

**WASTEWATER COLLECTIONS
AND TREATMENT SYSTEMS
ANNUAL PERFORMANCE REPORT**

July 1, 2021 - June 30, 2022



Fayetteville Public Works Commission

The Fayetteville Public Works Commission enjoyed another year of truly excellent performance at both of our treatment plants and the collection systems which they serve. Our plants have been recognized by the NC Department of Environmental Quality as "Exceptionally Performing Facilities." We had 16 events where sewage was released from the collection system, and these occurrences were mostly due to factors beyond our control. At both the treatment plants and in our sewage collection systems, this is an extremely high level of service and system reliability that we will strive to maintain. The following provides a summary of all collection system overflows and treatment plant permit exceedances.

Collections Systems

General Information

Facility/System Name: **Collection System**

Responsible Entity: **Public Works Commission of the City of Fayetteville, Town of Stedman, NORCRESS, and Kelly Hills/Slocomb Road Water and Sewer District**

Person in Charge/Contact: **Chris Rainey, PE
(910) 223-4718**

Applicable Permit(s): **(PWC) WQCS00007, (Stedman) WQCS0537, (Norcross) WQCS00353**

Description of Collection Systems

The following description of collection systems is for the Public Works Commission of the City of Fayetteville and the three permitted entities with which PWC maintains operation and maintenance agreements.

The Public Works Commission of the City of Fayetteville's sanitary sewer collection system is separated into two basins, the Cross Creek and the Rockfish Creek basins. The collection system consists of approximately 1,293 miles of sewer mains varying in size and material and includes 74 sewer pumping stations. In addition, 12 privately owned pumping stations are operated and maintained per O & M agreements. Main sizes range from 6" to 60". Wastewater is collected from approximately 91,195 customers in the City of Fayetteville and surrounding Cumberland County area. The PWC serves approximately 18 Industrial, 6 Wholesale, 6,907 Non-Residential, 247 Flat Rate Non-Residential, 76,196 Residential, and 8529 Flat Rate Residential customers. PWC also provides wastewater service to 91 City of Fayetteville sites and to 11 Public Works Commission locations. The wastewater is conveyed to the Cross Creek and Rockfish Creek Water Reclamation Facilities.

Since March 2001, PWC has operated and maintained the Town of Stedman sanitary sewer system, owned by the Town of Stedman. The system serves approximately 661 customers (619 residential and 42 non-residential) and consists of approximately 22.1 miles of sanitary sewer mains and 4 pumping stations. The wastewater from Stedman is conveyed to the Rockfish Creek Water Reclamation Facility.

In September 2005, PWC began operation and maintenance of the NORCRESS (Wade, Godwin, and Falcon) sanitary sewer system, owned by Cumberland County. The system serves 420 customers (365 residential and 55 non-residential) and consists of approximately 35.3 miles of sanitary sewer mains and 4 pumping stations. The wastewater from NORCRESS is conveyed to the Cross Creek Water Reclamation Facility.

PWC also maintains and operates the Kelly Hills / Slocomb Road Water & Sewer District sanitary sewer collection system, owned by Cumberland County. The system serves approximately 101 customers (all residential) and consists of approximately 4.5 miles of sanitary sewer mains. The wastewater from Kelly Hills / Slocomb Road Water & Sewer District is conveyed to the Cross Creek Water Reclamation Facility.

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Public Works Commission of the City of Fayetteville WQCS00007 - Summary of Collections System Performance for Fiscal Year (July 2021 – June 2022)

During the Fiscal Year July 2021 – June 2022, approximately 10.1 billion gallons of wastewater were conveyed to the Cross Creek and Rockfish Creek Water Reclamation Facilities. Sanitary sewer overflows totaling 290,568 gallons or .0001% of total gallons conveyed were reported to the NC Department of Environment and Natural Resources, Water Quality Division. Monthly estimates are as follows:

<u>Month</u>	<u>Gallons</u>	<u>Month</u>	<u>Gallons</u>
July	521	January	425
August	254,078	February	0
September	25	March	0
October	3,150	April	0
November	0	May	1,715
December	14,895	June	15,759

Public Works Commission Collections System Performance for Fiscal Year (July 2021-June 2022)
(continued)

Sanitary sewer overflow events in which volumes exceeding 1,000 gallons overflowed or reached surface waters are included in the monthly estimates and are shown separately as follows:

Event 1: **Date:** 7/30/2021 **Gallons:** 521

Location:
1130 Bingham Drive

Description:
This SSO was the result of a pipe failure due to a slope failing in the vicinity of the sewer main. A PWC Collection System Inspection team located the spill during routine operations and immediately contacted PWC supervisory staff.

Corrective measures:
Combination vacuum/jetter trucks were used to maintain the upstream system flows during the emergency repair operations. PWC maintenance staff realigned and reconnected the sewer main with a coupling. PWC crews worked to repair the failed slope once the sewer main was repaired. The wastewater exiting from the sewer main entered into the adjacent unnamed tributary.

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Event 2: **Date:** 8/2/2021 **Gallons:** 195,510

Location:
2838 Coronada Parkway

Description:
This SSO was the result of a manhole and pipe failure due to a streambank failure.

Corrective measures:
The sewer main line was placed on a bypass pumping system until the appropriate PWC maintenance crews and equipment could be mobilized to the site. The damaged section of concrete mainline piping and manhole were removed and replaced. Upon completion of the sewer work PWC crews stabilized the streambank. Wastewater from the initial spill could not be reclaimed because it entered directly into Blounts Creek.

Event 3: **Date:** 8/2/2021 **Gallons:** 51,043

Location:
5245 Mawood Avenue

Description:
This SSO was the result of significant and excessive erosion of the drainage tributary. The erosion had exposed and damaged the PWC sewer main causing the sewer release.

Corrective measures:
PWC staff were notified and responded to address the situation. Maintenance crews removed the damaged section of clay sewer main and replaced it with new pipe. PWC crews stabilized the drainage channel upon completion of the sewer repair work. Wastewater from the sewer spill could not be reclaimed as it entered directly into the wet drainage channel.

Event 4: **Date:** 8/4/2021 **Gallons:** 4,807

Location:
424 Valmont Avenue

Description:
This SSO was the result of a root blockage in the sewer main creating an overflow.

Corrective measures:
The sewer main was jet rodded to clear the root blockage and end the spill incident. Wastewater exited from the manhole and was contained and did not contact surface waters of the State. Wastewater ponded around the manhole in question re-entered the sewer system thru the root intrusion opening. The area where the intrusion took place was repaired by PWC staff. Combination vacuum/jetter trucks maintained upstream flows while repairs took place. The affected area was treated with lime and odor counteractant.

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Event 5: **Date:** 8/5/2021 **Gallons:** 2,550

Location:

3234 Gables Drive

Description:

This SSO was the result of debris blockage likely the result of the SSO repairs from the event on 8/4/21.

Corrective measures:

The sewer main was jet rodded to clear the debris blockage and end the spill incident. Wastewater exited from a manhole in the easement area and entered an unnamed tributary to Cross Creek. Wastewater entering the tributary could not be reclaimed as it mixed with actively moving water in the tributary. Main cleaning and CCTV operations upstream and downstream of the blockage location were completed. It was verified that the debris had been removed from the sewer main. The CCTV inspection also revealed structural deficiencies in the main which were added to the annual rehabilitation contract for immediate attention.

Event 6: **Date:** 8/10/2021 **Gallons:** 158

Location:

4013 Eastdale Drive

Description:

This SSO was the result of the presence of an old overflow pipe which went from the lift station wet well to a drainage ditch. The lift station was under design for upgrade/replacement. As part of this process, the consulting engineer's surveyor met with PWC lift station personnel to access the station and get elevations on the incoming gravity pipelines in the wet well. In order to get accurate elevations, the pump controls were placed in the off position to allow the level in the wet well to rise to the level of the pipes so that the measurement could be safely and accurately obtained from the access hole in the wet well lid. Once the water level had risen the lift station technician went outside to the control panel where he heard the sound of running water. He immediately located the source of the sound and found wastewater running out of the pipe and discharging into the drainage ditch. The technician immediately re-started the pumps to pump down the wet well and end the spill incident.

Corrective measures:

Further investigations revealed that the station had an old 6" diameter overflow pipe. These types of overflows had all been previously abandoned approximately 30 years prior. It is PWC's belief that this overflow had been previously abandoned with a cementitious plug and that over time the plug had failed allowing the sewer release. PWC maintenance staff installed a mechanical cap on the overflow pipe to prevent any further occurrences such as this one. Upon upgrade/replacement of the lift station the existing overflow pipe will be permanently removed.

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Event 7: **Date:** 8/16/2021 **Gallons:** 10

Location:
1237 Knotty Elm Loop

Description:

This SSO was the result of a PWC cleanout cap being removed by mobile home park maintenance personnel to relieve the wastewater backup. The park maintenance personnel had also gotten a plumber's cable stuck in the lateral during their efforts to eliminate the blockage.

Corrective measures:

There was not an active spill taking place at the time of PWC's arrival. The sewer lateral was jet rodded to clear the blockage caused by a plumber's cable which had been abandoned in the lateral. PWC maintenance staff excavated the sewer lateral and removed the plumber's cable and put the lateral back together. Wastewater exiting from the removed cleanout cap ran down the roadway/curb line and entered into a nearby storm drainage system. The wastewater could not be reclaimed, but PWC staff cleaned the affected roadway, curb line, and storm drain system.

Event 8: **Date:** 9/21/2021 **Gallons:** 25

Location:
1710 Bridger Street

Description:

This SSO was the result of a sewer release while a plumber was attempting to remove a blockage. The plumber had removed the PWC cleanout cap and subsequently allowed the wastewater to be released.

Corrective measures:

PWC maintenance personnel responded to evaluate the issue. There was not an active spill taking place at the time that PWC arrived. PWC maintenance staff jet rodded the sewer lateral to clear the blockage. Wastewater still present around the cleanout was reclaimed. Wastewater which entered a nearby drainage system could not be reclaimed as it mixed with actively moving stormwater.

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Event 9: **Date:** 10/28/2021

Gallons: 3,150

Location:

1101 Lake Mont Court

Description:

This SSO was the result of a grease blockage in the sewer main which was reported by a private resident. Due to extent of the grease blockage wastewater exited from a sewer manhole in the easement and from a private sewer cleanout. The wastewater exiting from the manhole and the cleanout entered an adjacent unnamed tributary to the Wooded Lake.

Corrective measures:

PWC maintenance staff jet rodded the sewer main to clear the blockage and end the spill incident. The wastewater which entered the unnamed tributary could not be reclaimed as it mixed with actively moving water in the tributary. Waste residue at and around the manhole and cleanout was reclaimed and the affected area treated with lime and odor counteractant. Main cleaning and CCTV inspections were completed to verify removal of the grease build up.

Event 10: **Date:** 12/16/2021

Gallons: 9,560

Location: 100 Twin Acres Drive

Description:

This SSO was the result of a grease and debris blockage in the sewer main. Due to the extent of the grease and debris blockage, wastewater exited from a sewer manhole in the easement area and entered an adjacent storm drainage system tributary to Tallywood Lake tributary to Branson Creek.

Corrective measures:

PWC maintenance personnel responded and jet rodded the sewer main to clear the grease and debris blockage and end the spill incident. Wastewater entering the storm drainage system could not be reclaimed. The storm system was flushed with potable water and the affected area was treated with lime and odor counteractant. Main cleaning and CCTV inspections were completed to verify the removal of the grease build up and debris. Some of the debris encountered was medical facility wastes such as latex gloves, electro pads, and other medical supplies. PWC Environmental System Protection staff contacted all upstream medical facilities and reviewed proper disposal procedures which each location.

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Event 11: **Date:** 12/28/2021 **Gallons:** 2,945

Location:
317 McFayden Drive

Description:

This SSO was the result of grease build up and debris in the sewer main. Mainline blockage was identified by PWC Collection System Inspector during cycled "hot sheet" field inspections. Due to the extent of the grease and debris blockage, wastewater exited from a cleanout stack on an inactive sewer lateral for an undeveloped lot.

Corrective measures:

PWC maintenance staff jet rodded the sewer main to clear the grease and debris blockage and end the spill incident. Maintenance personnel also excavated the inactive service lateral and physically disconnected the piping from the sewer main. The lateral in question is now abandoned. Approximately 500 gallons of wastewater entered the Persimmon Creek tributary to Beaver Creek Pond (McFayden Lake). Approximately 2,445 gallons of wastewater ponded in the vacant lot. The ponding wastewater soaked into the surrounding soil and the excavation to abandon the lateral and could not be reclaimed. The affected area was treated with lime and odor counteractant. Main cleaning and CCTV inspections were completed to verify the removal of the grease build up and debris.

Event 12: **Date:** 1/7/2022 **Gallons:** 567

Location:
3405 Murchison Road

Description:

This SSO was the result of a debris blockage in a sewer lateral. The lateral blockage was reported by the restaurant's plumber. Due to the extent of the blockage, wastewater exited from the PWC and private cleanout stacks and entered a wet storm drainage system tributary to the Little Cross Creek.

Corrective measures:

PWC maintenance personnel jet rodded the sewer lateral to clear the debris blockage and end the spill incident. Wastewater entering the nearby storm drainage system could not be reclaimed as it mixed with actively moving groundwater in the drainage system. The drainage system was flushed with potable water and the potable water and remaining wastewater residue was reclaimed during this operation. The wastewater residue remaining on the ground surface was reclaimed. A lateral camera inspection was completed to ensure that the debris was completely removed.

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Event 13: **Date:** 5/23/2022 **Gallons:** 1,715

Location:
255 Murray Fork Drive

Description:

This SSO was the result of a root blockage in the sewer main. The blockage was reported by a storm water utility contractor currently replacing storm water piping immediately adjacent to the sewer main. Due to the extent of the root blockage, wastewater exited from the manhole and entered the contractor's storm water excavation. The City of Fayetteville project inspector and PWC maintenance personnel determined that the exiting wastewater was contained within the pipe bedding of the storm water excavation and soaked into the surround soil. The root intrusion had entered the overflowing manhole between the casting and the cone, down along the wall, and into the mouth of the outgoing pipe.

Corrective measures:

PWC staff jet rodded the sewer main to remove the blockage and end the spill incident. PWC maintenance personnel cut the root and removed it from within the manhole. Main cleaning and CCTV inspections were performed and confirmed that there were not any other root intrusions in the sewer main.

Event 14: **Date:** 6/2/2022 **Gallons:** 9

Location:
6651 Brookshire Street

Description:

This SSO was the result of debris in a sewer lateral creating a blockage. PWC right of way clearing crew identified the overflow during easement management activities. Due to the extent of the debris blockage, wastewater exited from the PWC cleanout stack and immediately entered an unnamed tributary to the Bones Creek.

Corrective measures:

PWC maintenance staff jet rodded the lateral to clear the debris blockage and end the spill incident. The wastewater exiting the cleanout stack could not be reclaimed as it entered actively moving groundwater in the tributary. A lateral camera inspection was performed to verify removal of the debris from the sewer lateral. The area around the cleanout was treated with lime and odor counteractant.

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Event 15: **Date:** 6/30/2022 **Gallons:** 3,150

Location:
2607 Cherry Plum Drive

Description:

This SSO was the result of a grease and debris blockage in the sewer main. Due to the extent of the grease and debris blockage, wastewater exited from the sanitary sewer cleanout stack behind the curb and ran along the curb line entering a storm drainage system tributary to Upchurches Pond.

Corrective measures:

PWC maintenance personnel jet rodded the sewer main to remove the grease and debris blockage and end the spill incident. Further investigation of the sewer service lateral, where sewer was escaping, revealed that the cleanout stack had been previously damaged by underground utility boring operations. PWC maintenance personnel repaired the cleanout stack while on site. Wastewater entering the storm drainage system could not be reclaimed, but the storm drainage system was flushed with potable water. The affected area was treated with odor counteractant. Main cleaning, manhole inspections, and CCTV inspections were completed to ensure that all debris had been removed from the sewer system.

Event 16: **Date:** 6/30/2022 **Gallons:** 12,600

Location:
4106 Whisper Wood Drive

Description:

This SSO was the result of a grease and debris blockage in the sewer main. Due to the extent of the grease and debris blockage, wastewater exited from a manhole in the street and ran along the curb line entering a storm drainage system tributary to Upchurches Pond.

Corrective measures:

PWC maintenance personnel jet rodded the sewer main to clear the grease and debris blockage and end the spill incident. Wastewater entering the storm drainage system could not be reclaimed, but the storm drainage system was flushed with potable water. The affected area was treated with odor counteractant. Main cleaning, manhole inspections, and CCTV inspections were completed to ensure that all debris had been removed from the sewer system.

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Town of Stedman WQCS0537 - Summary of Collections System Performance for Fiscal Year (July 2021 – June 2022)

During the Fiscal Year July 2021 – June 2022, approximately 46.6 million gallons of wastewater were conveyed to the PWC collection system and treated at the Rockfish Creek Water Reclamation Facility. No reportable sanitary sewer overflows were reported to the NC Department of Environment and Natural Resources, Water Quality Division.

NORCRESS WQCS00353 - Summary of Collections System Performance for Fiscal Year (July 2021 – June 2022)

During the Fiscal Year July 2021 – June 2022, approximately 49.2 million gallons of wastewater were conveyed to the PWC collection system and treated at the Cross Creek Water Reclamation Facility. No reportable sanitary sewer overflows were reported to the NC Department of Environment and Natural Resources, Water Quality Division.

Kelly Hills - Summary of Collections System Performance for Fiscal Year (July 2021 – June 2022)

During the Fiscal Year July 2021 – June 2022, approximately 1.3 million gallons of wastewater were conveyed to the PWC collection system and treated at the Cross Creek Water Reclamation Facility. No reportable sanitary sewer overflows were reported to the NC Department of Environment and Natural Resources, Water Quality Division.

Note: Copies of sanitary sewer overflows are on file at the Public Works Commission's Water Resources Construction Department located at 955 Old Wilmington Road.

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Treatment Systems

General Information

Facility/System Name: **Cross Creek Water Reclamation Facility**

Responsible Entity: **Public Works Commission of the City of Fayetteville**

Persons in Charge/Contact: **Michael Scott McCoy, Facilities Supervisor
(910) 223-4757
Wendell "Chuck" Baxley, Facilities Manager
(910) 223-4701**

Applicable Permit(s): **NPDES NC0023957
WQ0000527
NCGNE1080**

Description of Treatment Process

The Cross Creek facility is permitted to process 25 million gallons per day (MGD) of wastewater. The treatment processes consist of an influent pump station, mechanical bar screens, grit removal, primary clarification, activated sludge system with nitrification, secondary clarification, filtration, disinfection, and de-chlorination. Biosolids generated by these processes are stabilized through anaerobic digestion and recycled as a fertilizer and soil conditioner to various land application sites.

Summary of Treatment System Performance for Fiscal Year (July 2021 – June 2022)

The Cross Creek Water Reclamation Facility consistently met all permit requirements in the fiscal year.

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Treatment Systems

General Information

Facility/System Name: **Rockfish Creek Water Reclamation Facility**

Responsible Entity: **Public Works Commission of the City of Fayetteville**

Persons in Charge/Contact: **Michael Scott McCoy, Facilities Supervisor
(910) 223-4757
Wendell "Chuck" Baxley, Facilities Manager
(910) 223-4701**

Applicable Permit(s): **NPDES NC0050105
WQ0000527
NCGNE061**

Description of Treatment Process

The Rockfish Creek facility is permitted to process 21 million gallons per day (MGD) of wastewater. The treatment processes consist of an influent pump station, mechanical bar screens, grit removal, activated sludge system with nitrification, secondary clarification, filtration, disinfection, and de-chlorination. Biosolids generated by these processes are stabilized through aerobic digestion and recycled as a fertilizer and soil conditioner to various land application sites.

Summary of Treatment System Performance for Fiscal Year (July 2021 – June 2022)

The Rockfish Creek Water Reclamation Facility consistently met all permit requirements in the fiscal year.

**2020-2021 WASTEWATER COLLECTIONS AND TREATMENT SYSTEMS
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Notification and Certification

Prevention

During the time from July 2021 - June 2022, PWC made the following efforts to reduce overflows as associated with grease:


- Conducted a public information campaign that included radio & television advertising; information in quarterly customer newsletter; and several customer targeted messages about proper grease and wipes disposal.
- Provided approximately 1,100 "Fat Trapper" grease disposal containers to customers as part of "Cease the Grease" Education program.
- Conducted priority cleaning and rehabilitation of "targeted problem" sewer lines.
- Conducted 12 phone broadcasts targeted to customers in identified grease problem areas.

Notification

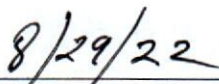
The report shall be available on the Fayetteville Public Works Commission's web site (www.faypwc.com) and at the PWC Communications/Community Relations Office (910-223-4009). A statement of availability will be included in customers' billing.

Certification

I certify under penalty of law that this report is complete and accurate to the best of my knowledge. I further certify this report has been made available to the users or customers of the named system and those users have been notified of its availability.



M. J. Noland
Chief Operating Officer-Water Resources Division
Fayetteville Public Works Commission



Date