



## Wastewater Collection System

### System Performance Annual Report July 1, 2023– June 30, 2024

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#### I. General Information:

##### A. Facility / System Name:

City of Hendersonville Wastewater Collection System

##### B. Responsible Entity:

City of Hendersonville

##### C. Operator in Responsible Charge (ORC):

Tim Sexton  
305 Williams Street  
Hendersonville NC 28792  
(828) 697-3073  
Email [tsexton@hvlnc.gov](mailto:tsexton@hvlnc.gov)

##### D. Non-Discharge Permit Number:

Collection System Permit Number WQCS00070

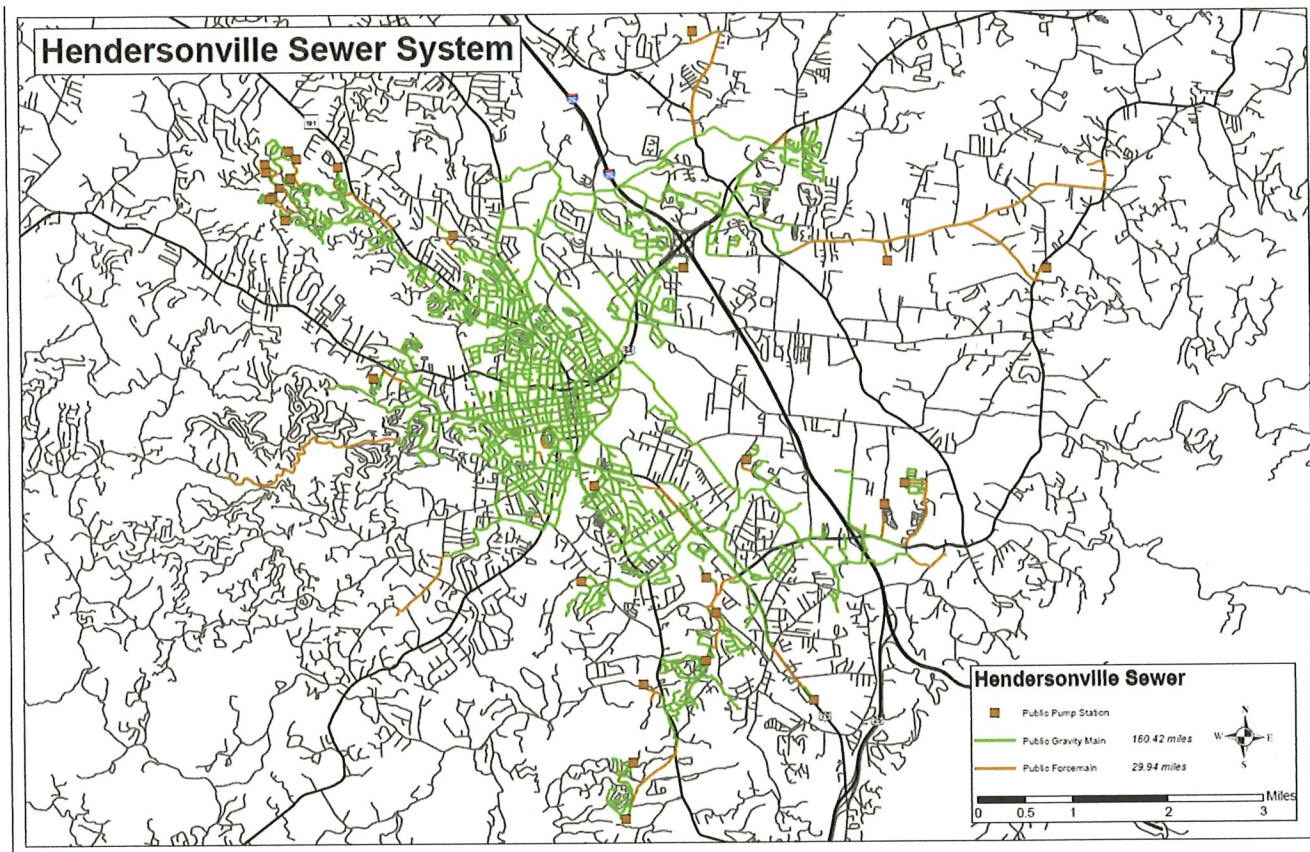
##### NPDES Permit Number (WWTP):

NC0025534

##### E. Description of Collection System:

The City of Hendersonville (the "City") wastewater collection system is located in and around the corporate limits of the City providing wastewater service to over 10,800 residential and non-residential customers. The majority of the system consists of gravity sewer mains. There are currently 30 wastewater lift stations with pressure force mains located within the system that are owned and operated by the City. The collection system consists of approximately 161-miles of gravity sewer mains ranging in size from 6" to 42". These mains are connected by manholes at each intersecting point. There are approximately 21 miles of sewer force mains ranging from 2" to 8" that connect to the lift stations and discharge into manholes at a higher elevation. The system collects wastewater and delivers it to the City's 4.8-mgd wastewater treatment plant (NPDES Permit No. NC0025534) located on Balfour Road.

F. Map of Collection System:



II. Performance:

A. General:

The day-to-day operations of the sanitary sewer collection system is maintained by the Field Operations Division of the Utility. The City has an inflow and infiltration (I&I) technician position dedicated to identifying potential sources of inflow and infiltration through the use of iTrackers, smoke testing, and dye testing. City staff have consistently been working on an inflow and infiltration (I&I) reduction program since the hiring of this technician in 2015. The City has two CCTV camera trucks and two crews that are dedicated to inspecting sewer mains and working with the I&I technician locating I&I. Additionally, we have allocated \$390,000 for the purchase of a replacement CCTV truck with an expected delivery of 2026. Also, the City is purchasing a 900-gallon lift station vac to be used during lift station maintenance. The City owns and operates one combo vacuum truck to maintain sewer mains and has plans to purchase an additional truck with an additional two person crew in the near future.

During this twelve-month period our crews have performed the following:

- Completed 69 repairs to the collection system that have reduced an estimated 1,176 gallons of inflow per one-inch of rainfall and 205 gallons per minute of continuous flow or approximately 107,748,000 gallons annually (continuous flow reduction).
- Smoke tested 21,598-LF of sewer mains in search of I&I.

- Cleaned 106,144-LF of gravity sewer main approximately 12% of the collection system
- Inspected 59,784-LF of sewer mains or approximately 7% of the gravity system using closed circuit TV (CCTV) equipment.
- Inspected 21,143-ft of sewer mains with the SL-RAT (sewer line rapid assessment tool)

The City also has a Sewer Collection System Asset Inventory and Assessment, which serves as it's Master Plan. The master plan provides a roadmap to maintain, improve, and expand its collection system so that the City can operate a great utility for all its current and future customers. The Sanitary Sewer Asset Inventory and Assessment includes a condition assessment of the sewer collection system, development and calibration of a dynamic hydraulic model, flow projections from the service area through 2040, hydraulic capacity assessment of the sewer system, and finally, the Development of a risk-based, prioritized capital improvement program (CIP). The City is actively implementing the recommendations presented in the Master Plan, including construction of the identified CIP projects.

B. By Month:

The City's wastewater collection system had a total of fourteen reportable sanitary sewer overflows (SSOs) during the twelve-month reporting period. Ten of the fourteen SSOs occurred on January 9, 2024, due to a severe natural condition (excessive rainfall) where according to the TVA-Hendersonville rain gauge 4.61 inches of rainfall fell within 24-hours. All spills resulted in a total of approximately 30,739-gallons of untreated wastewater reaching area streams. All SSO's were remediated according to the City's standard operating procedure and did not result in any fish kills or other known environmental impacts.

SSOs which reached area streams:

**Thursday, May 9, 2024,** an SSO (sanitary sewer overflow) totaling approximately **12,150-gallons** was experienced within the City's collection system.

This SSO resulted from manhole rim/lid's knocked loose by contractors at 305 Blythe St resulting in approximately **12,150-gallons** of untreated wastewater entering into Wash Creek. The gravity mains were cleaned, and the rim/lids were repaired to stop future spills at this site. The incident was identified by City staff at 10:45 am and ended at 2:48 pm. There were no known environmental impacts resulting from this overflow.

**Thursday, April 4, 2024,** an SSO totaling approximately **640-gallons** was experienced within the City's collection system.

This SSO resulted from a break in a sewer force main at 4423 Sugarloaf Rd resulting in approximately **640-gallons** of untreated wastewater entering Henderson Creek. At the date of this report, The City has identified and replaced approximately 1,500 linear feet of this force main to minimize spills at this location. The incident was identified by City staff at 9:35 am and ended at 11:18 am. There were no known environmental impacts resulting from this overflow.

**Monday, March 25, 2024,** an SSO totaling approximately **680-gallons** was experienced within the City's collection system.

This SSO resulted from a break in a sewer force main at 4309 Sugarloaf Rd resulting in approximately **680-gallons** of untreated wastewater entering into Henderson Creek. At the date of this report, The City has identified and replaced approximately 1,500 linear feet of this force



main to minimize spills at this location. The incident was identified by City staff at 2:22 pm and ended at 4:10 pm. There were no known environmental impacts resulting from this overflow.

**Monday, March 4, 2024**, an SSO totaling approximately **717-gallons** was experienced within the City's collection system.

This SSO resulted from a contractor hammering a guard rail post through a sewer force main at 55 Highland Golf Dr. resulting in approximately **717-gallons** of untreated wastewater eventually entering into Dye Branch. The incident was identified by City staff at 12:51 pm and ended at 1:18 pm. There were no known environmental impacts resulting from this overflow.

**Tuesday, January 9, 2024**, an SSO totaling approximately **3,410-gallons** was experienced within the City's collection system.

The SSO resulted from a non-locking lid at 502 South Whitted St during excessive rainfall (severe natural condition) resulting in approximately **3,410-gallons** of untreated wastewater entering Wash Creek. The incident was identified by City staff at 11:22 am and ended at 4:35 pm. The rim/lid was replaced with a locking rim/lid to minimize future SSO's. There were no known environmental impacts resulting from this overflow.

**Tuesday, January 9, 2024**, an SSO totaling approximately **866-gallons** was experienced within the City's collection system.

This SSO resulted from a non-locking rim/lid at 502 South Whitted St during excessive rainfall (severe natural condition) resulting in approximately **866-gallons** of untreated wastewater entering into Wash Creek. The incident was identified by City staff at 10:51 am and ended at 5:15 pm. The rim/lid was replaced with a locking rim/lid to minimize future SSO's. There were no known environmental impacts resulting from this overflow.

**Tuesday, January 9, 2024**, an SSO totaling approximately **3,410-gallons** was experienced within the City's collection system.

This SSO resulted from a non-locking rim/lid at 873 Lennox Park Dr during excessive rainfall (severe natural condition) resulting in approximately **3,410-gallons** of untreated wastewater entering Wash Creek. The incident was identified by City staff at 11:22 am and ended at 4:35 pm. The rim/lid was replaced with a locking rim/lid to minimize future SSO's. There were no known environmental impacts resulting from this overflow.

**Tuesday, January 9, 2024**, an SSO (sanitary sewer overflow) totaling approximately **345-gallons** was experienced within the City's collection system.

This SSO resulted from a locking rim/lid that was not locked correctly at 873 Lennox Park Dr during excessive rainfall (severe natural condition) resulting in approximately **345-gallons** of untreated wastewater entering Wash Creek. The rim/lid was locked correctly to stop the SSO. The incident was identified by City staff at 10:52 am and ended at 11:22 am. There were no known environmental impacts resulting from this overflow.

**Tuesday, January 9, 2024**, an SSO totaling approximately **610-gallons** was experienced within the City's collection system.

This SSO resulted from a manhole lid that was not bolted down correctly at 500 South Whitted St during excessive rainfall (severe natural condition) resulting in approximately **610-gallons** of untreated wastewater entering Wash Creek. The rim was cleaned and retaped to minimize future SSO's. The incident was identified by City staff at 12:10 pm and ended at 5:15 pm. There were no known environmental impacts resulting from this overflow.

**Tuesday, January 9, 2024,** an SSO totaling approximately **915-gallons** was experienced within the City's collection system.

This SSO resulted from a manhole lid that was not bolted down correctly at 500 South Whitted St during excessive rainfall (severe natural condition) resulting in approximately **915-gallons** of untreated wastewater entering Wash Creek. The rim was cleaned and retaped to minimize future SSO's. The incident was identified by City staff at 12:10 pm and ended at 5:15 pm. There were no known environmental impacts resulting from this overflow.

**Tuesday, January 9, 2024,** an SSO totaling approximately **231-gallons** was experienced within the City's collection system.

This SSO resulted from a rim/lid that was not a locking rim/lid and a flood event (severe natural condition) at 305 Blythe St resulting in approximately **231-gallons** of untreated wastewater entering Wash Creek. The rim/lid was replaced with a locking rim/lid to minimize future SSO's. The incident was identified by City staff at 9:27 am and ended at 10:00 am. There were no known environmental impacts resulting from this overflow.

**Tuesday, January 9, 2024,** an SSO totaling approximately **245-gallons** was experienced within the City's collection system.

This SSO resulted from a rim/lid that was not a locking rim/lid and a flood event (severe natural condition) at 1215 3<sup>rd</sup> Ave West resulting in approximately **245-gallons** of untreated wastewater entering Wash Creek. The rim/lid was replaced with a locking rim/lid to minimize future SSO's. The incident was identified by City staff at 9:43 am and ended at 10:30 am. There were no known environmental impacts resulting from this overflow.

**Tuesday, January 9, 2024,** an SSO totaling approximately **2,400-gallons** was experienced within the City's collection system.

This SSO resulted from a flood event (severe natural condition) that covered a non-locking manhole lid causing I&I at 323 Lawn Lane resulting in approximately **2,400-gallons** of untreated wastewater eventually entering an unnamed tributary to Johnson Drainage Ditch. This manhole rim/lid was replaced on 1/11/24 with a watertight locking rim/lid to help stop future spills. The incident was identified by City staff at 11:00 am and ended at 7:00 pm. There were no known environmental impacts resulting from this overflow.

**Tuesday, January 9, 2024,** an SSO totaling approximately **4,120-gallons** was experienced within the City's collection system.

This SSO resulted from a flood event (severe natural condition) that affected a non-locking manhole near pump station # 016 at 133 Winding Meadows Dr resulting in approximately **4,120-gallons** of untreated wastewater eventually entering into King Creek. The incident was identified by City staff at 9:08 am and ended at 4:00 pm. There were no known environmental impacts resulting from this overflow.

Note: After flood events our crews inspect low lying areas in search of damaged manholes.

III. Notification:

Copies of this report are available to the public at:

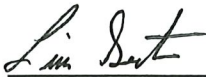
Hendersonville Water and Sewer  
City Operations Center  
305 Williams Street  
Hendersonville, North Carolina 28792  
8:00 AM – 5:00 PM (Monday through Friday)

Also published on the City's website at [www.hendersonvillenc.gov](http://www.hendersonvillenc.gov)

Customers on the City's wastewater system have been notified of this report by a press release to all electronic and print news media outlets that provide general coverage to the Henderson County area.

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 City of Hendersonville's wastewater collection system and that those users have been notified of its availability.

  
\_\_\_\_\_  
Tim Sexton, ORC  
Utility System Supervisor  
Hendersonville Water and Sewer

8/15/24  
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Date