



**City of Concord Water Resources Department – Wastewater Division**  
Wastewater Collection System Performance Annual Report  
Fiscal Year July 2014 – June 2015

**I. General Information**

System Name: City of Concord Wastewater Collection System

Responsible Entity: City of Concord

Persons in Charge: Christie Putnam  
Director of Water Resources

Mark Varnadore  
Wastewater Utility Services Coordinator & System Operator

Applicable Permits: WQCS00326  
Tributary to NC0036269 and NC0081621

Description of the System:

The City of Concord Wastewater Collection System consists of over 540.5 miles of sewer pipelines, approximately 13,582 manholes, and 24 wastewater pump stations. The system came into existence in the early 1900s and continued to be upgraded and extended to become the system we operate today.

**II. Performance**

The City of Concord's Wastewater Division performs the operation and maintenance of the City's collection system, which serves approximately 31,829 customers. Eleven crews provide this service. Two rapid-response crews respond to all calls related to potential blockages and overflows in the system. Two jet-vac truck crews perform maintenance on the system by removing obstructions that may be present in the system,

thus limiting the number of possible back-ups and overflows. These trucks are also used to maintain the City's 24 wastewater pump stations through periodic cleaning and sludge removal. An inflow-infiltration crew locates defects and obstructions in the pipelines by the use of a camera that videotapes the inside of the sewers. The City also has a crew that is dedicated to the operation and maintenance of the City's wastewater pump stations. One service line installation and repair crew installs new service connections to the City's sewer mains and repairs sewer mains as well as manholes. One crew is dedicated to conducting smoke tests on the sewer system, along with GPS work. One crew is dedicated to the installation of new sewer lines and the replacement of aged and deteriorated sewer lines. A right-of-way maintenance crew collects data on the location of the various components of the City's system, provides maintenance of the wastewater collection system's rights-of-way, and performs semi-annual inspections of the system. The City has a System Compliance Officer who is responsible for the implementation of the Fats, Oil, and Grease Program (FOG), along with the inspection of sewer right-of-ways to ensure easement accessibility.

During the past fiscal year, the City of Concord was requested to investigate approximately 219 reports of possible sewer-related overflows. These calls were related to both municipal and private lines. The City of Concord had 1 incidence that resulted in the spill or overflow of more than 1,000 gallons of wastewater to surface waters of the State.

**January 2015**

Total +/- 30 gallons to waters of the State

*2054 Wilshire Court SW (1,500-gallon spill)*

This spill occurred as a result of roots growing into the sewer system. The affected pipe has been cleaned and all roots and debris removed. There were no known environmental impacts as a result from this spill.

The Wastewater Division began a program in FY '06-'07 to make property owners aware of water and sewer easements on their property. The purpose of this program is to initiate corrective actions to existing accessibility problems and prevent future accessibility problems. Easements are not always identified on property deeds. The first step to ensure access to the water and sewer system is to confirm that the property owner is aware of the City's easements so they can plan or modify the use of their property accordingly. Notification letters include the specific reference to a recorded easement or subdivision plat that affects the owner's property. To date, the City of Concord has distributed 3,789 easement notification letters for sewer and 61 raw water easement notification letters to customers, including information about the City's requirements for keeping the easement accessible. Easement research and notifications for over 99% of the City's utility service area have been completed. Properties with sewer easements are flagged in the City's customer database so new owners can be notified when property ownership is transferred. To date, 2,586 letters have been mailed as a result of property transfers. 350 property owners have responded to the letters with request for additional information concerning easement location.

The Wastewater Compliance Officer oversees the department's FOG (Fats, Oils and Grease) program. The officer reviewed 89 sets of plans for new construction and up-fit plans dealing with food preparation and grease disposal. Monthly pumper hauler routing reports and individual food service facility pumping manifests are two items that are used to monitor grease disposal from the food service industry. City crews assist the Compliance Officer by providing information pertaining to grease buildups noticed during daily maintenance operations. Information gleaned from the crews is used to provide educational information to the areas or establishments that are contributing to the problem. The Compliance Officer also has an extensive educational program, providing grease related programs to 1<sup>st</sup> grade, 3<sup>rd</sup> grade, 6<sup>th</sup> grade students, Journey Through Concord and Concord 101 adult education programs. A total of 1,287 students, and 49 adults participated in these programs.

The City of Concord is continually performing preventative maintenance activities and undergoing rehabilitation projects to prevent sanitary sewer overflows. The following activities have been completed during the past fiscal year.

Jet-Vac Line Cleaning	279,840	linear feet
Dye Testing	157	
Sewer Service Inspections	454	
Sewer Line Replacements	29,568	linear feet
Smoke Testing	28,459	linear feet
T.V. Inspections	165,264	linear feet
Pipe Lining	29,000	linear feet
Manholes Rehabilitated	77	

The City of Concord also operates an in-house flow monitoring program. The desired outcomes of this program are to ensure adequate system capacity, prevent sanitary sewer overflows, identify segments of the system impacted by inflow and infiltration, and prioritize field investigations and repairs that could create the greatest reduction in the conveyance and treatment of unnecessary flow. Over the past year, the following basins were studied:

- Irish Buffalo Creek basins: IBC1200 SW, IBC5700 SW and IBCC1800 NE.
- Coddle Creek basin: COD3800 SW.
- Three Mile Branch basin: Entire Basin.

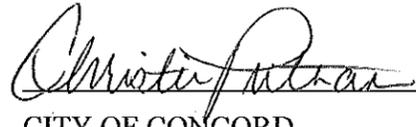
These meters were installed as a follow-up to the cure in place pipe lining work that was done the past year for I&I reduction.

### III. Notification

Customers of the City of Concord’s wastewater collection system were notified regarding the availability of this annual report through a public notice in the *Independent Tribune*, a local daily newspaper. A copy of this report is available for review at the Alfred M. Brown Operations Center at 850 Warren C. Coleman Boulevard, Concord, North Carolina; at City Hall, 26 Union Street South, Concord, North Carolina; and on the City of Concord’s website at [www.concordnc.gov](http://www.concordnc.gov).

**IV. 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.



Date: 8.27.15

CITY OF CONCORD

Christie Putnam, Director of Water Resources