
104 WASHINGTON ST E

DATE OF BILL	BILL DUE BY
04/30/2010	05/20/2010

PAID BY DRAFT

2009 CCR AVAILABLE @ TOWN HALL

Why be concerned about FOG?



We maintain records and logs including all sewage lift station run times and their coordination to rainfalls



Sewer Documentation



Most commercial users are required to have a grease interceptor installed prior to connections to the sewer system.

The public Utilities Director sizes the interceptor to minimum standards set forth by the City of Rocky Mount.



Grease Interceptors



All of our restaurants are required to install grease interceptors.

Commercial users are required to maintain their own interceptors.



Commercial Contributors



This particular station serves the Department of Corrections



Industrial Users



In summary All parties involved benefit from the reduction of FOG in all sewer systems whether homeowner, renter, commercial/industrial, or The Town of Nashville!



Together we can make sure this lever always works!