WASTEWATER COLLECTIONS
AND TREATMENT SYSTEMS
ANNUAL PERFORMANCE REPORT

July 1, 2017 - June 30, 2018

Fayetteville's HOMETOWN UTILITY

Fayetteville Public Works Commission
Fayetteville Public Works Commission enjoyed another year of truly excellent performance at both of our treatment plants and the collection systems which they serve. We had no permit exceedances at either treatment plant, which is an extraordinary accomplishment given the myriad of regulatory requirements we must meet. Our plants have been recognized by the NC Department of Environmental Quality as “Exceptionally Performing Facilities.” We only had 23 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.

**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) WQCSD0537, (Norcrest) 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 also 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 85,465 customers in the City of Fayetteville and surrounding Cumberland County area. The PWC serves approximately 21 Industrial, 6 Wholesale, 5,671 Non-Residential, 255 Flat Rate Non-Residential, 71,944 Residential, and 7,503 Flat Rate Residential customers. PWC also provides wastewater service to 83 City of Fayetteville sites and to 15 Public Works Commission sites. 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 583 customers (516 residential and 67 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 480 customers (418 residential and 62 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 2017 – June 2018)

During the Fiscal Year July 2017 – June 2018, approximately 8.6 billion gallons of wastewater were conveyed
to the Cross Creek and Rockfish Creek Water Reclamation Facilities. Sanitary sewer overflows totaling
432,186 gallons or .0050% of total gallons conveyed were reported to the NC Department of Environment and
Natural Resources, Water Quality Division. Monthly estimates are as follows:

<table>
<thead>
<tr>
<th>Month</th>
<th>Gallons</th>
<th>Month</th>
<th>Gallons</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>4</td>
<td>January</td>
<td>1,105</td>
</tr>
<tr>
<td>August</td>
<td>32,551</td>
<td>February</td>
<td>9,345</td>
</tr>
<tr>
<td>September</td>
<td>29,439</td>
<td>March</td>
<td>113,471</td>
</tr>
<tr>
<td>October</td>
<td>1,371</td>
<td>April</td>
<td>220,440</td>
</tr>
<tr>
<td>November</td>
<td>2,635</td>
<td>May</td>
<td>2,246</td>
</tr>
<tr>
<td>December</td>
<td>19,372</td>
<td>June</td>
<td>171</td>
</tr>
</tbody>
</table>

Public Works Commission Collections System Performance for Fiscal Year (July 2017-June 2018)
(continued)

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

<table>
<thead>
<tr>
<th>Event 1: Date:</th>
<th>8/3/17</th>
<th>Gallons:</th>
<th>14,550</th>
</tr>
</thead>
</table>

Location:
1824 Conover Drive

Description:
Debris was introduced into a manhole in Owen Drive by the NCDOT contractor working on the Owen Drive
project. Concrete debris fell into the manhole during grade adjustments and blocked the flow thru the manhole.
The collection system upstream of the manhole backed up and overflowed at 1824 Conover Drive.

Corrective measures:
The sewer main was jet rodded to clear the blockage and end the spill incident. Vactor trucks were used to help
relieve the surcharging on Conover Drive. Upon the sewer system returning to normal flow a confined space
entry was performed and the debris was manually removed from the manhole. The debris at the spill site was
cleaned up and the storm drainage system adjacent to the spill was flushed with potable water.
Event 2: Date: 8/5/2017 Gallons: 1,984

Location:
6102 Conaway Drive

Description:
This SSO was a result of a grease blockage in the sewer main.

Corrective measures:
The sewer main was jet rodded to clear the grease blockage and end the spill incident. The affected area was cleaned up and lime and odor counteractant were applied. Main cleaning and CCTV inspections were conducted upstream and downstream of the spill location.

Event 3: Date: 8/14/2017 Gallons: 1,942

Location:
3518 Madison Avenue

Description:
This SSO was a result of a grease blockage in the sewer main.

Corrective measures:
The sewer main was jet rodded to clear the blockage and end the spill incident. Wastewater and debris were removed from the roadway. The storm drainage system was flushed with potable water and reclaimed at the next downstream storm structure prior to the drainage tributary. Main cleaning and CCTV inspections were performed upstream and downstream of the blockage location.

Event 4: Date: 8/23/2017 Gallons: 12,710

Location:
N. Cool Springs St. at Hawley Lane

Description:
This SSO was the result of an inflatable pipe plug partially deflating and allowing sewer to pass by the plug. This location was on a sewer bypass system due to the storm damage from Hurricane Matthew.
Corrective measures:
PWC crews responded and installed a new sewer bypass plug downstream of the plug that failed. This ended the spill incident. The sewer which spilled went directly into the Cross Creek so no wastewater or debris cleanup could be performed. The affected area was treated with lime and odor counteractant.

Event 5:
Date: 9/3/2017
Gallons: 120

Location:
N. Cool Spring St. at Hawley Lane

Description:
This SSO was due to the partial deflation of an inflatable sewer bypass plug. The location was still on a sewer bypass pumping system due to damage from Hurricane Matthew.

Corrective measures:
PWC crews responded and found that the inflatable plug was not fully inflated allowing sewer to escape the pipe. The plug was immediately inflated to end the spill incident. No cleanup was required, but the area was treated with lime and odor counteractant. The next day crews installed a permanent grout plug to eliminate the issues with the inflatable plugs.

Event 6:
Date: 9/5/2017
Gallons: 28,336

Location:
7403 Rockfish Road

Description:
This SSO was due to pipe failure as a section of the sewer main beneath Rockfish Road collapsed.

Corrective measures:
A sanitary sewer bypass was installed to end the spill incident. The section of main which failed was sliplined with HDPE to restore functionality. Wastewater and residue at the spill site was reclaimed using vactor trucks. The affected area was treated with lime and odor counteractant. Heavy rainfall at the time of the SSO heavily diluted the wastewater which escaped.
Event 7: Date: 9/12/2017 Gallons: 25

Location:
339 Vanstory Street

Description:
This SSO was due to a lateral connection not being reinstated after a sewer main lining operation by a PWC contractor.

Corrective measures:
PWC responded to the site and evaluated what was causing the overflow. CCTV equipment was used to verify that the connection had not been reinstated. Crews excavated the tap connection to the main and physically reinstated the connection to the lined main ending the spill incident.

Event 8: Date: 10/6/2017 Gallons: 50

Location:
3433 North Main Street

Description:
This SSO was the result of a pipe failure on a 4” lateral.

Corrective measures:
The sewer lateral was jet rodded to clear the blockage and end the spill incident. The sewer running down the curb line was blocked with dirt to stop it from entering a nearby catch basin as much as possible. The ponding wastewater was reclaimed and the storm drain system was flushed and diluted due to a rain event. The sewer lateral was inspected with CCTV and it was determined that the pipe had failed. The lateral was repaired and made functional again.

Event 9: Date: 10/18/2017 Gallons: 1,188

Location:
5474 Richwood Court
Description:

This SSO was caused by a grease blockage in the sewer main.

Corrective measures:

The sewer main was jet rodded to clear the blockage and end the spill incident. Wastewater which entered the drainage tributary could not be reclaimed, but localized pools of wastewater were able to be collected. The area was treated with lime and odor counteractant. Main cleaning and CCTV inspections were conducted upstream and downstream of the stoppage location.

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Event 10: Date: 11/3/2017 Gallons: 1,580

Location:

616 S. King Street

Description:

This SSO was due to a pipe failure on a 6" force main.

Corrective measures:

A vactor truck was used to vacuum excavate the force main at the location of the leak. The vactor truck was able to expose the pipe and keep the sewer escaping from the cracked pipe from leaving the excavation. The crew installed a repair clamp on the force main to end the spill incident. All wastewater which had ponded in the area was reclaimed and the area was treated with lime and odor counteractant.

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Event 11: Date: 11/29/2017 Gallons: 280

Location:

227 Fountainhead Lane

Description:

This SSO was due to a pipe failure on a 6" sewer lateral.

Corrective measures:

A combination vacuum/jetter truck was used to vacuum wastewater from the sewer service cleanout ending the spill incident. The wastewater which escaped and pooled in the surrounding area was reclaimed and the area cleaned up. The storm drain adjacent to the spill was cleaned and the wastewater removed using the vactor truck. The lateral was repaired by PWC crews and scheduled for lining by a PWC contractor.
Event 12:  
**Date:** 12/10/2017  
**Gallons:** 19,111

**Location:**

2348 Lake Avenue

**Description:**

The SSO was due to a grease and debris stoppage in the sewer main.

**Corrective measures:**

The sewer main was jet rodded to remove the debris and grease blockage in the main ending the spill incident. The debris which was reclaimed from the sewer system included sticks, bottles, and other foreign objects. A manhole was located upstream which was missing the lid. A locking ring and cover was installed on this manhole to prevent future occurrences. The wastewater which was present on the ground was reclaimed and the area was treated with lime and odor counteractant. Main cleaning and CCTV inspections were performed upstream and downstream of the blockage location.

Event 13:  
**Date:** 1/29/2018  
**Gallons:** 900

**Location:**

201 Tallstone Drive

**Description:**

This SSO was due to a grease blockage in the sewer main.

**Corrective measures:**

The sewer main was jet rodded to clear the grease blockage and end the spill incident. The wastewater entered into a nearby catch basin and was diluted by rainfall which was occurring over a two day period. Main cleaning and CCTV inspections were performed upstream and downstream of the blockage.

Event 14:  
**Date:** 2/4/2018  
**Gallons:** 8,965

**Location:**

1940 Havilah Road
Description:

This SSO was caused by a root blockage in the sewer main.

Corrective measures:

The main was jet rodded to clear the sewer blockage and end the spill incident. Mechanical root cutting was performed to remove the roots in this section of sewer main. The wastewater which was on the ground was reclaimed and the area treated with lime and odor counteractant. The wastewater which entered the wet drainage ditch was diluted by rainfall occurring at the time of the spill. Main cleaning, root cutting, and CCTV inspections were performed upstream and downstream of the blockage location.

Event 15:  Date: 2/14/2018  Gallons: 304

Location:

608 Woodclift Drive

Description:

This SSO was due to a root blockage in the sewer main.

Corrective measures:

The sewer main was jet rodded to clear the blockage and end the spill incident. Mechanical root cutting was performed to remove the root mass in the main. The surrounding area was cleaned up and wastewater reclaimed. The storm system was cleaned out and flushed with potable water. Main cleaning, root cutting, and CCTV inspections were completed upstream and downstream of the blockage.

Event 16:  Date: 3/19/2018  Gallons: 100

Location:

415 Waddell Drive

Description:

The SSO was the result of a grease blockage and debris in the sewer main. The debris present was hair weave materials and heavy paper products.

Corrective measures:

The sewer main was jet rodded to clear the grease and debris stoppage and end the spill incident. The wastewater entered into an area which was impounding water due to beaver activity. The water which was reclaimed.
impounded was pumped into the sewer manhole to put the wastewater back into the sewer system. The affected area was treated with lime and odor counteractant. Main cleaning and CCTV inspections were performed upstream and downstream of the blockage location.

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**Event 17:**
**Date:** 3/29/2018  
**Gallons:** 113,338

**Location:**
5400 Ramsey Street

**Description:**
This SSO was the result of a pipe failure on the 20” North Fayetteville Force Main.

**Corrective measures:**
The 20” force main was uncovered and found to have a couple of holes in the pipe due to corrosion. PWC crews installed two permanent repair clamps to repair the pipe. During the repairs the North Fayetteville Force Main was shut down temporarily and operated manually as needed to keep the flow off of the crew doing the repair. The wastewater ponded in a low lying area of the Methodist University golf course and along the railroad right of way ditch line. Vactor trucks reclaimed wastewater from the low lying areas that could be reached. The remaining wastewater soaked into the soil. The affected areas were treated with lime and odor counteractant. None of the wastewater reached surface waters as it was all contained.

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**Event 18:**
**Date:** 4/12/2018  
**Gallons:** 76,965

**Location:**
705 Duggins Way

**Description:**
This SSO was the result of a power outage and subsequent lift station equipment failure.

**Corrective measures:**
There was a power outage that affected the Neal Street Lift Station and when the automatic transfer switch tried to engage the generator it malfunctioned. The ATS got stuck between the generator and primary power modes and did not reset. Lift Station staff responded to the station and discovered that the ATS had malfunctioned. They manually placed the station back on primary power and the station began operation again. Sewer was exiting from a manhole on the easement adjacent to the lift station. Vactor trucks performed pump and haul operation from a manhole at the lift station site to help the station eliminate the spill and restore the collection system to normal operation.
Event 19: Date: 4/20/2018 Gallons: 11,275

Location:
N. Cool Spring St. at Hawley Lane

Description:
This SSO was the result of a City wide power outage that affected the Cross Creek WWTP. The Cross Creek WWTP lost power and was not able to maintain generator backup so the collection system began surcharging.

Corrective measures:
The surcharging of the sewer system caused an overflow at North Cool Spring Street and Hawley Lane. Power was restored to the WWTP which ended the spill incident as the plant came back online and the surcharging was eliminated. The wastewater entered Cross Creek directly and did not allow for any cleanup. The affected area was treated with lime and odor counteractant. Plant mechanical staff performed troubleshooting on the generator and repaired it.

Event 20: Date: 4/25/2018 Gallons: 12,986

Location:
175 Cape Fear River Trail

Description:
This SSO was the result of a pipe failure on the 8" Methodist University force main.

Corrective measures:
A section of the 8" cast iron force main failed and caused the SSO. The Methodist College Lift Station was shut down to eliminate flow on the force main ending the spill incident. Vactor trucks maintained the lift station while the repairs were ongoing. The failed pipe was cut out and replaced with DI pipe and two sleeves. The surrounding area was treated with lime and odor counteractant.

Event 21: Date: 4/26/2018 Gallons: 125

Location:
4705 Belford Road
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Description:

This SSO was due to a contractor’s mechanical plug that was inadvertently left in place as part of a DOT project. The plug was not removed at the end of the DOT project and caused the backup in the sewer system.

Corrective measures:

Manhole entry was made and the plug was removed which ended the spill incident. The wastewater which entered the storm drainage system could not be reclaimed. The storm drain system was flushed with potable water. The wastewater on the ground and in the road was reclaimed. Odor counteractant was applied to the area. Main cleaning was performed upstream of the plug location.

Event 22:  Date: 4/30/2018  Gallons: 18,116

Location:

5400 Ramsey Street

Description:

This SSO was related to a pipe failure on the 8” Methodist University Force Main.

Corrective measures:

A section of the 8” cast iron force main failed and caused the SSO. The Methodist College Lift Station was shut down to eliminate flow on the force main ending the spill incident. Vactor trucks maintained the lift station while the repairs were ongoing. The failed pipe was repaired with a repair clamp. The surrounding area was treated with lime and odor counteractant.

Event 23:  Date: 5/26/2018  Gallons: 1,905

Location:

3501 N. Main Street

Description:

This SSO was the result of debris and a grease blockage in the sewer main. The debris found at this location was heavy paper products.

Corrective measures:

The sewer main was jet rodded to clear the blockage and end the spill incident. The wastewater entered a catch basin which flowed to a dry drainage ditch. The wastewater that made it to the dry drainage ditch soaked into

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the surrounding soil. The area was cleaned up and treated with lime and odor counteractant. Main cleaning and
CCTV inspections were performed upstream and downstream of the blockage location.

Town of Stedman WQCS0537 - Summary of Collections System Performance for Fiscal Year (July
2017 – June 2018)

During the Fiscal Year July 2017 – June 2018, approximately 46.6 million gallons of wastewater were
conveyed to the PWC collection system and treated at the Rockfish Creek Water Reclamation Facility. There
were not any reportable sanitary sewer overflows reported to the NC Department of Environment and Natural
Resources, Water Quality Division.

NORCRESS WQCS00353 - Summary of Collections System Performance for Fiscal Year (July 2017 –
June 2018)

During the Fiscal Year July 2017 – June 2018, approximately 49.2 million gallons of wastewater were
conveyed to the PWC collection system and treated at the Cross Creek Water Reclamation Facility. There were
not any reportable sanitary sewer overflows reported to the NC Department of Environment and Natural
Resources, Water Quality Division.

Kelly Hills - Summary of Collections System Performance for Fiscal Year (July 2017 – June 2018)

During the Fiscal Year July 2017 – June 2018, 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 2017 – June 2018)

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

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
NCGNE0613

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
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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 2017 – June 2018)

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

Notification and Certification

Prevention

During the time from July 2017 - June 2018, 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 disposal.
- Provided 1700 "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
8/23/19