

COLLECTION SYSTEM

JEOPARDY

OOPS I DID IT AGAIN	IF IT AIN'T BROKE FIX IT	SHOW ME THE MONEY	IT ALL STARTS WITH P	FUN FACTS



If a one-gallon wastewater spill reaches surface waters

ANSWER

**Report the spill within 24-hours of becoming
aware that it reached surface water**

**Raleigh Regional Office – (919) 791-4200
NC Emergency Management – (800) 858-0368**



Collection System Crews do this to help prevent blockages in sewer lines

ANSWER

Inspect and Clean Sewer Lines

At least 10% of the gravity system selected by the ORC shall be cleaned each year



This is a cost that may be associated with a notice of violation

ANSWER

Civil Penalty Assessments



This floating fire started an environmental
regulatory movement

ANSWER

Cuyahoga River – Ohio 1969



Cuyahoga River Fire Nov. 3, 1952. Courtesy of Cleveland Press
Collection at Cleveland State University Library.



This activity uses data and trends to forecast when equipment needs repair or replacement

ANSWER

Predictive Maintenance



Not London FOG but Sewer System FOG

ANSWER

Fats – Oils - Grease

FOG Control Program



Where there is smoke there is not always a fire

ANSWER

Smoke Testing



DAILY

DOUBLE

This is where funds are designated and forecast for
reinvestment into the wastewater collection
system infrastructure

ANSWER

Capital Improvement Plan or Capital Improvement Budget



This provides guidance for cleaning up an SSO

ANSWER

Response Action Plan



These should run when the lights are out

ANSWER

Emergency Generators



DAILY

DOUBLE

A Public Notice in the newspaper is required when this SSO volume reaches surface waters

ANSWER

≥15,000 gallons
(to surface waters!)



Collection systems are usually okay with these 3 P's?

ANSWER

Pee, Poo, Paper (toilet paper!)



What you are required to do when you have a non-reportable spill

ANSWER

Maintain an adequate record for a minimum
of 3 years – same as a reportable SSO



Collection systems have these in in plastic, metal, clay, fiberglass and concrete

ANSWER

Pipe



Which municipality was issued the first NC
Systemwide Collection System Permit?

ANSWER

Charlotte-Mecklenburg Utility District

Permit: WQCS00001



The Blob

ANSWER

Tubifex Worms / Bryozoan



You should review these to help identify recurring problems

ANSWER

Logs

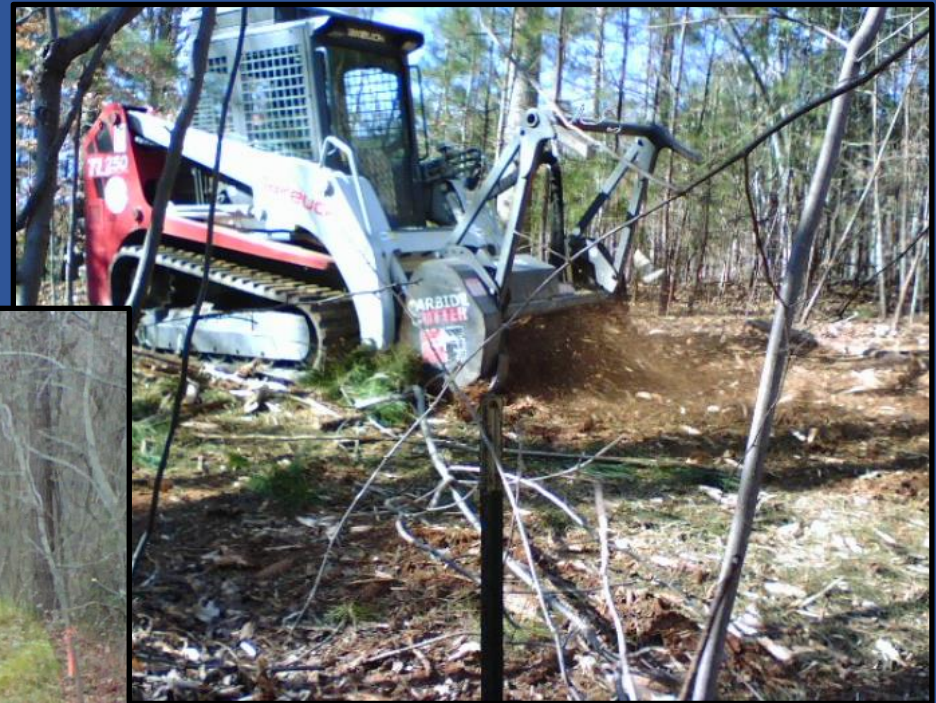
Operational / Maintenance / Inspection



Clearing the way lets you get to your pipe

ANSWER

Utility Easements



OOH that smell can't you smell that smell

ANSWER

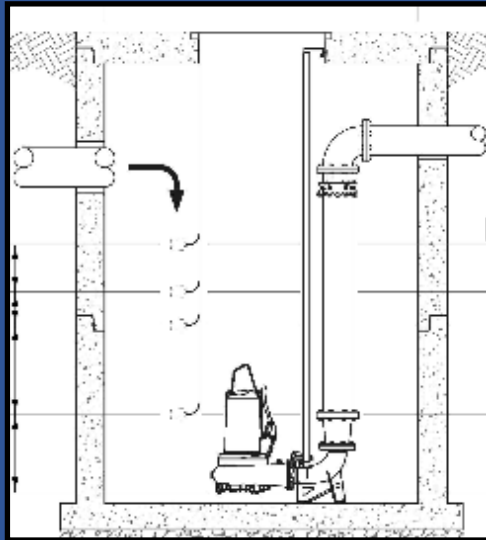
Hydrogen Sulfide & Reduced Organic Compounds



It flows down hill where this gives it a lift

ANSWER

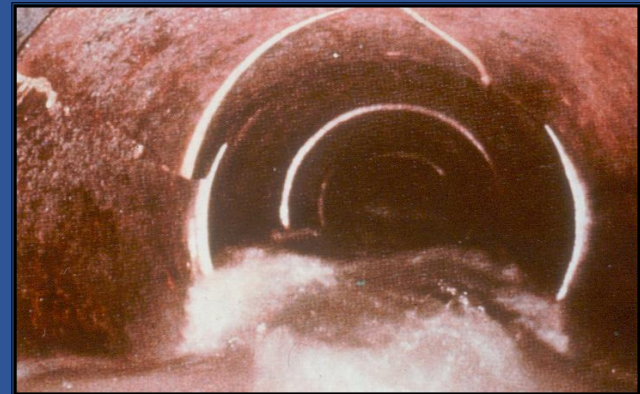
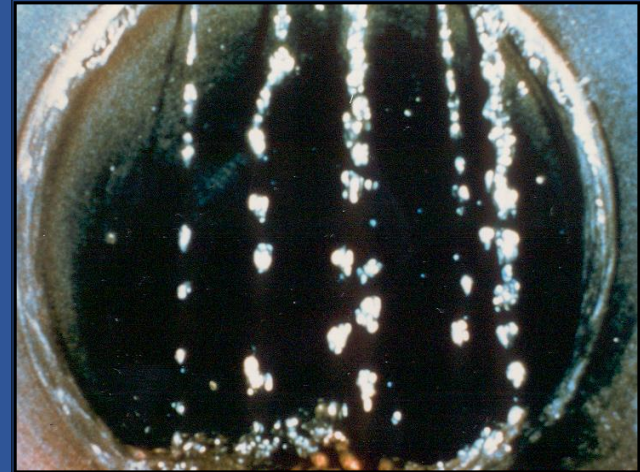
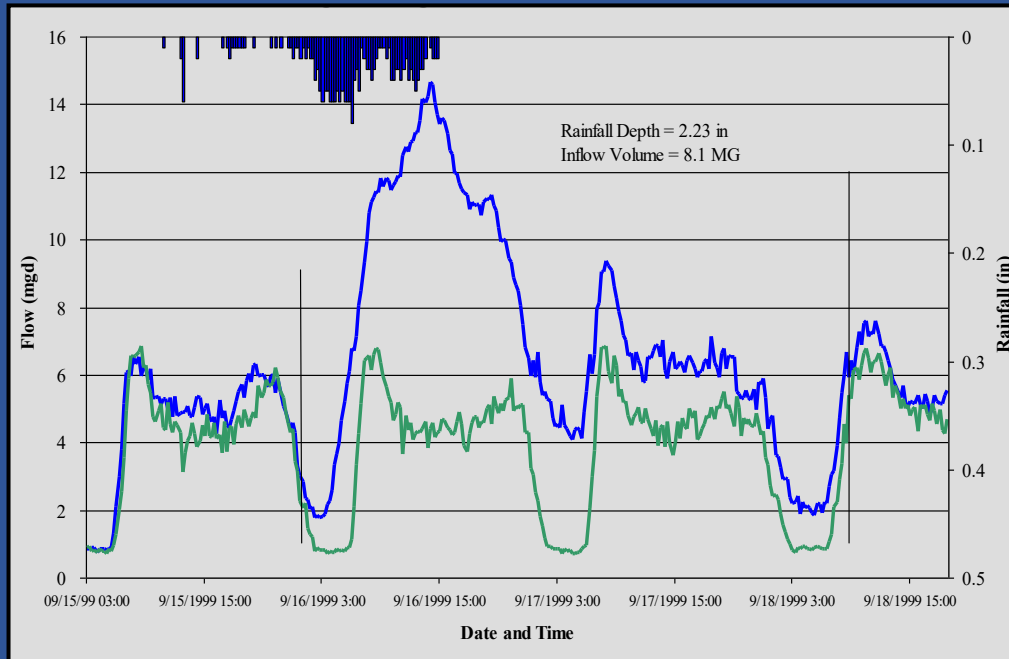
Pump Station



Not an eye for an eye, but I&I

ANSWER

Inflow & Infiltration



You should do this within 2-hours after first knowledge of an SSO

ANSWER

On-site evaluation of SSO - as soon as possible



Collection systems in our state operate under this

ANSWER

Permit



STATE OF NORTH CAROLINA
ENVIRONMENTAL MANAGEMENT COMMISSION
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

SYSTEM-WIDE COLLECTION SYSTEM PERMIT

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules, and Regulations, permission is hereby granted to the

City of OZ WQCS12345

FOR THE

operation and maintenance of a wastewater collection system consisting of, at the time of permit issuance, approximately 842.87 miles of gravity sewer, approximately 77.89 miles of force main, 43 duplex pump stations, and all associated piping, valves, and appurtenances required to make a complete and operational wastewater collection system to serve the Town of Cary and any deemed permitted satellite communities and the tributary wastewater collection systems serving the Raleigh Durham Airport Authority and the Town of Apex subject to their own individual collection system permit, pursuant to the application received May 15, 2015, and in conformity with the documents referenced therein and other supporting data subsequently filed and approved by the Department of Environment and Natural Resources and considered a part of this permit.

This permit shall be effective from December 1, 2015 until November 30, 2023, and shall be subject to the following specified conditions and limitations:

I. PERFORMANCE STANDARDS

1. The sewage and wastewater collected by this system shall be treated in the properly permitted Wastewater Treatment Facility identified in the permit application and documented in the Division's database. [15A NCAC 02T .0108 (b)]
2. The wastewater collection system shall be effectively managed, maintained and operated at all times to prevent discharge to land or surface waters, and to prevent any contravention of groundwater standards or surface water standards. In the event that the wastewater collection system fails to perform satisfactorily, including the creation of nuisance conditions, the Permittee shall take immediate actions as per the Response Action Plan (Condition II(9)), as well as any actions that may be required by the Division of Water Resources (Division), such as the construction of additional or replacement sewer lines and/or equipment. [15A NCAC 02T .0108 (b)]
3. The Permittee shall establish by ordinance, inter-local agreement or contract its legal authority to require new sewers be properly constructed; to ensure proper inspection and testing of sewer mains and service laterals; to address flows from satellite systems and to take enforcement action as required by Condition I(4). [G.S. 143-215.9b; G.S. 143-215.1(f)(1)]
4. The Permittee shall develop and implement an educational fats, oils and grease program that shall include at least semiannual distribution of educational material targeted at both residential and non-residential users. The Permittee shall also develop and implement an enforceable fats, oils and grease program for non-residential users under which the Permittee can take enforcement against users who have not properly installed, operated and maintained grease traps or grease interceptors as directed or otherwise violated the terms of the enforcement program pertaining to fats, oils and grease. [15A NCAC 02T .0108 (b)]
5. The Permittee shall adopt and implement a Capital Improvement Plan (CIP) to designate funding for reinvestment into the wastewater collection system infrastructure. The CIP should address the short-term needs and long-term "master plan" concepts. The CIP should typically cover a three to five year period and include a goal statement, description of the project area, description of the existing facilities, known deficiencies (over a reasonable period) and forecasted future needs. Cost analysis is integral to the CIP. [G.S. 143-215.9b]
6. Overflow piping from manholes and pump stations, excluding piping to approved equalization structures, known or discovered after permit issuance shall be immediately removed or permanently capped. Plugged or valved emergency pumping connections are allowable for portable pumping or rerouting without intentionally bypassing the wastewater treatment facility. [15A NCAC 02T .0108 (b)]
7. The Permittee shall maintain a contingency plan for pump failure at each pump station. If one of the pumps in a pump station containing multiple pumps fails, the process of repairing or replacing the pump shall be initiated immediately and the new parts or pump shall be installed as soon as possible. The permittee shall provide justification for delay in initiating the process for repair or replacement at the Division's request. If the pump in a simplex pump station serving more than a single building or pump stations not capable of pumping at a rate of 2.5 times the average daily flow rate with the largest pump out of service fails, it shall be replaced immediately. [15A NCAC 02T .0305 (h) (1)]



Who is required to visit the system within 24-hours of first knowledge of a spill, bypass, or overflow of the system?

ANSWER

ORC or Back-up ORC



They show up when everyone else is at home

ANSWER

On-Call / Emergency Response



Questions