

WASTEWATER PERFORMANCE REPORT



JULY 1, 2019 - JUNE 30, 2020

CHARLOTTE
WATER

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4222 Westmont Drive Charlotte, NC 28217

Note: photos taken before COVID-19 pandemic.

I. General Information

Name of Regulated Entity and Responsible Person

City of Charlotte
David Czerr, Interim Director
Charlotte Water (CLTWater)
Administration Division
4222 Westmont Drive
Charlotte, NC 28217
704-336-4407

Applicable Permits

There are seven wastewater treatment plants (WWTP) owned and operated by Charlotte Water (CLTWater). Below is a list of these facilities and their applicable NPDES (National Pollutant Discharge Elimination System) permit number. Included with the list of facilities is the name of the Operator in Responsible Charge (ORC) at the facilities and the site telephone numbers.

WWTP	NPDES Permit Number	ORC	Phone
Irwin Creek WWTP	NC0024945	Michael Lingerfelt	704-336-2572
Mallard Creek WRF	NC0030210	Henry Eudy	704-336-1024
McAlpine Creek WWMF	NC0024970	Sandy Kim Neely	704-542-0736
McDowell Creek WWTP	NC0036277	Darrell DeWitt	704-875-6443
Sugar Creek WWTP	NC0024937	William Allen	704-432-2510
Ashe Plantation WWTP	NC0065749	Jeremy Nance	704-634-3389
Oxford Glen WWTP	NC0063584	Jeremy Nance	704-634-3389

In addition to those seven plants, CLTWater sends wastewater to the Rocky River Regional Wastewater Treatment Plant through an agreement with the Water and Sewer Authority of Cabarrus County (WSACC). CLTWater also accepts flow from Union County to McAlpine Creek WWMF.

WW COLLECTION	NCDWQ Permit Number	ORC	Phone
4100 W. Tyvola Rd.	WQCS00001	Steven Wroblewski	704-432-2748

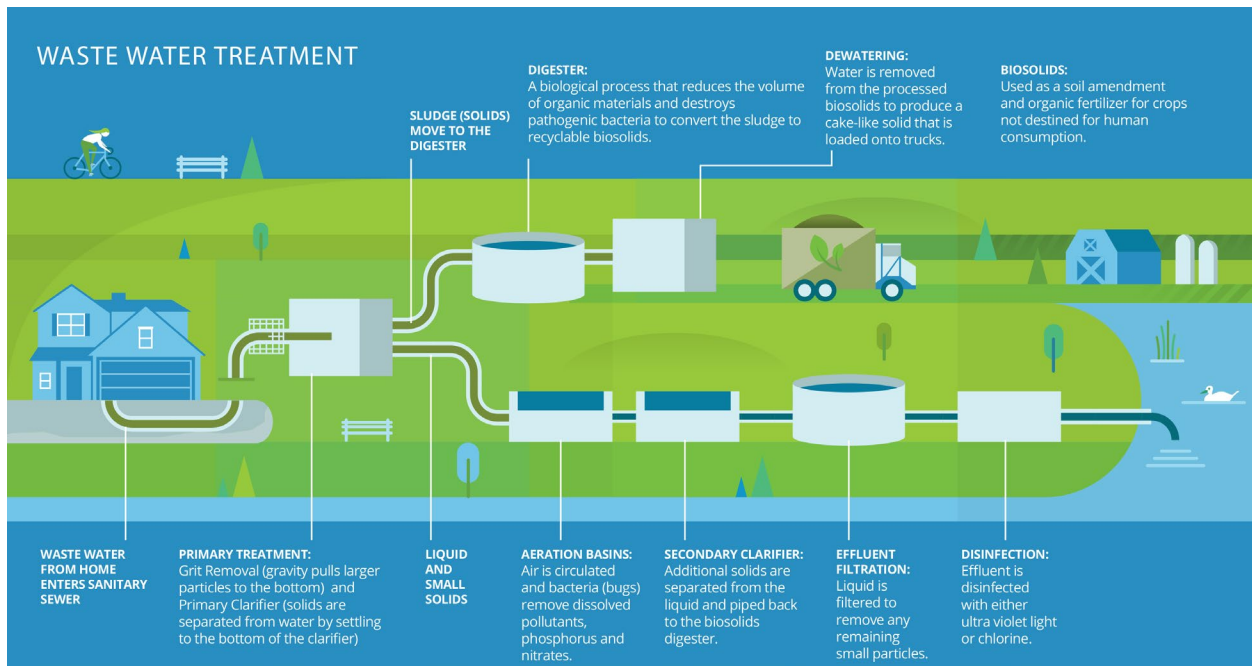
Description of collection and treatment systems

Charlotte Water (CLTWater) collects wastewater from approximately 270,640 households and businesses throughout the county. Wastewater is collected and directed (via gravity flow supported by sewage lift stations) to one of seven CLTWater wastewater treatment

plants or the Rocky River Regional Plant (owned and operated by the Water and Sewer Authority of Cabarrus County) where it is treated. An average of 88.8 million gallons of wastewater is treated and discharged each day from CLTWater plants. CLTWater contributes an average of 4.75 million gallons a day (MGD) to the Rocky River Plant. CLTWater also treats roughly 2.05 MGD from Union County at CLTWater’s McAlpine Creek Plant or roughly 4.25% of the 48.2 MGD treated at that plant.

More than 300 of CLTWater’s 997 employees work to maintain 4,420 miles of collection pipelines and 83 wastewater lift stations throughout the county. The gravity wastewater pipes in this system range in size from 8 inches in diameter to 78 inches in diameter.

Each of CLTWater’s wastewater treatment plants applies primary, secondary and advanced treatment to the waste stream. Large solid particles and inorganic materials are removed by screening and settling. The wastewater is treated biologically to remove dissolved pollutants. Disinfection reduces bacterial and pathogenic materials. Finally, the waste stream passes through granular filters to remove very small particles that may not have been removed through the settling process. The treated water is released to the nearby creek.



1. Primary Treatment

Solid particles & objects are captured by screens, grit chambers, and primary clarifiers.

2. Aeration/Secondary Treatment

Wastewater is aerated to support growth of microorganisms that remove harmful pollutants.

3. Clarification

Solids and microorganisms settle out in large basins.

4. Advanced Treatment

Wastewater flows through granular filters to remove fine particles. Nutrient levels are reduced at McDowell and McAlpine Creek Wastewater Treatment Plants.

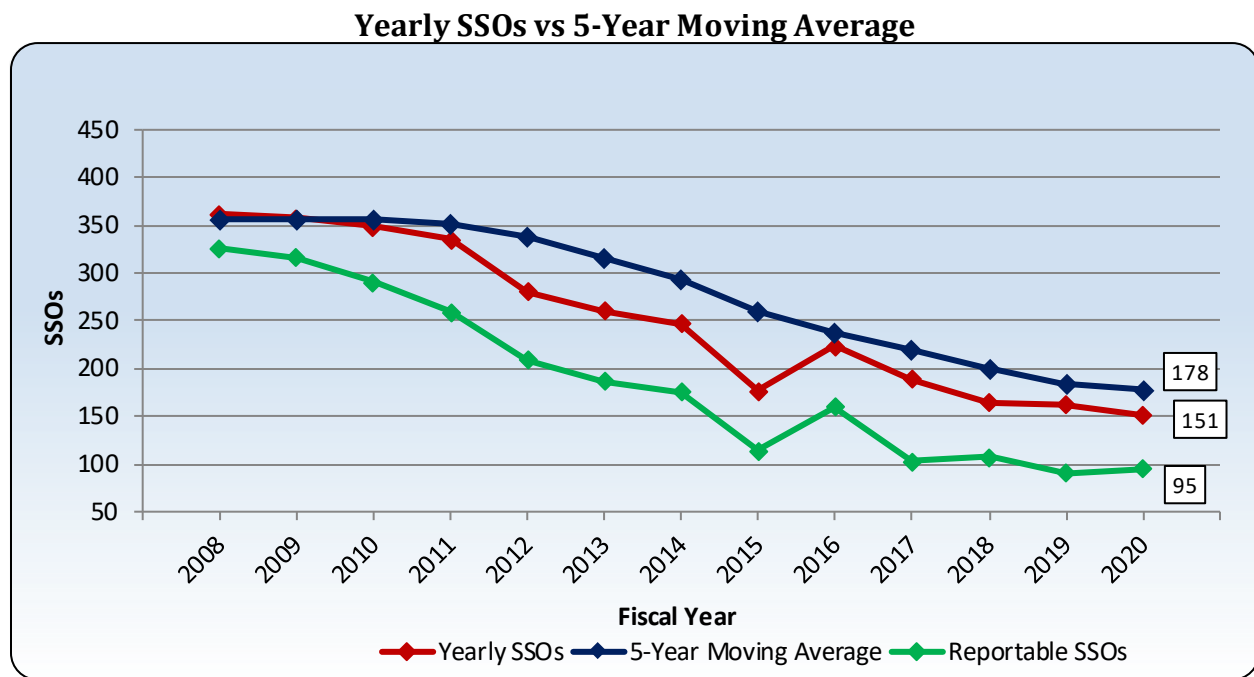
5. Disinfection

Water is disinfected to remove any remaining pathogens, and then the treated water is released into creeks.

II. Summary of System Performance

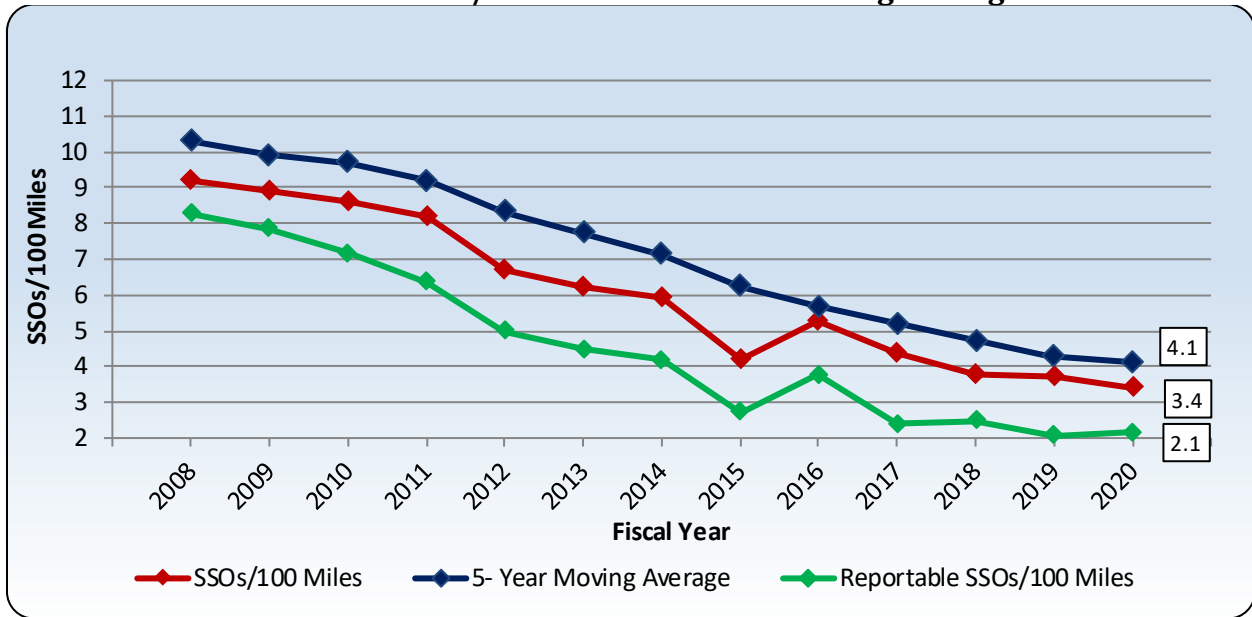
FY20 Performance

Charlotte Water successfully collected and treated 99.98 percent of the more than 32 billion gallons of wastewater the community produced in the past fiscal year. There were 151 sanitary sewer overflows (SSOs) in our community, a decrease of 11 spills compared to the year before.



The number of spills per 100 miles of pipe continued to decline from 9.2 in 2008 to 3.4 spills in fiscal year 2020 as illustrated by the table on page 4.

Number of SSOs/100 Miles vs 5-Year Moving Average



Inspection crews and our customers find overflows. Overflows from the wastewater collection system are discovered during routine inspections of the system and also through reports from the public to the 311 customer service call center. CLTWater notifies media any time a sanitary sewer overflow results in 1,000 gallons or more reaching surface waters or any size overflow reaching recreational waters. A legal notice is posted in the Charlotte Observer when overflows of 15,000 gallons or more reach surface waters. Crews also use door hangers to notify customers when appropriate, which is a permit requirement.

This annual report includes all incidents where wastewater escaped out of a public manhole or public collection system pipe before reaching proper treatment, including spills less than required reporting thresholds (i.e. less than 1,000 gallons or any amount reaching surface water). There were 95 reportable spills (by state definition) during fiscal year 2020, five more than the fiscal year 2019 total of 90. All spill response protocols are followed regardless of the spill volume or reporting status. Private spills and sewer backups inside homes are not included. The report summarizes spills (both reportable to the State and those escaping the sewer) and other challenges at wastewater treatment plants.

CLTWater employees work 24 hours a day, 365 days per year to prevent and respond to overflows. Crews prevent overflows by clearing pipes of tree roots and grease, as well as replacing broken and aging pipes. CLTWater has increased its efforts to educate customers about properly disposing of fats, oils and grease (FOG).

Performance Highlights

CLTWater celebrated some important milestones in FY2020 while taking numerous actions to prevent overflows and protect water quality through effective wastewater treatment.

- All seven wastewater treatment plants earned Peak Performance Awards from the National Association of Clean Water Agencies (NACWA) for the calendar year ending 2019. NACWA Peak Performance Awards recognize wastewater treatment professionals throughout the nation for protecting the environment and public health through outstanding treatment and discharge regulatory compliance.
 - McAlpine Creek Wastewater Treatment Plant was awarded its eighth Platinum Award for twelve consecutive years of perfect compliance. (Five years of perfect compliance are needed to achieve the award.)
 - McDowell Creek Wastewater Treatment Plant earned their third Platinum Award, and their seventh out of last twelve years.
 - Ashe Plantation, Oxford Glen, Mallard Creek, and Sugar Creek Wastewater Treatment Plants earned Gold Awards for zero permit violations in a one-year period.
 - Irwin Wastewater Treatment Plants earned a Silver Award, having only one permit violation in a one-year period.
 - Over 6,100 compliance tests were conducted during the 2019 calendar year.
- 13.2 miles of wastewater pipe and 264 manholes were rehabilitated or replaced.
- 405.5 miles of wastewater pipe were treated with root control chemicals.
- 944.5 miles of wastewater lines were cleaned (including some multiple cleanings in the same location) by CLTWater Field Operations Staff and an additional 113 miles of pipe were cleaned by contractors.
- 223 wastewater service connections were replaced.
- 47 miles of rights of way were cleared by contractors to maintain access to off-street sanitary wastewater pipes and to help prevent root intrusions. An additional 54 miles were cleared by CLTWater staff.
- 167 miles of pipe were closed-circuit television recorded (CCTV) for inspection by CLTWater staff and contractors.
- There are 83 Wastewater Lift Stations serving the CLTWater service area. Staff performed 177 preventative maintenance/electrical tasks for a total of 3,353 work hours. This does not include daily/weekly station checks, wet well cleaning, emergency generator testing, or emergency/routine repairs. Vineyards #2 Lift Station was added in fiscal year 20.
- McAlpine Creek Wastewater Treatment Plant captures and converts methane gas (a byproduct of wastewater treatment) into a fuel for electricity production and useful heat. In the past 12 months the Combined Heat & Power (CHP) system engine has generated more than 5 billion kilowatt hours of energy. Since it started running, the CHP has generated in excess of 18 billion kilowatt hours of clean energy approaching \$1 million in gross revenue back to the City. Methane gas is also generated at Irwin, McDowell, and Mallard WWTPs. There, methane gas is used to generate heat required for anaerobic digestion to treat the solids produced during the treatment process.

Capital & Community Investment Highlights

Projects in Progress in FY20

- Belmont and Optimist Park Wastewater Pipe Replacement Project (Little Sugar Creek Tributary Trunk Sewer North Tryon area) is underway and will be complete by April 2021. Approximately 6,327 LF of pipe is being upsized to serve the growing area around Belmont and Optimist Park neighborhoods. The project is an investment of \$12.3 million.
- Mallard Creek Wastewater Treatment Plant Rehabilitation and UV Upgrade Project consists of the rehabilitation and upgrade of the final clarifiers and their pumping stations, effluent filters, and UV disinfection system. Construction started in May 2020 with completion projected in August 2022.
- McMullen Basin Sanitary Sewer Improvement Project is underway and once design work is completed will go into construction this fall 2020.
- Paw Creek Sewer Outfall Replacement Project upsizes 13,000 LF of 18-inch and 24-inch pipe to serve growing area in western Mecklenburg County. The project started in April 2019. Approximately 70% of the pipe is installed and should be in service by December 2020. This is an investment of \$4.5 million.
- Stevens Creek Lift Station, Force Main & Gravity Sewer Project will serve the Goose Creek and Stevens Creek drainage basins, which includes the Town of Mint Hill. The project is the first step in providing public sewer service to an area that is predominantly on septic systems. This project will also facilitate the removal of a nearby package wastewater plant. The construction cost is \$20.375 million. Construction started late summer 2019 and will be completed by August 2021.
- McAlpine Creek 54-inch Sanitary Sewer Rehabilitation Project (Part of a Large Diameter Sanitary Sewer Rehabilitation program) is ongoing. Approximately 1.5 miles of deteriorated pipe, located in the McAlpine Creek basin, has already been renewed.

Projects Completed in FY20

- Doby Creek Sanitary Sewer Pipeline Improvement Project serves areas along the Blue Line Light Rail Extension. The pipeline project replaced 15,600 LF of gravity sewer to meet projected demands of the sub-basin.
- Four Mile Creek Tributary Wastewater Project upsized 4,300 LF of pipe to serve a growing area in the Town of Matthews. The project started in April 2019 and was completed in 2020. This was an investment of \$2.6 million.
- Irvins Creek Tributary Wastewater Improvement Project installed 3,850 LF of pipe to serve the Town of Mint Hill neighborhoods. The project started in January 2018 and was completed by the end of 2019. This was an investment of \$3.9 million.
- Wilmore Neighborhood Wastewater Pipe Replacement Project began October 2018 and is now in service. Approximately 6,246 LF of pipe was upsized to serve the growing area around the Wilmore and SouthEnd neighborhoods. The project was an investment of \$7.2 million.



Fats, Oils and Grease Education Highlights

- Charlotte Water started a fats, oil and grease reduction effort during the late 1990s to educate customers about food related clogs that lead to sanitary sewer overflows. In 2017, Charlotte Water rebranded to FlowFree to focus on other overflow contributors now that grease related spills continue to decline.
- CLTWater staff inspected grease-handling facilities at 3,154 food service establishments and restaurants (not including follow-up inspections) to ensure proper grease disposal. BMP Posters were distributed to the facilities to post. (2,739 posters distributed)
- Staff issued 117 Notices of Deficiency (NOD) of which 69 returned to compliance and 48 are still under investigation.
- Staff issued 3 Notices of Violation (NOV).
- 20 grease traps were installed by businesses to fulfill NOD requirements.
- Inspectors mailed information to 2,654 customers near spill sites and handed out information after spill events to 283 customers in apartments/multi-family complexes.
- Staff conducted educational presentations to more than 1,165 children and adults.
- Staff continues to provide bilingual door hangers and promotional items for property managers to give to new residents. Educational posters were also provided for managers to post. (1,868 posters provided)
- CLTWater used paid social media posts on Facebook and Instagram to target zip codes that experienced blockages or SSO's. Posts included an image and the cause of a blockage and reached more than 100,000 Mecklenburg county residents. In addition, Charlotte Water produced 15- and 30-second radio commercials in both English and Spanish educating the public about not putting grease down the drain or flushing wipes. These commercials ran on five different radio stations for a three-month period.
- A new multi-family outreach team was created in the System Protection division that worked closely with the communications team to create a multi-pronged outreach plan for multi-family units that were causing blockages or SSO's in the system. The plan included targeted doorhangers, pop up events, meetings with facilities staff and residents, educational materials and if necessary, enforcement techniques.
- Communications staff posted social media alerts on Nextdoor to inform residents when spills occurred exceeding 1,000 gallons in creeks or any amount that reached recreational water.

Continuing Challenges

Wastewater Collection Challenges

The greatest continuing wastewater challenge in this community – and in others across the U.S. – is sewage overflows. Of the 151 sewer spills that occurred; debris, grease, and roots accounted for most of the sanitary sewer overflow causes.

The largest individual spill was on February 6, 2020 near 1721 Lela Avenue in Charlotte, NC. An estimated 2,163,000 gallons reached Stewart Creek in the Catawba River watershed. The overflow was caused by heavy rain eroding the creek bank breaking a wastewater pipe. Crews quickly found the overflow and began pumping wastewater around the broken pipe to stop the discharge into the creek. This one spill accounted for more than 86 percent of the total gallons spilled this year.

Twelve spills were caused by private contractors.

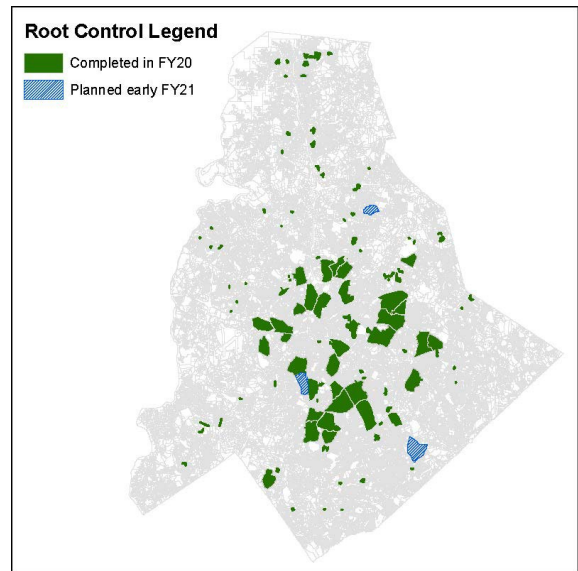
Twenty-eight spills were 100 gallons or less with twelve of those being 50 gallons or less.

The number of overflows caused by tree roots are up slightly from the previous year. CLTWater has responded with a robust tree root control program.

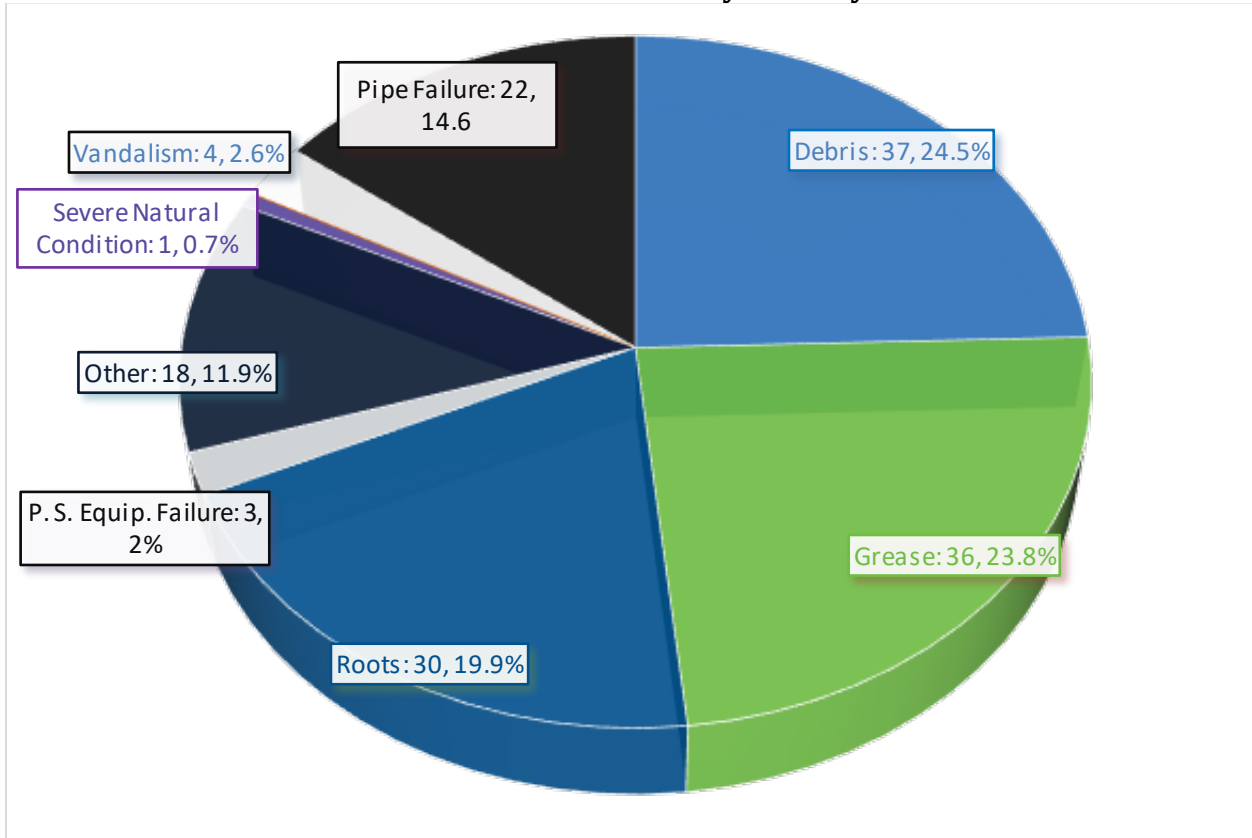
Mainline blockages, by any cause and including those unrelated to overflows, have increased from 101 in fiscal year 2019 to 114 in fiscal year 2020.

Debris blockages increased between January and the end of June 2020. Staff estimate that the increase could be attributed to non-dissolvable material for sanitizing surfaces in businesses and homes during the COVID-19 crisis.

Also, in response to these challenges, staff are researching SSO clusters to identify and prioritize work to minimize overflows. They are also investigating possible solutions to prevent low pressure sewer system overflows.



Fiscal Year 2020 Overflows by Primary Cause



Grease and other blockages that lead to sewer overflows are cleared by CLTWater crews using various cleaning methods, including mechanical rodders and truck-mounted water jets. The spilled wastewater can sometimes be captured and pumped back into the sewer system. After cleaning, if follow up CCTV discovers damaged pipe, a repair is initiated based on CLTWater’s “Find and Fix” protocols.

CLTWater Rapid Response Crews are quick to respond when notified of a possible spill. Crews responded to more than 90.7 percent of the spills within 60 minutes and 98 percent of the spills within 120 minutes. The average for all response was 33 minutes. The state standard for response is 120 minutes or less.

Field Operations – Critical Assets Group

Regular inspections are performed by Field Operation - Critical Assets group which was established to inspect all high priority and vulnerable lines. The Critical Assets group has expanded their inspection responsibilities to include additional areas not previously considered vulnerable. In addition, as part of a collaboration effort with the Mecklenburg County Water Quality group this plan has resulted in finding numerous stream bank erosion problems, not previously seen, which threaten sanitary sewer lines. A contract for streambank restoration, which protects sanitary lines, was established several years ago and has been renewed. The team also expanded CLTWater’s preventative overflow measures by installing 58 SmartCover level sensors, with 150 total planned.

Wastewater Treatment Plant Challenges

Charlotte Water's wastewater treatment plants met 99.98 percent of all discharge limit tests set forth by our NPDES permits. Staff continues to improve maintenance capabilities and overall performance. Major rehabilitation and improvement projects help maintain compliance.

On January 25th, 2020 a contractor bored into the wastewater sludge line near 2601 Archdale Drive. The sludge line conveys sludge from Sugar Creek Wastewater Treatment Plant to the McAlpine Creek Wastewater Treatment Plant. An estimated 5,500 gallons reached the Lower Little Sugar Creek.

Sugar Creek Wastewater Treatment Plant exceeded its permitted weekly max CBOD winter limit (15 mg/L) between 2/9/20-2/15/20 with a weekly average of 19.8 mg/L. This CBOD weekly average exceedance was due to an extreme wet weather event. The State of North Carolina issued CLTWater a Notice of Deficiency instead of a Notice of Violation in recognition that this event was beyond any reasonable control of CLTWater. The Sugar Creek WWTP met all other permitted requirements during this event

Charlotte Water System Protection

CLTWater System Protection operates within CLTWater's service area to enforce federal, state, and local regulations pertaining to discharges to the sanitary sewer, including protection of workers and treatment processes from pollutants harmful to people or the environment. System Protection includes the Industrial Pretreatment Program and the Commercial Source Program.

The Pretreatment Program identifies, permits, and regulates industrial users and others to keep unsuitable discharges out of the wastewater treatment plants. The Commercial Source Program, also referred to as Flow Free, inspects and regulates commercial users, such as food service establishments, to keep unsuitable discharges such as fats, oils and grease out of the collection system and wastewater treatment plants.

While industrial and commercial compliance is extremely high, identifying sources of potentially harmful discharges is an ongoing challenge. In fiscal year 2020, the Trunkline Monitoring program also continued, enabling CLTWater's System Protection and Water Quality staff to closely observe what industrial, institutional, and commercial customers discharge to the wastewater treatment plants, identify potential problem areas, and protect the collection system, wastewater line workers, treatment plants and the environment.

- There were over 150 industrial inspections and site visits in the past fiscal year. System Protection did not conduct any inspections or site visits during April, May, or June 2020 due to restrictions related to the COVID-19 pandemic. System Protection maintained communication with industrial customers throughout this time and ensured compliance with all monitoring and permit requirements. Inspections resumed in July 2020 with appropriate pandemic precautions.

- As part of the Commercial Source program, food service establishments and other grease producing businesses are identified and inspected on an annual basis. These inspections were also paused in March 2020 due to COVID-19 and resumed in June 2020. Compliance was monitored during this time using a document tracking software system.
- During fiscal year 2020 the Commercial Source program continued their outreach program specifically focused on multi-family housing properties.
- CLTWater honored 27 local companies with Environmental Excellence Awards in fiscal year 2020 including:
 - 2 Platinum recipients for at least five consecutive years of Gold level compliance and reporting,
 - 12 Gold recipients for 100% compliance with permit limits and reporting and
 - 13 Silver recipients for 90% compliance with permit limits and 100% compliance with reporting.
- CLTWater recorded 313 industrial permit limit violations for effluent samples collected by Significant Industrial Users (SIU) during the past fiscal year, resulting in a Notice of Violation, Notice of Non-Compliance, Administrative Order, or similar assessment.
- 46 Notices of Violation with Civil penalties were assessed to users during the fiscal year for permit limit exceedances and other violations.

Wastewater Capacity Needs

Charlotte Water is currently in the design and permitting phase for its sixth main WWTP, the Stowe Regional Water Resources Recovery Facility (WRRF), and currently plans to have Phase 1 of the WRRF online in 2024. Phase 2 will be planned for implementation in the future. There are several conveyance projects associated with the development of the Stowe Regional WRRF that will change the current WWTP service area delineation. Two new pump stations will be built to allow Charlotte Water to support the region with wastewater service by conveying wastewater from the City of Mount Holly and City of Belmont in Gaston County. The pump stations will pump wastewater under the Catawba River and into the Charlotte Water wastewater system. Similar to Union County, the agreements between Charlotte Water and Mount Holly, and Belmont, are interlocal agreements (ILA) for wholesale wastewater conveyance and treatment.

In 2007 a study of the McAlpine, Irwin and Sugar creek basins was completed to help identify our community's future wastewater treatment capacity needs through the year 2030. Projects at the Irwin Creek and Sugar Creek WWTPs have been completed during this year, bringing the reliable treatment capacity up to 15 and 16 MGD, respectively. Significant flow and load reduction at the McAlpine WWTP will be accomplished by converting the Long Creek Lift Station into the Stowe Regional WRRF, allowing wastewater flows from the western part of Mecklenburg county to be treated in their native watershed basin.

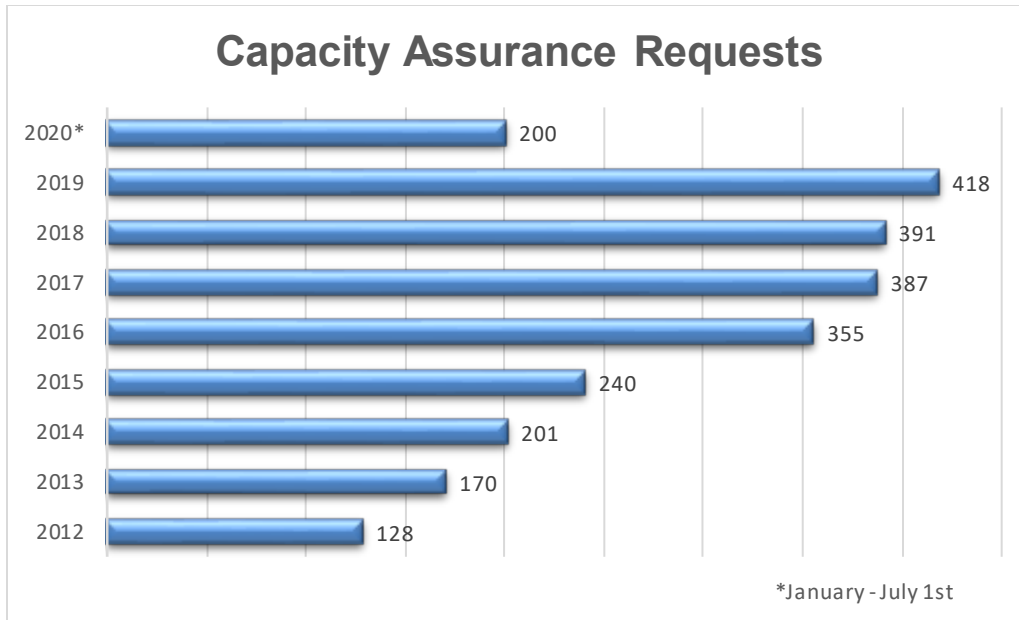
Charlotte Water's Wastewater Master Plan is a comprehensive planning effort to evaluate system needs across the entire wastewater system. This planning effort will provide a guiding framework and vision for system performance as well as a capital expenditure roadmap to ensure priorities are addressed in a cost effective manner. The master plan's completion is expected to be in spring 2021.

Major studies of the Mallard and McDowell sewer basins have been completed and provide recommendations to address existing collection system and treatment capacity issues. In accordance with the recommendation from the Mallard basin study, work is well underway to expand the Mallard Creek WRF capacity from 12 to 13.1 MGD by the end of 2021 with additional phases of expansion to follow. The granular activated sludge pilot project at the McDowell WWTP was completed this year. Evaluation of this pilot study will determine the long term effectiveness of this technology at the McDowell WWTP. Expansion of the McDowell treatment facility is expected to begin within the next five years.

The 1990 engineering study of the area surrounding Lake Norman and Mountain Island Lake outlined appropriate areas where low pressure sanitary sewer, which can be costly to maintain for homeowners and the utility, was deemed appropriate for conveying wastewater to a treatment facility. In late 2020, this study will be updated to capture development and system configuration changes that have occurred over the past 30 years. The update will also utilize GIS to identify on a map where low pressure sewer services are a feasible option as redevelopment occurs and provide a framework for CLTWater to address plans seeking to implement low pressure sewer around the lakes as well as throughout the county.

CLTWater's Capacity Assurance Program (CAP) was implemented on January 1, 2009. CAP helps CLTWater prevent sanitary sewer overflows (SSOs) that could be caused by adding too many customers' wastewater flow to an existing pipe. Developers are encouraged to apply for a CAP review during the early stages of requesting building permits or rezoning. This review process is performed at no cost to the applicant. Engineers analyze hydraulic models, past spills in the area and other field data to verify that there is adequate capacity in the pipes downstream. If no major sewer capacity limitations are found during the review, applications are generally approved in 30 days. Some reviews lead to identification of capital pipeline projects to improve the service level to our current customers as well as accommodate projected development.

Examples of projects identified from the CAP reviews are mentioned on pages 6-7.



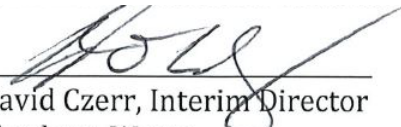
III. Notification

Sanitary sewer overflow and wastewater treatment plant details are included in Sections V and VI.

This report is available to the users or customers of this system by visiting <http://charlottewater.org>. Printed copies are available at the Charlotte-Mecklenburg Government Center at 600 E. Fourth Street, Charlotte, NC 28202, Charlotte Water buildings at 4222 Westmont Drive, Charlotte, NC 28217 and at 5100 Brookshire Boulevard, Charlotte, NC 28216. Customers of this system will receive a summary version of this report and will be notified of the availability of this comprehensive version via a bill insert in the September water bill. A news release will be issued to local media outlets. In addition, the summary version will be translated into Spanish and advertised during the month of September in a regional Spanish-speaking newspaper. The Spanish version will also be on the Charlotte Water website.

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.



 David Czerr, Interim Director
 Charlotte Water

8/26/2020
 Date

V. Listing of Sewer Spills

The following is a list of spills (in gallons) from the public wastewater system that occurred between July 1, 2019 and June 30, 2020.

Date	Volume (Gallons)	Volume to Surface Water	Surface Water Name	Fish Kill?	Address	Primary Cause
7/1/2019	2700	1350	Mallard Creek	No	8615 William Ficklen Dr	Pipe Failure
7/1/2019	1200	600	Stewart Creek (Irwin)	No	812 Reliance St, 28208	Grease
7/8/2019	2100	1050	McAlpine Creek	No	10909 Valley Spring Dr	Debris In Line
7/14/2019	475	475	Lower Little Sugar Creek	No	619 E 37th St, 28205	Roots
7/15/2019	60	0	Sugar Creek	No	3126 Park Rd, 28209	Other – contractor bored into pipe
7/17/2019	120	120	Upper Little Sugar Creek	No	3600 Philemon Av	Pipe Failure
7/21/2019	1720	1720	Irwin Creek	No	604 West Bv	Other – bypass failure due to large rock picked up from sewer
7/21/2019	875	0	Stewart Creek (Irwin)	No	1009 Capps Hollow Dr	Pipe Failure
7/24/2019	600	600	Briar Creek	No	3500 Colony Rd, 28211	Grease
7/28/2019	920	0	Long Creek	No	4740 Selari Ct	Grease
7/31/2019	4650	4650	Long Creek	No	5522 Laborde Av	Vandalism
8/7/2019	120	0	Lake Norman	No	17103 Freshwater Ln, Cornelius	Other – low pressure sewer box broken by private contractor excavation evidence
8/20/2019	128	0	Irwin Creek	No	109 W Catherine St	Other – concrete or grout substance

						pumped in by private contractor
8/20/2019	1190	500	McMullen Creek	No	3100 Mill Pond Rd, 28226	Debris In Line
8/24/2019	76	0	Mallard Creek	No	6518 Wild Orchid Ct	Roots
8/26/2019	2100	2100	Clarke Creek	No	8932 Arbor Creek Dr	Debris In Line
8/28/2019	35	0	Stewart Creek (Irwin)	No	4331 Chesapeake Dr	Roots
8/29/2019	70	0	McDowell Creek	No	18253 Conductor Ct, Huntersville	Grease
8/30/2019	376	376	Mallard Creek	No	327 Hawks Moor Ct	Grease
9/3/2019	1660	880	Stewart Creek (Irwin)	No	1009 Fairground St	Grease
9/6/2019	990	990	Stewart Creek (Irwin)	No	3600 Brookshire Blvd	Pipe Failure
9/9/2019	2250	2250	Upper Little Sugar Creek	No	919 Bannister Pl	Pipe Failure
9/11/2019	151	0	Lake Wylie	No	16804 Lookout Landing Ln, 28278	Pipe Failure
9/12/2019	255	0	Lake Norman	No	17103 Freshwater Ln	Other – private contractor damaged low pressure box
9/12/2019	55	0	Stewart Creek (Irwin)	No	3901 Corporation Cr	Debris In Line
9/16/2019	375	200	Mallard Creek	No	8445 Davis Lake Py, 28269	Roots
9/16/2019	80	70	Upper Little Sugar Creek	No	6514 Farmway Pl	Roots
9/18/2019	514	514	Sugar Creek	No	10616 Granite St	Debris In Line
9/20/2019	81	0	Lake Norman	No	20405 Southshore Dr, Cornelius	Pipe Failure
9/20/2019	984	984	Briar Creek	No	2428 Kingsbury Dr	Pipe Failure
9/21/2019	95	0	Lower Little Sugar Creek	No	9536 Loblolly Ln	Roots
9/25/2019	292	292	Lower Little Sugar Creek	No	1700 Abbey Pl	Debris In Line
10/1/2019	550	550	Irwin Creek	No	225 S Mint St	Grease

10/4/2019	700	350	Four Mile Creek	No	1741 Weddington Rd, Matthews	Other- contractor bypass mistake by CLTWater contractor
10/6/2019	483	0	Four Mile Creek	No	9000 Raintree Ln	Roots
10/7/2019	130	0	Lake Norman	No	19000 Mary Ardrey Cr, Cornelius	Pipe Failure
10/8/2019	2925	2925	Lower Mountain Island Lake	No	3451 Rocky Branch Dr.	Grease
10/9/2019	555	0	Paw Creek	No	7429 Honey Flower Pl, 28214	Grease
10/9/2019	101	0	Four Mile Creek	No	700 Crestdale Dr, Matthews	Pipe Failure
10/11/2019	197	0	Mallard Creek	No	7736 Ambleside Dr	Roots
10/15/2019	58	0	Lower Little Sugar Creek	No	550 Hartford Av	Grease
10/19/2019	870	435	Campbell Creek (McAlpine)	No	1232 Jenkins Dr	Grease
10/21/2019	231	0	McMullen Creek	No	6555 Morrison Bv	Grease
10/21/2019	188	0	Irwin Creek	No	4135 Chesapeake Dr	Roots
10/22/2019	60	0	Studman Branch	No	18124 Rosapenny Rd	Other – private contractor damaged low pressure box
10/25/2019	125	50	Lower Mountain Island Lake	No	2801 Mt Isle Harbor Dr, 28214	Pipe Failure
10/25/2019	1480	1480	Caldwell Creek	No	17318 Cambridge Grove Dr, Huntersville	Debris In Line
10/28/2019	108	108	Lower Little Sugar Creek	No	2437 Bergen Ct	Debris In Line
11/1/2019	700	350	Lake Norman	No	18291 Jetton Rd, Cornelius	Pump Station Equipment Failure
11/3/2019	395	395	Four Mile Creek	No	3223 Windbluff Dr	Debris In Line
11/7/2019	950	950	Rocky River	No	3553 Calpella Ct	Debris In Line
11/12/2019	150	150	McMullen Creek	No	6756 Constitution Ln	Roots
11/13/2019	185	0	McDowell Creek	No	11515 Vanstory Dr, Huntersville	Debris In Line

11/14/2019	235	0	Lake Norman	No	18740 Ramsey Cove Dr	Pipe Failure
11/26/2019	1545	0	Irwin Creek	No	600 French St	Pipe Failure
11/27/2019	30	0	Irwin Creek	No	3313 Dawnshire Av	Roots
11/28/2019	685	685	Lower Mountain Island Lake	No	11543 Carnsore Ct	Roots
12/2/2019	105	105	Irwin Creek	No	2646 Toomey Ave	Debris In Line
12/3/2019	92	92	Irwin Creek	No	512 E Tremont Av	Grease
12/4/2019	4380	4380	Beaverdam Creek	No	9419 Inverness Bay Rd	Vandalism
12/6/2019	2400	2400	McAlpine Creek	No	5204 Whisperwood Pl	Vandalism
12/7/2019	2400	2400	Sugar Creek	No	700 Yorkdale Dr, 28217	Grease
12/10/2019	36	0	Briar Creek	No	1122 Plaza Walk Dr	Grease
12/11/2019	490	100	Mallard Creek	No	12000 Lavershire Ct	Grease
12/13/2019	1250	1250	Lower Little Sugar Creek	No	601 S Kings Dr	Grease
12/16/2019	345	345	Sugar Creek	No	343 Scottridge Dr	Other
12/16/2019	43	0	Paw Creek	No	2640 Westerwood Village Dr	Grease
12/17/2019	54	20	Irwin Creek	No	3113 Southwest Bv	Grease
12/20/2019	120	0	Upper Little Sugar Creek	No	3005 Manor Rd	Pipe Failure
						Other - illegal discharge of high volume of storm / ground water by a private contractor pumping
12/21/2019	900	850	Catawba River	No	3701 Performance Rd	
12/21/2019	730	365	McMullen Creek	No	4418 Deepwood Dr	Grease
12/26/2019	160	160	Irwin Creek	No	1425 Bryant St	Grease
12/27/2019	44	0	Sugar Creek	No	7116 Bridlespur Ln	Pipe Failure
12/27/2019	365	0	Sugar Creek	No	4800 Wallingford St, 28217	Debris In Line

12/27/2019	70	0	Rocky River Tributary	No	8604 Branscomb Dr	Debris In Line
12/30/2019	582	582	Briar Creek	No	3411 Burkland Dr	Grease
1/6/2020	212	0	Irwin Creek	No	4709 Victory Ln	Roots
1/8/2020	50	0	Lake Norman	No	19709 Outermark Ln, Cornelius	Pump Station Equipment Failure
1/8/2020	99560	74570	Clems Branch	No	16824 District South Dr	Debris In Line
1/8/2020	240	230	McAlpine Creek	No	3515 Bon-Rea Dr	Roots
1/10/2020	215	215	McAlpine Creek	No	6900 Sardis Green Ct, 28270	Debris In Line
1/11/2020	230	0	Lower Little Sugar Creek	No	6319 Hazelton Dr	Grease
1/12/2020	156	156	Lower Little Sugar Creek	No	3478 N Davidson St	Grease
1/16/2020	66	0	Long Creek	No	10608 Carver Falls Rd	Grease
1/17/2020	800	800	Beaverdam Creek	No	9025 Windygap Road- Beaverdam Liftstation	Other
1/21/2020	270	0	Campbell Creek (McAlpine)	No	4191 Luke Crossing Dr	Grease
1/27/2020	270	270	McMullen Creek	No	4223 Denbigh Dr.	Pipe Failure
1/27/2020	1400	1400	Lower Mountain Island Lake	No	4767 Polo Gate Bv	Debris In Line
2/2/2020	1117	1117	Briar Creek	No	5124 Carriage Drive Cr	Debris In Line
2/4/2020	600	300	McAlpine Creek	No	3830 River Ridge Rd	Debris In Line
2/6/2020	2163000	2163000	Stewart Creek (Irwin)	No	1721 Lela Ave	Severe Natural Condition
2/7/2020	131835	131835	Paw Creek	No	8924 Old Dowd Rd	Pump Station Equipment Failure during a storm which caused high volume of influent into the station
2/8/2020	850	850	Sugar Creek	No	8740 Green Ivy Ln	Debris In Line

2/9/2020	855	426	Doby Creek	No	6129 Spanish Moss Ln	Debris In Line
2/11/2020	710	355	Lower Little Sugar Creek	No	329 Alberto St	Other – rags, paper, wipes, grease and a cable bored into the pipe.
2/14/2020	125	0	Campbell Creek (McAlpine)	No	5624 Executive Center Dr	Other – private contractor damaged boring through the pipe
2/17/2020	170	170	Briar Creek	No	3725 Audrey St	Grease
2/17/2020	360	360	Irwin Creek	No	3101 Barringer Dr	Other – ring on manhole damaged and fell into manhole. Caused by construction machinery
2/17/2020	1770	885	Clarke Creek	No	10225 Lampkin Wy	Roots
2/24/2020	570	570	Briar Creek	No	3410 Burkland Dr	Vandalism
2/26/2020	750	750	Back Creek	No	13502 Brandon Trail Dr	Pipe Failure
2/27/2020	135	0	Stewart Creek (Irwin)	No	2145 Highland St	Debris In Line
3/1/2020	990	990	Catawba River	No	11630 Northwoods Forest Dr	Grease
3/2/2020	2352	2352	Irwin Creek	No	4000 Stuart Andrew Bv	Pipe Failure
3/7/2020	55	0	McAlpine Creek	No	7122 Windyrush Rd	Roots
3/9/2020	460	460	Paw Creek	No	5301 Terminal St	Grease
3/10/2020	116	116	Four Mile Creek	No	9316 New Towne Dr, Matthews	Roots
3/13/2020	748	374	Mallard Creek	No	2300 W.T. Harris Blvd	Other-private contractor damage by boring cable through pipe
3/15/2020	120	0	Lake Norman	No	20402 Staghorn Ct, Cornelius	Pipe Failure

3/20/2020	100	0	Stewart Creek (Irwin)	No	2621 Ashley Rd	Roots
3/21/2020	162	162	Upper Little Sugar Creek	No	325 Hawthorne Ln	Debris In Line
3/25/2020	185	92	Irwin Creek	No	1301 Mulberry Av	Roots
3/25/2020	730	730	Stewart Creek (Irwin)	No	2620 Celia Av, 28216	Debris In Line
3/25/2020	990	990	Upper Little Sugar Creek	No	4504 Beechway Cr	Roots
4/1/2020	660	660	Sugar Creek	No	1938 Choyce Cr	Pipe Failure
4/1/2020	48	0	Upper Little Sugar Creek	No	801 Kenilworth Av	Grease
4/2/2020	85	0	Lake Norman	No	16900 Shipswatch Pl	Other – low pressure box / pipe broken
4/4/2020	15	0	McAlpine Creek	No	6054 Old Providence Rd	Debris In Line
4/10/2020	4600	4600	Lower Little Sugar Creek	No	7980 Shady Oak Tr	Other – private plumber damage pipe causing blockage
4/13/2020	485	350	Briar Creek	No	5513 Lawrence Orr Rd	Roots
4/14/2020	107	0	Sugar Creek	No	6818 Fieldvale Pl	Roots
4/15/2020	104	52	Stewart Creek (Irwin)	No	2529 Rozzelles Ferry Rd	Debris In Line
4/16/2020	3920	3920	Stewart Creek (Irwin)	No	1024 Montana Dr	Pipe Failure
4/18/2020	285	0.00	Lake Norman	No	13816 Island Dr	Other – low pressure sewer valve open
4/20/2020	225	225	Campbell Creek (McAlpine)	No	9023 E W T Harris Bv	Debris In Line
4/24/2020	350	350	McAlpine Creek	No	11827 Post Ridge Ct	Roots
4/27/2020	1095	0.00	Campbell Creek (McAlpine)	No	2121 Margaret Wallace Rd	Grease

4/27/2020	7037.5	7037.5	Clarke Creek	No	502 N Old Statesville Rd, Huntersville	Other – private electrical contractor damaged pipe
4/28/2020	5	0	Irwin Creek	No	2009 St Paul St	Grease
5/3/2020	36	0	Lower Little Sugar Creek	No	416 Lamar Av	Roots
5/6/2020	176	0	Upper Little Sugar Creek	No	600 E 35th St	Debris In Line
5/12/2020	4390	4390	Long Creek	No	11205 Reames Rd	Debris In Line
5/14/2020	1975	1975	Campbell Creek (McAlpine)	No	6600 Providence Rd	Debris In Line
5/22/2020	198	0	McAlpine Creek	No	552 W Charles St, Matthews	Debris In Line
5/23/2020	950	950	Toby Creek	No	724 W Rocky River Rd	Debris In Line
5/26/2020	300	300	Campbell Creek (McAlpine)	No	5840 Donegal Dr	Roots
5/26/2020	575	560	Clear Creek	No	8935 Driftwood Commons Ct, Mint Hill	Debris In Line
5/27/2020	185	185	Stewart Creek (Irwin)	No	3144 Freedom Dr	Debris In Line
5/28/2020	815	815	McAlpine Creek	No	6200 Summertree Ln, 28226	Roots
5/31/2020	1195	1195	Long Creek	No	1602 Oak Knoll Ln	Grease
6/4/2020	28.5	0	Long Creek	No	9501 Saddle Run Trl	Roots
6/9/2020	750	750	Toby Creek	No	6129 Spanish Moss Ln	Debris In Line
6/10/2020	1580	1580	Kings Branch	No	5609 Alanhurst Pl	Debris In Line
6/11/2020	336	0	Clarke Creek	No	10310 Lafoy Dr, Huntersville	Grease
6/13/2020	297	89	Six Mile Creek	No	6603 Flat Creek Dr	Roots
6/17/2020	136	136	Irwin Creek	No	119 Mint St	Debris In Line
6/21/2020	1010	1010	Four Mile Creek	No	3136 Shallowood Ln	Grease
6/21/2020	40	40	Toby Creek	No	827 Foxborough Rd	Roots
6/26/2020	1180	0.00	McAlpine Creek	No	1300 Greylyn Dr	Roots
6/28/2020	828	0	Lake Wylie	No	17818 Burnt Hickory Dr	Pipe Failure

6/29/2020	755	377.5	Back Creek	No	10100 Mayhurst Ct	Grease
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TOTAL NUMBER OF FY2020 COLLECTION SYSTEM SPILLS: 151

Volume Safely Collected, Treated & Discharged During Fiscal Year 2020: 32,477,000,000 Gallons (99.99%)
 Volume Spilled: 2,505,580 Gallons

VI. Permit Compliance and Reporting Violations, by plant

Ashe Plantation WWTP -- NPDES Permit #NC0065749

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2019	NA	NA
August, 2019	NA	NA
September, 2019	NA	NA
October, 2019	NA	NA
November, 2019	NA	NA
December, 2019	NA	NA
January, 2020	NA	NA
February, 2020	NA	NA
March, 2020	NA	NA
April, 2020	NA	NA
May, 2020	NA	NA
June, 2020	NA	NA

Irwin Creek WWTP -- NPDES Permit #NC0024945

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
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July, 2019	NA	NA
August, 2019	NA	NA
September, 2019	NA	NA
October, 2019	NA	NA
November, 2019	NA	NA
December, 2019	NA	NA
January, 2020	NA	NA
February, 2020	NA	NA
March, 2020	NA	NA
April, 2020	NA	NA
May, 2020	NA	NA
June, 2020	NA	NA

Mallard Creek WRF -- NPDES Permit #NC0030210

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2019	NA	NA
August, 2019	NA	NA
September, 2019	NA	NA
October, 2019	NA	NA
November, 2019	NA	NA
December, 2019	NA	NA
January, 2020	NA	NA
February, 2020	NA	NA
March, 2020	NA	NA
April, 2020	NA	NA
May, 2020	NA	NA
June, 2020	NA	NA

McAlpine Creek WWTF -- NPDES Permit #NC0024970

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2019	NA	NA
August, 2019	NA	NA
September, 2019	NA	NA

October, 2019	NA	NA
November, 2019	NA	NA
December, 2019	NA	NA
January, 2020	NA	NA
February, 2020	NA	NA
March, 2020	NA	NA
April, 2020	NA	NA
May, 2020	NA	NA
June, 2020	NA	NA

McDowell Creek WWTP -- NPDES Permit #NC0036277

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2019	NA	NA
August, 2019	NA	NA
September, 2019	NA	NA
October, 2019	NA	NA
November, 2019	NA	NA
December, 2019	NA	NA
January, 2020	NA	NA
February, 2020	NA	NA
March, 2020	NA	NA
April, 2020	NA	NA
May, 2020	NA	NA
June, 2020	NA	NA

Oxford Glen Plantation WWTP -- NPDES Permit #NC0065384

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2019	NA	NA
August, 2019	NA	NA
September, 2019	NA	NA
October, 2019	NA	NA
November, 2019	NA	NA
December, 2019	NA	NA

January, 2020	NA	NA
February, 2020	NA	NA
March, 2020	NA	NA
April, 2020	NA	NA
May, 2020	NA	NA
June, 2020	NA	NA

Sugar Creek WWTP -- NPDES Permit #NC0024937

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2019	NA	NA
August, 2019	NA	NA
September, 2019	NA	NA
October, 2019	NA	NA
November, 2019	NA	NA
December, 2019	NA	NA
January, 2020	NA	NA
February, 2020	Weekly CBOD Violation	NA
March, 2020	NA	NA
April, 2020	NA	NA
May, 2020	NA	NA
June, 2020	NA	NA