



WASTEWATER PERFORMANCE REPORT



JULY 1, 2022 - JUNE 30, 2023

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4222 Westmont Drive Charlotte, NC 28217

I. General Information

Name of Regulated Entity and Responsible Person

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

Applicable Permits

There are six 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	Jacob Bolick	704-336-2572
Mallard Creek WRF	NC0030210	Henry Eudy	704-336-1024
McAlpine Creek WWMF	NC0024970	Reid Smith	704-542-0736
McDowell Creek WWTP	NC0036277	Dan Matias	704-336-1125
Sugar Creek WWTP	NC0024937	Donna Slachciak	704-432-2510
Ashe Plantation WWTP	NC0065749	Jeremy Nance	704-634-3389

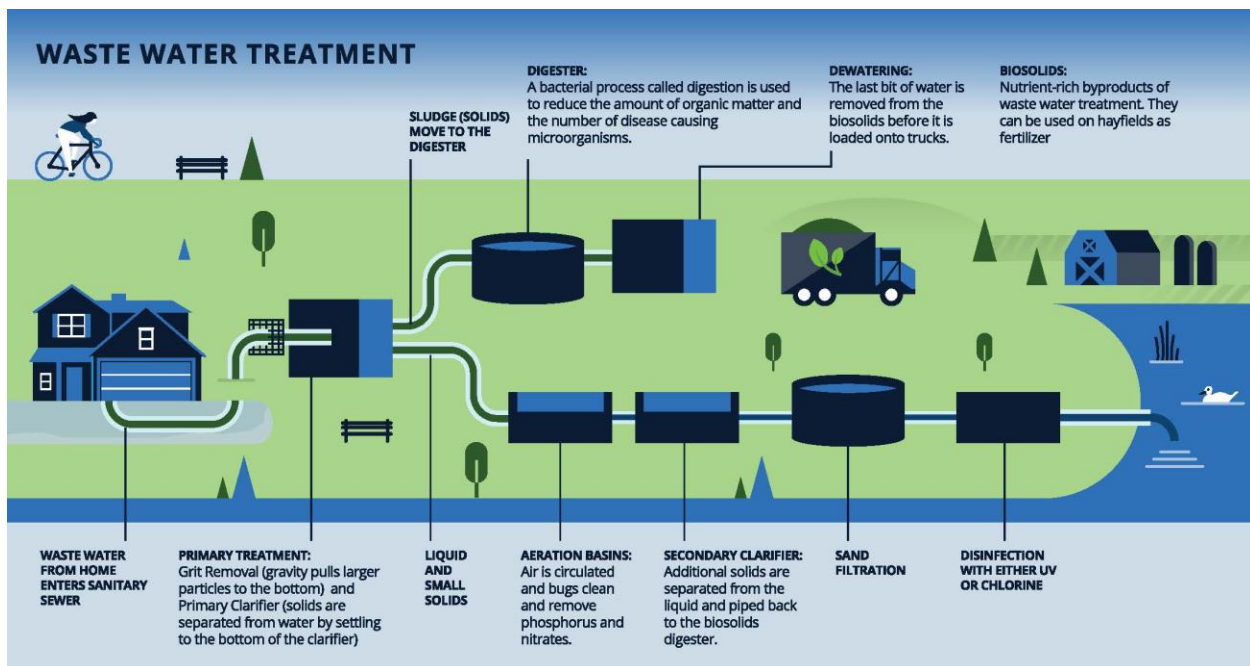
WW COLLECTION	NCDWQ Permit Number	ORC	Phone
4100 W. Tyvola Rd.	WQCS00001	Steven Wrobleski	704-432-2748
		Malcom Edwards (backup)	704-649-5098

Description of collection and treatment systems

Charlotte Water (CLTWater) collects wastewater from approximately 287,499 households and businesses throughout the county. Wastewater is collected and directed (via gravity flow supported by sewage lift stations) to one of six 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 85 million gallons of wastewater is treated and discharged each day from CLTWater plants. CLTWater sends an average of 4.96 million gallons per day (MGD) of wastewater to the Rocky River Regional Wastewater Treatment Plant (WWTP) operated by the Water and Sewer Authority of Cabarrus County for (WSACC). Roughly 1.2 MGD of wastewater from Union County is treated at McAlpine Creek WWTP, roughly 3.0% of its 40.4 MGD annual average daily flow (AADF) treatment volume.

More than 300 of CLTWater's 1,106 employees work to maintain 4,562 miles of collection pipelines and 75 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 tertiary 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. The waste stream passes through granular filters to remove very small particles that may not have been removed through the settling process. Finally, disinfection reduces bacterial and pathogenic materials. The treated water is released to the nearby creek.

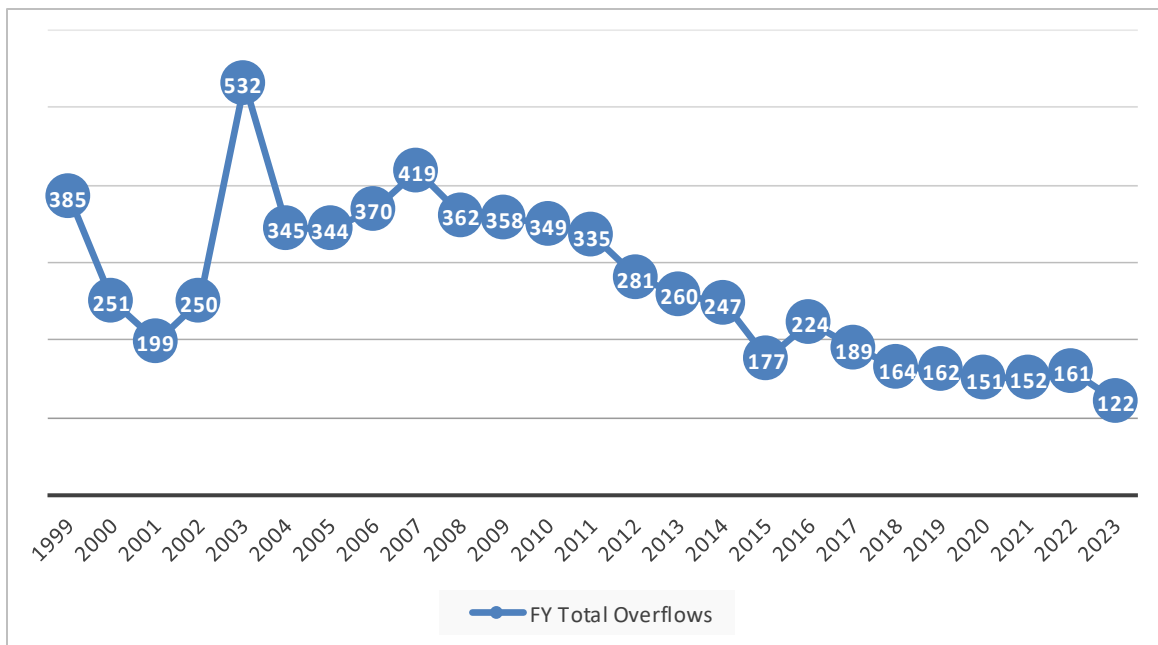


1. **Primary Treatment**
Solid particles & objects are captured by screens, grit chambers, and primary clarifiers.
2. **Aeration/Secondary Treatment**
Wastewater is aerated to support growth of microorganisms that remove harmful pollutants. Nutrient levels are reduced at McDowell and McAlpine Creek Wastewater Treatment Plants.
3. **Clarification**
Solids and microorganisms settle out in large basins.
4. **Tertiary Treatment**
Wastewater flows through granular filters to remove fine particles.
5. **Disinfection**
Water is disinfected to remove any remaining pathogens, and then the treated water is released into creeks.

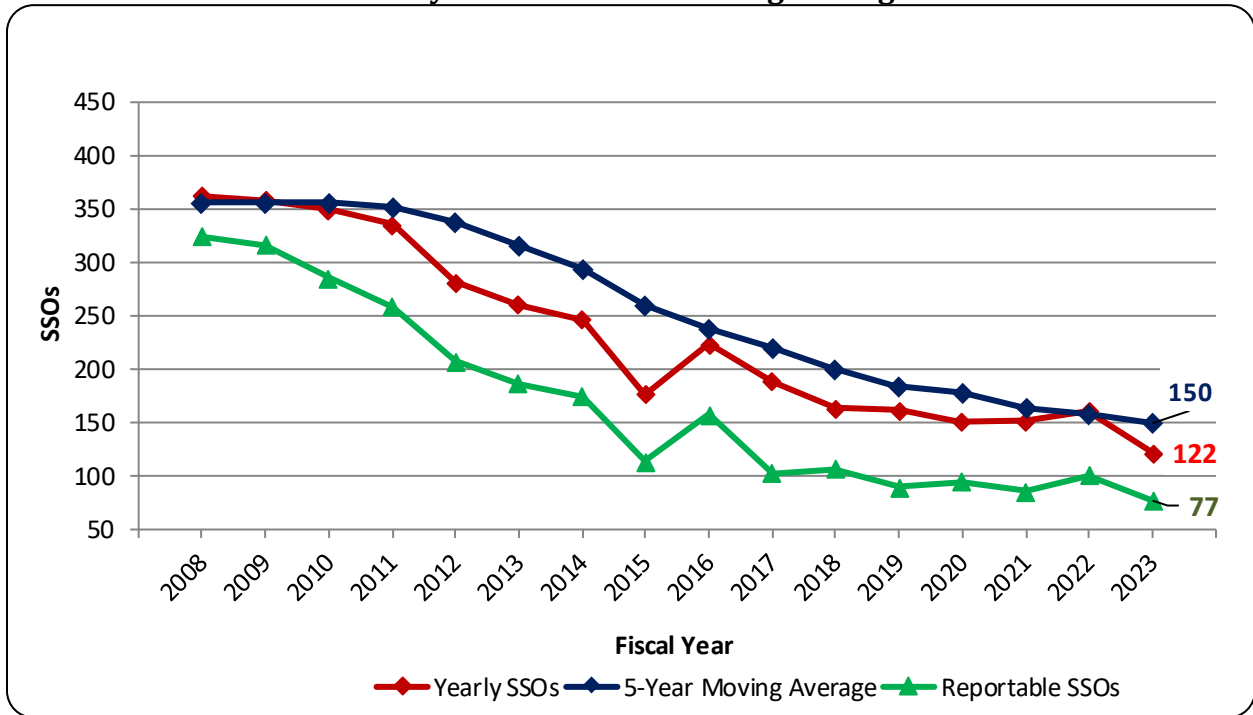
II. Summary of System Performance

FY23 Performance

Charlotte Water successfully collected and treated 99.99 percent of the more than 31 billion gallons of wastewater the community produced in the past fiscal year. There were 122 sanitary sewer overflows (SSOs) in our community, a decrease of thirty-nine spills compared to the year before. This reduction in SSOs represents the lowest number of spills in our system since the reporting requirement began in 1999.

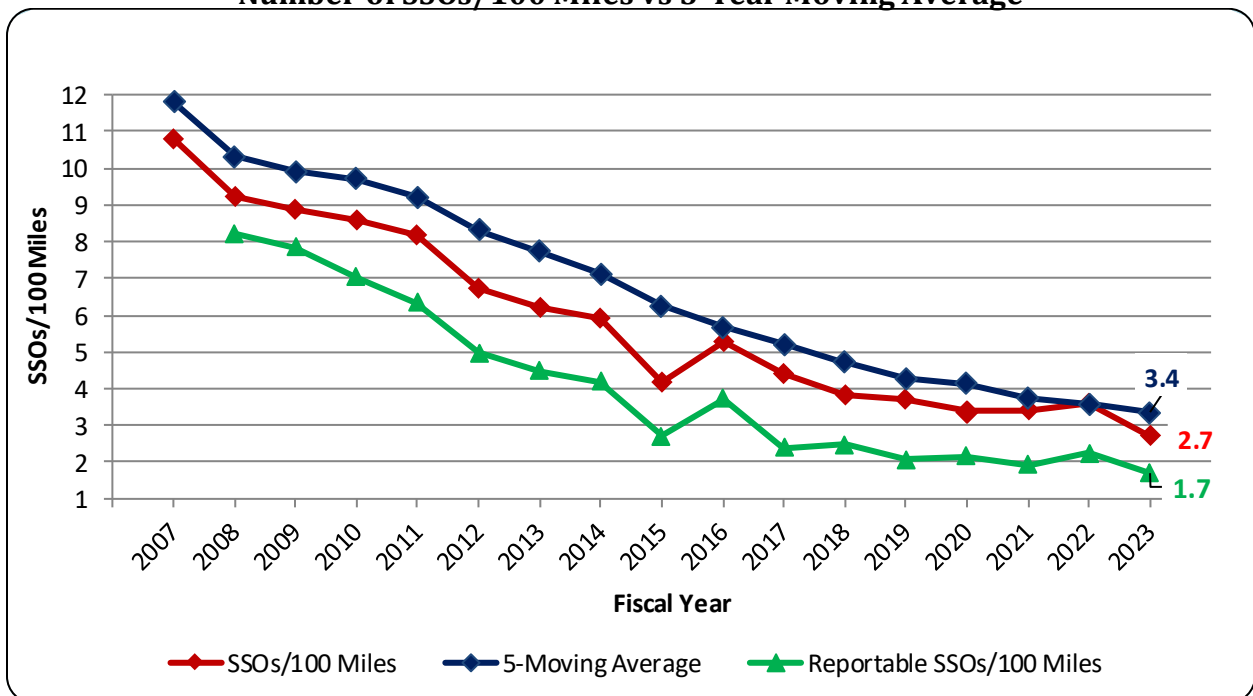


Yearly SSOs vs 5-Year Moving Average



The number of spills per 100 miles of pipe continued to decline in general from 9.2 in fiscal year 2008 to 2.7 spills (1.7 reportable spills) in fiscal year 2023 as illustrated by the table below.

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 through reports from the public to our 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. Crews provide notices to customers to the overflow via calls, texts, and/or emails and a post on Nextdoor social media. A legal notice is posted in the Charlotte Observer when overflows of 15,000 gallons or more reach surface waters.

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 77 reportable spills (by state definition) during fiscal year 2023. 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 SSOs that do not meet state definition) 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, wipes, 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 FY2023 while taking numerous actions to prevent overflows and protect water quality through effective wastewater treatment.

- All six wastewater treatment plants earned Peak Performance Awards from the National Association of Clean Water Agencies (NACWA) for the calendar year ending 2022. 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 eleventh Platinum Award for fifteen consecutive years of perfect compliance. (Five years of perfect compliance are needed to achieve the Platinum award.)
 - McDowell Creek Wastewater Treatment Plant earned their sixth consecutive Platinum Award for ten consecutive years of perfect compliance.
 - Mallard Creek and Sugar Creek Wastewater Treatment Plants earned their third Platinum Awards for seven years of perfect compliance.
 - Irwin Creek earned their third consecutive Gold Award for three consecutive years of perfect compliance.
 - Ashe Plantation earned their fourth consecutive Gold Award for four consecutive years of perfect compliance.
 - Over 7,100 compliance judgement points were met during the 2022 calendar year.

- 8.4 miles of wastewater pipe and 2,240 manholes were rehabilitated or replaced.
- 312 miles of wastewater pipe were treated with root control chemicals.
- 922.5 miles of wastewater lines were cleaned (including some multiple cleanings in the same location) by CLTWater Field Operations Staff and contractors.
- 189 wastewater service connections were replaced.
- 105.51 miles of rights of way were cleared by contractors to maintain access to off-street sanitary wastewater pipes and to help prevent root intrusions.
- 162.38 miles of pipe were closed-circuit television recorded (CCTV) for inspection by CLTWater staff and contractors.
- There are 75 Wastewater Lift Stations serving the CLTWater service area. Staff performed 118 preventative maintenance/electrical tasks for a total of 2,959 work hours. This does not include daily/weekly station checks, wet well cleaning, emergency generator testing, or emergency/routine repairs. Vineyards #3 Lift Station was added this year.
- 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 6.1 million kilowatt hours of energy. Since it started running, the CHP has generated in excess of 35.7 million kilowatt hours of clean energy approaching \$1.586 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 FY23

- Stowe Regional Water Resources Recovery Facility (WRRF) celebrated a groundbreaking of the first phase. The first phase is under construction and will start with a capacity to process up to 15 million gallons of wastewater per day. The first phase is scheduled for completion in 2026. Future phase 2 will expand the facility's wastewater treatment capacity to be able to process 25 million gallons of wastewater per day. The total investment will be more than \$380 million. Learn more about the project at <https://stoweregionalwrrf.com/>.
- Dairy Creek Wastewater Project (Phase 2) started September 2021. The project is replacing wastewater pipe from Kenilworth Road to South Boulevard. The project will be completed by August 2023.
- Derita Branch Tributary Wastewater Project (between 36th Street and West Sugar Creek Road) started phase 1 late 2021 and phase 1 will be completed in September 2023. Phase 2 will start in fiscal year 2024 and take 24 months to complete. This is a \$24+ million investment to upsize pipe to accommodate current and future capacity.
- Little Hope Creek Wastewater Project (Phase 2) began March 2022. The existing pipes are reaching the end-of-life expectancy and substantial growth requires larger wastewater pipes to serve the area. Phase 2 is an investment of approximately \$25

million. The total investment for phases 1-3 is approximately \$50 million. Phase 3 is approximately three miles of pipe upsizing. Phase 3 will begin in late 2023 with 24 months of construction.

Projects Completed in FY23

- Upper Little Sugar Creek (Hidden Valley Neighborhood – Bilmack Drive to Canterwood Drive) started spring 2022 and was completed summer 2023. CLTWater and Charlotte-Mecklenburg Storm Water Services worked together to combine projects in the neighborhood to reduce construction related neighborhood impacts. The project is an investment of \$5.3 million.
- Mallard Creek Wastewater Treatment Plant Rehabilitation and UV Upgrade Project consisted of rehabilitation and upgrading of the final clarifiers and their pumping stations, effluent filters, and UV disinfection system.



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.
- In FY23, CLTWater staff inspected grease-handling facilities at 4,104 food service establishments and restaurants (not including follow-up inspections) to ensure proper grease disposal. BMP Posters were distributed to the facilities to post. (1,978 posters distributed)
- Staff issued 31 Notices of Deficiency (NOD) of which 30 returned to compliance and one is still under investigation.
- Staff issued 0 Notices of Violation (NOV).
- Five grease traps were installed by businesses to fulfill NOD requirements.
- Inspectors mailed information to 6866 customers near spill sites and handed out information after spill events to 1,784 customers in apartments/multi-family complexes.
- Staff conducted 10 outreach educational presentations to more than 2,715 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. (1,821 posters provided)
- A multi-family outreach team was created in the System Protection division in 2019 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. For FY23,

the Multi- Family Team conducted 349 Inspections at Multi-Family units across Mecklenburg County.

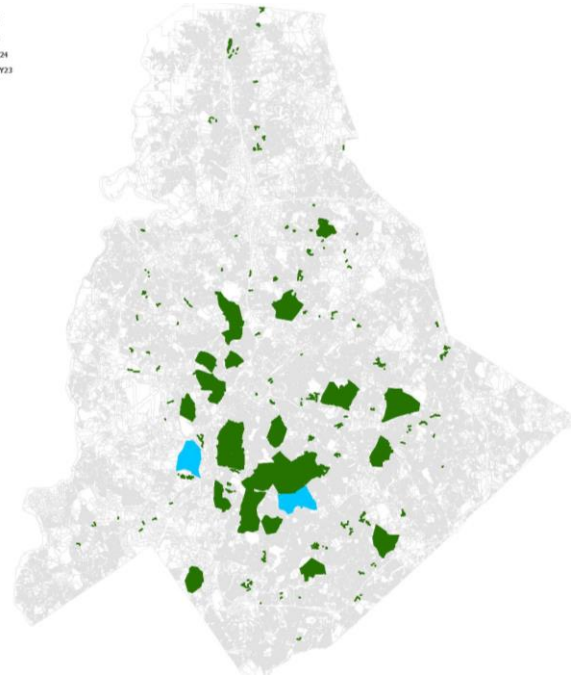
Continuing Challenges

Wastewater Collection Challenges

The greatest continuing wastewater challenge in this community – and in others across the U.S. – is sewage overflows. Of the 122 sewer spills that occurred; debris, grease, and roots accounted for most of the sanitary sewer overflow causes.

The largest individual spill in FY23 was on August 15th, 2022. Charlotte Water crews responded to a wastewater overflow near 2425 South Tryon Street. Charlotte Water rapid response team’s first knowledge of the incident was August 15th at 1:45pm which resulted in an estimated 4,600 gallons reaching Irwin Creek in the Catawba River Watershed and was reported as the initial spill volume. After additional investigation to determine the cause of the spill, the spill volume was revised for the incident to 421,225 gallons since the discharge likely began on August 03, 2022. The cause of the discharge was a contractor pumping wastewater around a construction site and the crew accidentally placed their discharging hose into a storm drain manhole. The contractor crew was supposed to pump the wastewater into the next downstream sanitary sewer manhole so that the wastewater could be treated at a wastewater treatment plant. The wastewater spill was stopped on August 15th at 4:49pm. There was no impact to drinking water. Charlotte Water informed customers in the immediate area via text alert and on Nextdoor. Charlotte Water was in close contact with NCDEQ staff and local Storm Water Services staff during the incident.

Root Control Legend
■ Areas Completed in FY23
■ Areas Planned in Early FY24
— Hot Spots Completed in FY23



Twelve spills were caused by private contractors (directional boring, etc.).

Twenty spills were 100 gallons or less.

The number of overflows caused by tree roots are down from the previous year. CLTWater continues to utilize a robust tree root control program.

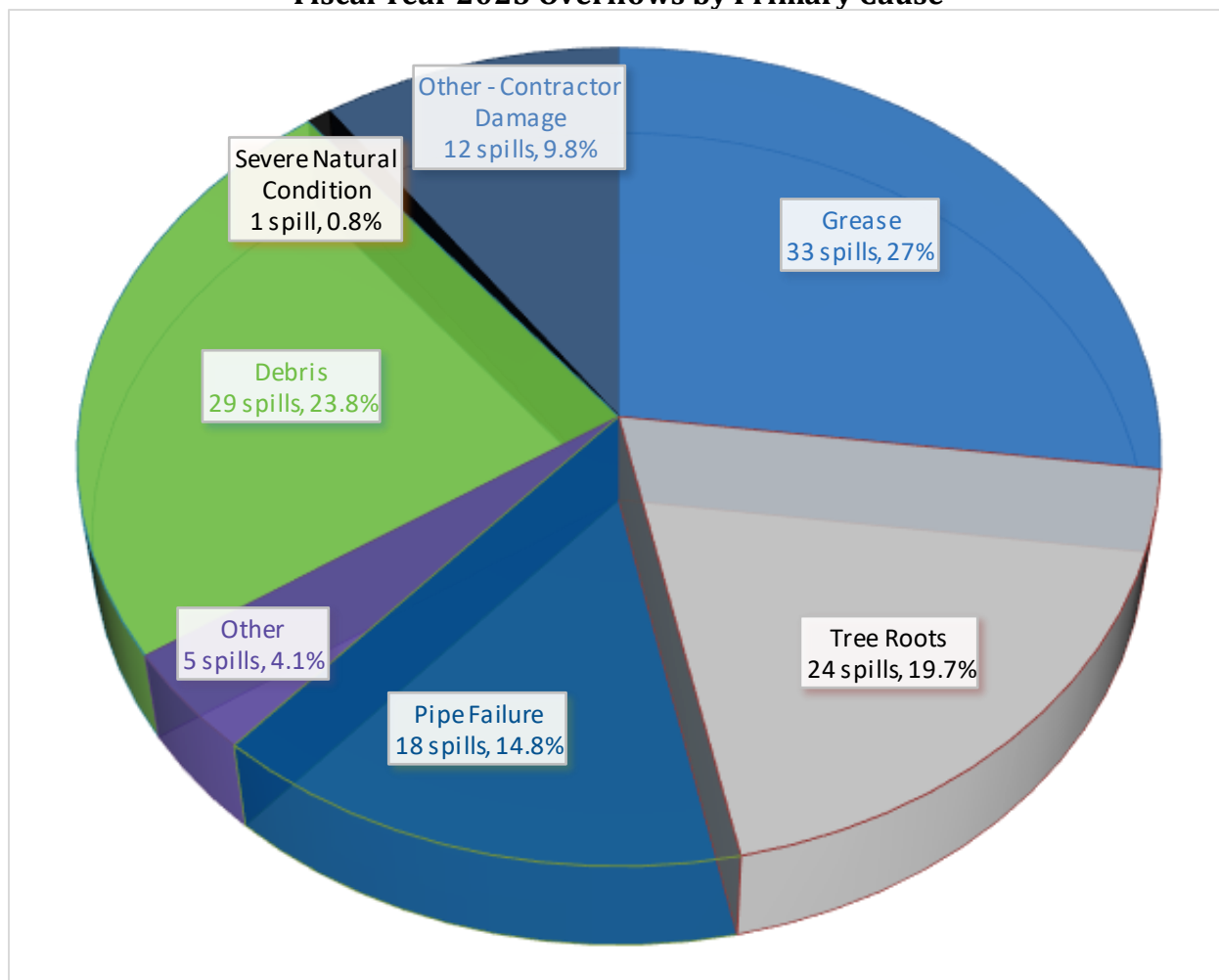
Mainline blockages, by any cause and including those unrelated to overflows, have increased from 106 in fiscal year 2022 to 189 in fiscal year 2023. However, 60 of the mainline blockages were found through SmartCover sensors (see *Field Operations – Critical Assets Group* on page 10) and several were in off-street sewer lines that would have become SSOs if not found by staff.

Wipes, even ‘flushable’ wipes, and other rags accounted for several blockages leading to spills. These are typically categorized as “Debris in The Line,” which also includes rocks, gravel, etc. Wipes related spills are typically in wastewater pipes serving multi-family (apartments, condos) and institutions (hospitals, nursing facilities, schools, daycares etc.).



The chart is only one-time actual cleanings and doesn't include contractor cleanings or multiple cleanings.

Fiscal Year 2023 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 85 percent of the spills within 60 minutes and 99.2 percent of the spills within 120 minutes. The average for all response was 32 minutes. The state standard for response is 120 minutes or less.

Field Operations – Critical Assets Group

Regular inspections are performed by Field Operations - Critical Assets Group which was established to inspect all high priority and vulnerable lines. The Critical Assets Group has expanded its inspection responsibilities to include additional pipes not previously

identified as critical but have become critical due to streambank erosion. Additionally, pipes installed after 2007, which were not included in an evaluation of critical infrastructure during an NCDEQ Collection Permit renewal, have been identified and added to the inspections. As part of a collaboration effort with the Mecklenburg Storm Water Services numerous stream bank erosion problems have been identified threatening sanitary sewer lines. A contract for streambank restoration, which protects these sanitary lines, was established several years ago and has been renewed. The Critical Assets team maintains 454 SmartCover level sensors strategically placed in areas with a history of SSOs. Sixty mainline blockages were found and resolved before they became SSOs in FY23. The cost to maintain the SmartCovers is more than \$1 million annually, reducing the significantly higher cost of adding additional staff and cleaning equipment.

Critical asset crews also continue to use a drone to inspect previously inaccessible locations and to assist with streambank inspections.

Wastewater Treatment Plant Challenges

Charlotte Water's wastewater treatment plants met 99.9 percent of all discharge limit tests set forth by our NPDES permits. Staff continue to improve maintenance capabilities and overall performance. Major rehabilitation and improvement projects help maintain compliance.

In January 2023 Sugar Creek WWTP exceeded their Daily Maximum Limit for Fecal due to an unknown chemical impacting the plant causing interference of the UV disinfection system by inhibiting UV transmittance. CLTWater has requested remission of the civil penalty due to the voluntary actions taken by CLTWater to determine the source but NCDEQ has not yet rendered a decision.

In April 2023, Sugar Creek WWTP received a second NOV without a civil penalty for exceeding their Weekly Average CBOD limit. The exceedance at the Sugar Creek plant was weather related and was the result of erratic temperature swings that caused settleability issues in the final clarifiers.

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 2023, the Trunkline Monitoring program 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 250 industrial inspections and site visits in the past fiscal year. As part of the Commercial Source program, food service establishments and other grease producing businesses are identified and inspected on an annual basis. Compliance is also monitored using a document tracking software system.
- During fiscal year 2023 the Commercial Source program continued their outreach program specifically focused on multi-family housing properties.
- CLTWater honored 23 local companies with Environmental Excellence Awards in fiscal year 2023 for compliance during calendar year 2022 including:
 - Five (5) Platinum recipients for at least five consecutive years of Gold level compliance and reporting,
 - Nine (9) Gold recipients for 100% compliance with permit limits and reporting, and
 - Nine (9) Silver recipients for 90% compliance with permit limits and 100% compliance with reporting.
- CLTWater recorded 343 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.
- 31 Notices of Violation with Civil penalties were assessed to users during the fiscal year for permit limit exceedances and other violations.

In November of 2021 CLTWater began a collaborative permitting program with our local brewery community. The goal of the program is to ensure that our sanitary sewer system continues to perform properly and allows the brewers to keep producing the best beer possible. Working with the Charlotte Area Brewers Alliance and representatives from five area breweries, a local brewery permit program was developed and put into place on July 1, 2022. The program is based on Best Management Practices and focuses on low cost for the brewers and compliance assistance from CLTWater.

Wastewater Capacity Needs

Charlotte Water is in the construction phase for its sixth major WWTP, the Stowe Regional Water Resources Recovery Facility (WRRF) and plans to have Phase 1 of the WRRF online in 2026. Phase 2 will be triggered when McAlpine WWTP ADF reaches 70% capacity. Several conveyance projects associated with the development of the Stowe Regional WRRF 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 to the Charlotte Water wastewater system. The agreements between Charlotte Water, 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 future wastewater treatment capacity needs through 2030. Projects at the Irwin Creek and Sugar Creek WWTPs were completed recently, 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 System Master Plan (WWSMP) is a comprehensive planning effort to evaluate systemwide needs. This planning effort provides 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 WWSMP was completed in December 2022.

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 Water Reclamation Facility (WRF) capacity from 12 to 13.1 MGD by Fall 2023 with additional phases of expansion to follow. Mallard WRF Phase 1 expansion will bring capacity up to 16 MGD in 2027. Improvements to reliable capacity at McDowell Creek WWTP are expected to begin within the next five years.

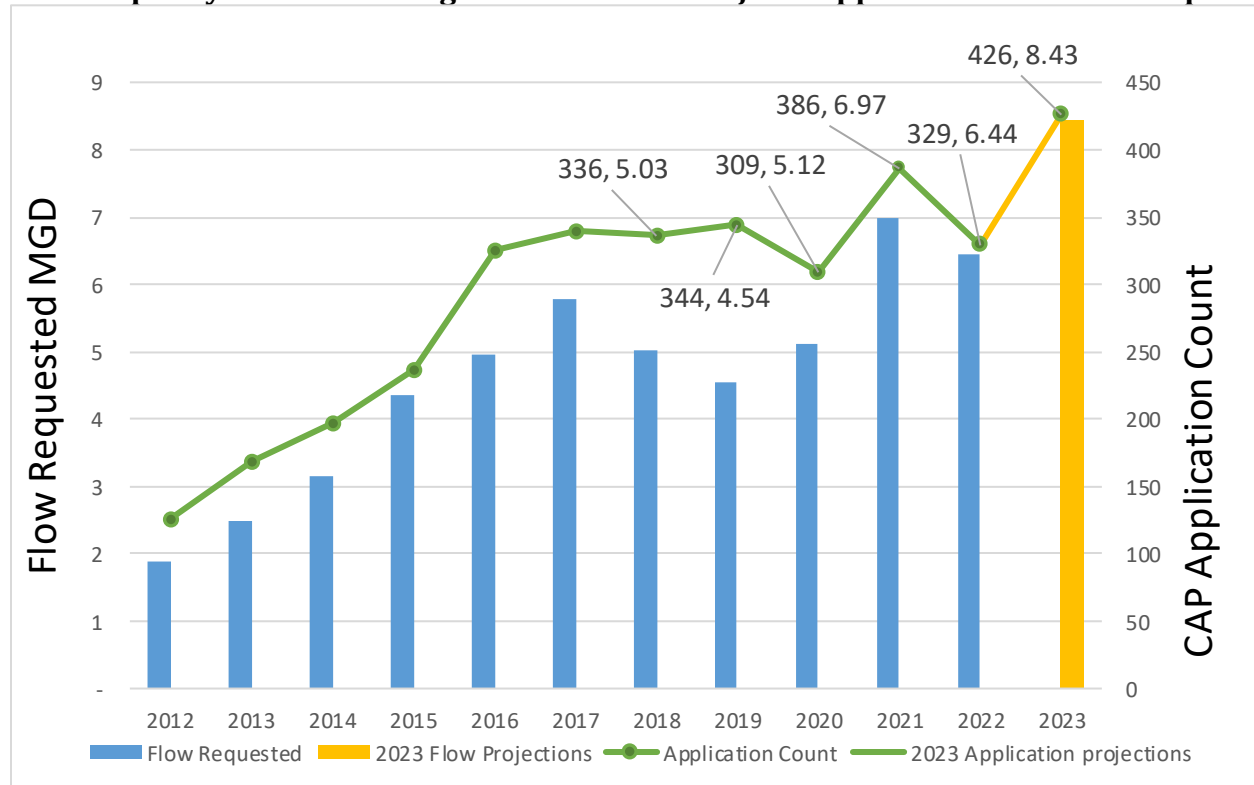
Charlotte Water has updated the 1990 Lake Area Study which identifies service areas for which low pressure sanitary sewer (LPSS) is the most cost-efficient and viable wastewater collection option. The updated Lake Area Study (LAS) now captures development and system configuration changes occurring over the intervening 30 years.

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 page 6.

Below graphic is historic CAP requests for previous calendar years and a projection of total CAPs thru the end of this calendar year December 2023.

2023 Capacity Assurance Program & Donated Projects Application and Flow Request



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.



Angela Charles, Director
Charlotte Water

8/22/23

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, 2022 and June 30, 2023.

Date	Volume (Gallons)	Volume to Surface Water	Surface Water Name	Fish Kill?	Address	Primary Cause
7/5/2022	12	0	Reedy Creek	No	10401 Battle Ct	Roots
7/6/2022	41	0	Sugar Creek	No	2105 Water Ridge Pkwy	Debris In Line
7/8/2022	14400	14400	Lower Little Sugar Creek	No	1300 Central Av	Pipe Failure
7/8/2022	515	515	Lake Norman	No	20109 Holiday Ln, Cornelius	Debris In Line
7/10/2022	86	70	Lower Little Sugar Creek	No	401 N McDowell St	Grease
7/10/2022	3000	3000	Four Mile Creek	No	404 Sadie Dr, Matthews	Severe Natural Condition
7/18/2022	128	128	McAlpine Creek	No	3523 Foxridge Rd	Roots
7/19/2022	545	545	Long Creek	No	3117 Floral Grove Ln	Grease
7/19/2022	360	0	Studman Branch	No	16730 Keene Ct	Other - Contractor Construction Damage
7/25/2022	115	0	Briar Creek	No	1159 Phil O'Neil Dr	Debris In Line
7/26/2022	446	446	McMullen Creek	No	4025 Carmel Acres Dr	Pipe Failure
7/26/2022	366	0	Lower Mountain Island Lake	No	12324 Overlook Mountain Dr	Roots
7/26/2022	400	0	Lake Wylie	No	17126 Sand Bank Rd	Other - Contractor Construction Damage
8/6/2022	875	875	Lower Little Sugar Creek	No	7700 Woodstream Dr	Debris In Line
8/15/2022	421225	421,225	Irwin Creek	No	2425 S Tryon St	Other
8/18/2022	1490	745	Paw Creek	No	6524 Pennacook Dr	Grease
8/22/2022	42	0	Walkers Branch	No	13724 Singleleaf Ln	Debris In Line
8/26/2022	7160	7160	Stewart Creek (Irwin)	No	1701 W Morehead St	Pipe Failure

Date	Volume (Gallons)	Volume to Surface Water	Surface Water Name	Fish Kill?	Address	Primary Cause
8/27/2022	150	75	Toby Creek	No	520 Blue Rock Dr	Debris In Line
8/31/2022	180	0	Clarke Creek	No	15425 Guthrie Dr, Huntersville	Other - Contractor Construction Damage
9/6/2022	400	100	McAlpine Creek	No	6202 Wild Meadow Trl, Mint Hill	Debris In Line
9/8/2022	42	0	McMullen Creek	No	4501 Town & Country Dr	Roots
9/9/2022	124	124	McAlpine Creek	No	6234 Deveron Dr	Debris In Line
9/16/2022	264	0	Lower Little Sugar Creek	No	500 N Polk St, Pineville	Grease
9/20/2022	1200	1200	Irwin Creek	No	3511 Durham Ln	Pipe Failure
9/21/2022	180	180	McAlpine Creek	No	6301 Wheeler Dr	Roots
9/22/2022	635	635	McAlpine Creek	No	6845 Ronda Av	Pipe Failure
9/23/2022	134	0	Irwin Creek	No	492 Remount Rd	Debris In Line
9/23/2022	3200	3200	Briar Creek	No	3714 Woodleaf Rd	Other - Contractor Construction Damage
9/24/2022	37	37	Lower Little Sugar Creek	No	4101 Tyndale Av	Roots
9/28/2022	1380	1380	Lower Little Sugar Creek	No	1633 Wensley Dr	Grease
9/29/2022	675	600	Stewart Creek (Irwin)	No	1101 Swearngan Ridge Ct	Debris In Line
9/29/2022	630	315	Lake Wylie	No	16730 Keene Ct	Other - Contractor Construction Damage
9/29/2022	160	0	Paw Creek	No	2640 Westerwood Village Dr	Roots
10/4/2022	322	322	Taggart Creek (Sugar)	No	3099 New Pineola Rd	Debris In Line
10/9/2022	260	0	Clarke Creek	No	3719 Radbourne Bv	Roots
10/10/2022	286	0	Briar Creek	No	1045 Providence Rd	Grease
10/10/2022	94	0	Lower Little Sugar Creek	No	4700 Aspen Ct, 28210	Grease

Date	Volume (Gallons)	Volume to Surface Water	Surface Water Name	Fish Kill?	Address	Primary Cause
10/14/2022	405	405	Stewart Creek (Irwin)	No	1506 Plumstead Rd	Pipe Failure
10/19/2022	222	0	Briar Creek	No	1045 Providence Rd	Pipe Failure
10/25/2023	370	93	Lake Norman		17311 Belle Isle Dr, Cornelius	Other - Contractor Construction Damage
10/30/2022	156	0	Campbell Creek (McAlpine)	No	5307 Dawndeer Ln	Debris In Line
11/2/2022	243	0	Paw Creek	No	9303 Dewey Dr	Grease
11/4/2022	1785	1785	Taggart Creek (Sugar)	No	3617 West Bv	Roots
11/15/2022	1540	1540	Mallard Creek	No	10101 David Taylor Dr	Debris In Line
11/25/2022	360	360	McMullen Creek	No	546 Nottingham Dr	Roots
11/27/2022	72	0	Stewart Creek (Irwin)	No	2412 Beatties Ford Rd	Grease
11/29/2022	945	600	Torrence Creek	No	204 Southland Rd, Huntersville	Debris In Line
11/30/2022	150	150	Mallard Creek	No	10442 Baskerville Av	Other
12/2/2022	771	771	McAlpine Creek	No	2009 Prospect Creek Wy	Grease
12/4/2022	110	0	Briar Creek	No	2314 Ferncliff Rd	Grease
12/4/2022	303	200	Stoney Creek	No	14034 Whistling Teal Dr	Debris In Line
12/6/2022	840	630	Steele Creek	No	3031 Nevada Bv	Debris In Line
12/8/2022	40	0	Stewart Creek (Irwin)	No	2751 Southwest Bv	Pipe Failure
12/14/2022	64	64	Long Creek	No	705 Morningside Rd	Roots
12/15/2022	876	876	Mallard Creek	No	1201 Campus Pointe Ct	Debris In Line
12/19/2022	130	0	McIntyre Creek	No	1404 Key Ridge Ct	Grease
12/21/2022	399	399	Sugar Creek	No	12428 Downs Rd, Pineville	Grease
12/22/2022	3700	3700	Mallard Creek	No	9848 N Tryon St	Grease
12/22/2022	900	450	Campbell Creek (McAlpine)	No	5809 Idlebrook Dr	Pipe Failure

Date	Volume (Gallons)	Volume to Surface Water	Surface Water Name	Fish Kill?	Address	Primary Cause
12/24/2022	988	500	Gum Branch	No	519 Ethel Ct	Grease
12/26/2022	1350	1350	Campbell Creek (McAlpine)	No	5809 Idlebrook Dr	Pipe Failure
12/30/2022	22.5	0	McMullen Creek	No	5507 Kelly Grange Pl	Roots
12/30/2022	103	0	McMullen Creek	No	5350 Pinehurst Park Dr	Debris In Line
1/11/2023	320	320	Six Mile Creek	No	11711 Dan Maples Dr	Debris In Line
1/23/2023	50	0	Irwin Creek	No	3321 Dawnshire Av	Roots
1/24/2023	90	0	McAlpine Creek	No	2119 Alexander Dowd Dr	Debris In Line
1/24/2023	186	0	Mallard Creek	No	4639 Deer Cross Tl	Roots
1/29/2023	276	0	Davidson Creek	No	303 Delburg St, Davidson	Grease
1/30/2023	1000	500	McDowell Creek	No	8231 Magnolia Estates Dr, Cornelius	Grease
2/2/2023	772	772	Stewart Creek (Irwin)	No	2751 Southwest Bv	Roots
2/5/2023	210	0	Campbell Creek (McAlpine)	No	7200 E W T Harris Bv	Grease
2/5/2023	15580	15580	Lower Little Sugar Creek	No	1305 Central Av	Pipe Failure
2/14/2023	240	240	Mallard Creek	No	2734 Governor Hunt Rd.	Debris In Line
2/15/2023	46	0	Clarke Creek	No	9942 Linksland Dr, Huntersville	Grease
2/16/2023	900	900	Paw Creek	No	6234 Quiet Water Pl	Grease
2/18/2023	102	0	Irvins Creek	No	5400 Birchhill Rd, Mint Hill	Debris In Line
2/22/2023	10125	10125	Stewart Creek (Irwin)	No	4180 Pompano Rd	Pipe Failure
2/27/2023	390	390	Taggart Creek (Sugar)	No	4700 Denver Av	Debris In Line
3/1/2023	365	365	Briar Creek	No	2432 Kingsbury Dr	Pipe Failure
3/9/2023	900	450	Toby Creek	No	8121 University City Bv	Roots
3/9/2023	960	960	Crooked Creek	Yes	2111 Marglyn Dr, Matthews	Roots

Date	Volume (Gallons)	Volume to Surface Water	Surface Water Name	Fish Kill?	Address	Primary Cause
3/10/2023	66	0	Kings Branch	No	5609 Alanhurst Pl	Pipe Failure
3/10/2023	500	250	Irwin Creek	No	5833 Milhaven Ln, 28269	Roots
3/11/2023	504	504	Campbell Creek (McAlpine)	No	5005 Prestwick Ln	Grease
3/16/2023	1360	1360	Four Mile Creek	No	4316 Old Course Dr	Debris In Line
3/19/2023	680	680	McIntyre Creek	No	6313 Mcintyre Ridge Dr	Grease
3/20/2023	1865	1865	Irwin Creek	No	3401 Trade Park Ct	Pipe Failure
3/30/2023	610	610	Long Creek	No	10132 Bellhaven Bv	Grease
4/2/2023	507	507	McAlpine Creek	No	10825 Maryfield Ln	Roots
4/4/2023	415	150	Torrence Creek	No	101 Center Ln, Huntersville	Grease
4/10/2023	390	390	Reedy Creek	No	7813 Bondhaven Dr	Other - Contractor Construction Damage
4/12/2023	2700	2700	Kings Branch	No	501 Sharview Cr	Roots
4/18/2023	30	0	Studman Branch	No	14605 Crosswater Ln	Debris In Line
4/19/2023	300	0	Rocky River	No	7141 Maple Run Cr	Other
4/20/2023	3670	0	Taggart Creek (Sugar)	No	5040 Meadow Oak Commerce Py	Grease
4/25/2023	63	0	McAlpine Creek	No	1001 Dooley Dr	Grease
4/25/2023	235	0	Torrence Creek	No	14125 S Statesville Rd, Huntersville	Pipe Failure
4/25/2023	87	0	Lake Norman	No	21220 Bethel Church Rd, Cornelius	Other - Contractor Construction Damage
5/1/2023	100	0	Four Mile Creek	No	10122 Thomas Payne Cr	Debris In Line
5/3/2023	105	0	Sugar Creek	No	2300 Yorkdale Dr	Debris In Line
5/9/2023	780	0	McAlpine Creek	No	5471 Central Av	Other - Contractor Construction Damage
5/11/2023	2500	1250	Taggart Creek (Sugar)	No	3900 Mulberry Church Rd	Grease
5/11/2023	9000	9000	Irwin Creek	No	1058 Andrill Tr	Pipe Failure
5/11/2023	185	185	Briar Creek	No	3630 Frontenac Av	Grease

Date	Volume (Gallons)	Volume to Surface Water	Surface Water Name	Fish Kill?	Address	Primary Cause
5/12/2023	82	82	Stewart Creek (Irwin)	No	2819 Royston Rd	Grease
5/18/2023	1410	0	Lower Little Sugar Creek	No	213 Lynnwood Ln, Pineville	Other - Contractor Construction Damage
5/22/2023	120	0	McMullen Creek	No	5355 Pinehurst Park Dr	Debris In Line
5/23/2023	366	0	Gum Branch	No	2135 Belterra Dr	Other
5/23/2023	420	420	Irwin Creek	No	3401 St Vardell Ln	Roots
5/25/2023	490	490	Four Mile Creek	No	1116 Home Pl, Matthews	Grease
5/25/2023	942	0	Clarke Creek	No	13007 Ramah Church Rd	Other - Contractor Construction Damage
5/28/2023	460	460	Knox Creek	No	18404 Torrence Chapel Estates Cr	Other - Contractor Construction Damage
5/30/2023	940	940	Beaverdam Creek	No	4923 Trojan Dr	Grease
6/7/2023	6565	4900	Stewart Creek (Irwin)	No	3232 Marlborough Rd	Roots
6/13/2023	5130	5130	Sugar Creek	No	1162 Nations Dr	Roots
6/16/2023	300	0	Irwin Creek	No	950 Polk St.	Roots
6/20/2023	460	460	McKee Creek	No	7231 Twillingate Dr	Other
6/28/2023	459	459	McAlpine Creek	No	6060 Providence Rd	Debris In Line
6/30/2023	490	490	Lower Little Sugar Creek	No	400 N Davidson St	Grease
6/30/2023	120	0	Briar Creek	No	2600 Lanecrest Dr	Grease
6/30/2023	360	360	Lake Wylie	No	18328 Rosapenny Rd	Pipe Failure

TOTAL NUMBER OF FY 2023 COLLECTION SYSTEM SPILLS: 122

Volume Safely Collected, Treated & Discharged During Fiscal Year 2023: 31,028,000,00 Gallons (99.99%)
Volume Spilled: 556,681.5 Gallons

VI. Permit Compliance and Reporting Violations, by plant

Ashe Plantation WWTP -- NPDES Permit #NC0065749

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2022	None	None
August, 2022	None	None
September, 2022	None	None
October, 2022	None	None
November, 2022	None	None
December, 2022	None	None
January, 2023	None	None
February, 2023	None	None
March, 2023	None	None
April, 2023	None	None
May, 2023	None	None
June, 2023	None	None

Irwin Creek WWTP -- NPDES Permit #NC0024945

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2022	None	None
August, 2022	None	None
September, 2022	None	None
October, 2022	None	None
November, 2022	None	None
December, 2022	None	None
January, 2023	None	None
February, 2023	None	None
March, 2023	None	None
April, 2023	None	None
May, 2023	None	None
June, 2023	None	None

Mallard Creek WRF -- NPDES Permit #NC0030210

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2022	None	None
August, 2022	None	None
September, 2022	None	None
October, 2022	None	None
November, 2022	None	None
December, 2022	None	None
January, 2023	None	None
February, 2023	None	None
March, 2023	None	None
April, 2023	None	None
May, 2023	None	None
June, 2023	None	None

McAlpine Creek WWMF -- NPDES Permit #NC0024970

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2022	None	None
August, 2022	None	None
September, 2022	None	None
October, 2022	None	None
November, 2022	None	None
December, 2022	None	None
January, 2023	None	None
February, 2023	None	None
March, 2023	None	None
April, 2023	None	None
May, 2023	None	None
June, 2023	None	None

McDowell Creek WWTP -- NPDES Permit #NC0036277

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2022	None	None
August, 2022	None	None
September, 2022	None	None
October, 2022	None	None
November, 2022	None	None
December, 2022	None	None
January, 2023	None	None
February, 2023	None	None
March, 2023	None	None
April, 2023	None	None
May, 2023	None	None
June, 2023	None	None

Sugar Creek WWTP -- NPDES Permit #NC0024937

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2022	None	None
August, 2022	None	None
September, 2022	None	None
October, 2022	None	None
November, 2022	None	None
December, 2022	None	None
January, 2023	Fecal Daily Max	None
February, 2023	None	None
March, 2023	None	None
April, 2023	CBOD Weekly Avg.	None
May, 2023	None	None
June, 2023	None	None