

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

July 1, 2016 - June 30, 2017



Fayetteville Public Works Commission

**2016-2017 WASTEWATER COLLECTIONS AND TREATMENT SYSTEMS  
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Fayetteville Public Works Commission enjoyed another year of truly excellent performance at both of our treatment plants and the collection systems which they serve. Outside of upset condition during *Hurricane Matthew*, 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.” Outside of issues related to *Hurricane Matthew*, we only had 10 events where sewage was released from the collection system, and these few 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) WQCSD0537, (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 also includes 72 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.

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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.

**Public Works Commission of the City of Fayetteville WQCS00007 - Summary of Collections System Performance for Fiscal Year (July 2016 – June 2017)**

During the Fiscal Year July 2016 – June 2017, approximately 10.0\* billion gallons of wastewater were conveyed to the Cross Creek and Rockfish Creek Water Reclamation Facilities. Sanitary sewer overflows totaling 5,230,149 gallons or .00052% 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	0	January	0
August	0	February	0
September	14,500	March	244
October	5,202,803*	April	4070
November	6865*	May	514
December	0	June	115

**Public Works Commission Collections System Performance for Fiscal Year (July 2016-June 2017) (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:

\*Overflows related to Hurricane Matthew.

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**Event 1:**      **Date:** 9/30/16      **Gallons:** 14,500

**Location:**

4562 Calico Street

**Description:**

There was an 11” rain event on this date and it resulted in regional flooding. PWC’s lift station maintained normal operation until rising flood waters reached the automatic transfer switch (ATS), short circuiting the motor control center.

**Corrective measures:**

A bypass pumping system was in transit to the site when failure was identified and it was made operational a short time after, ending the spill incident. Three combination vacuum/jetter trucks were used upstream of the spill site to reduce system flows until normal flows resumed. No cleanup was required due to heavy dilution of wastewater with flood waters. No negative environmental impact was associated with this spill.

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**Event 2:**      **Date:** 10/8/2016      **Gallons:** 39,662

**Location:**

4471 Jockey Whip Lane – LS#100

**Description:**

Regional flooding resulting in power outage associated with *Hurricane Matthew*. Lift station continued normal operation during storm event until rising flood waters and high winds disrupted power service to the area. Flooding in the neighborhood was extensive, not allowing access to the lift station.

**Corrective measures:**

Upon flood waters receding, a sewer bypass pumping system was installed ending the spill incident. The sewer bypass pumping system maintained system flows until power service was restored. Forecasts called for varying levels of impact from *Hurricane Matthew*. All lift stations were inspected, tested, generators fueled, etc. in preparation. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 3:**      **Date:** 10/8/2016                      **Gallons:** 721,714

**Location:**

4562 Calico Drive – LS#70

**Description:**

Regional flooding resulting in power outage associated with *Hurricane Matthew*. Lift station continued normal operation during storm event until rising flood waters inundated upstream collection system. A sewer bypass pumping system installed upstream of the lift station continued normal operation until rising flood waters submerged the pump, rendering pump inoperable. Lift station lost full power due to the flood waters.

**Corrective measures:**

Forecasts called for varying levels of impact from *Hurricane Matthew*. All lift stations were inspected, tested, generators fueled, etc. in preparation. The amount of heavy rainfall and flooding exceeded forecast predictions. Although SSO was not directly observed, the loss of utility power, on site backup generator, and bypass pumping system likely resulted in sanitary sewer exiting the lift station and collection system. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 4:**      **Date:** 10/8/2016                      **Gallons:** 27,000

**Location:**

102 Dunn Road – LS#9

**Description:**

Regional flooding associated with *Hurricane Matthew*. Lift station continued normal operation during storm event until upstream system flows inundated the lift station.

**Corrective measures:**

Forecasts called for varying levels of impact from *Hurricane Matthew*. All lift stations were inspected, tested, generators fueled, etc. in preparation. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. A sewer bypass pumping system was installed and made operational, ending spill incident. Combination vacuum/jetter trucks were used at the lift station site to reduce wet well volume until normal flows resumed. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 5:**      **Date:** 10/8/2016      **Gallons:** 136,270

**Location:**

5423 Corporation Drive – LS#73

**Description:**

Regional flooding associated with *Hurricane Matthew* resulted in a power outage. Lift station continued normal operation during storm event until rising flood waters and high winds disrupted power service to the area. Flooding in the area was extensive and roads closed, not allowing access to the lift station. Upon flood waters receding and roads opening, a sewer bypass pumping system was installed, ending the spill incident.

**Corrective measures:**

Forecasts called for varying levels of impact from *Hurricane Matthew*. All lift stations were inspected, tested, generators fueled, etc. in preparation. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. A sewer bypass pumping system was installed and made operational, ending spill incident. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 6:**      **Date:** 10/8/2016      **Gallons:** 107,347

**Location:**

1520 Clinton Road – LS#10

**Description:**

Regional flooding associated with *Hurricane Matthew* resulted in a power outage. Lift station continued normal operation during storm event until rising flood waters caused motor control failure. Flooding in the area was extensive and roads closed, not allowing access to the lift station. Upon flood waters receding and roads opening, motor controls were manually reset ending the spill incident.

**Corrective measures:**

Upon flood waters receding and roads opening, motor controls were manually reset ending the spill incident. Forecasts called for varying levels of impact from *Hurricane Matthew*. All lift stations were inspected, tested, generators fueled, etc. in preparation. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 7:**      **Date:** 10/8/2016                      **Gallons:** 43,590

**Location:**

5020 Woodspring Drive – LS#71

**Description:**

Regional flooding associated with *Hurricane Matthew* resulted in a power outage. Lift station continued normal operation during storm event until rising flood waters and high winds disrupted power service to the area. Flooding in the neighborhood was extensive, not allowing access to the lift station.

**Corrective measures:**

Upon flood waters receding, a generator truck was able to connect to the lift station ending the spill incident. Combination vacuum/jetter trucks were used in conjunction with the generator truck until power service to the area was restored. Forecasts called for varying levels of impact from *Hurricane Matthew*. All lift stations were inspected, tested, generators fueled, etc. in preparation. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 8:**      **Date:** 10/8/2016                      **Gallons:** 3,955

**Location:**

3340 Gillespie Street - LS#26

**Description:**

Regional flooding associated with *Hurricane Matthew*. Lift station continued normal operation during storm event until up stream flows inundated the lift station.

**Corrective measures:**

A vacuum truck was used to maintain the wet well, ending the spill incident. The vacuum truck maintained the wet well until normal flows resumed. Forecasts called for varying levels of impact from *Hurricane Matthew*. All lift stations were inspected, tested, generators fueled, etc. in preparation. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 9:**      **Date:** 10/8/2016                      **Gallons:** 1,372

**Location:**

107 Tom Starling Road - LS#25

**Description:**

Regional flooding associated with *Hurricane Matthew* caused a power outage. Lift station continued normal operation during storm event until rising flood waters and high winds disrupted power service to the area. Flooding in the area was extensive and roads closed, not allowing access to the lift station.

**Corrective measures:**

Upon flood waters receding and roads opening, power supply was restored ending the spill incident. Forecasts called for varying levels of impact from *Hurricane Matthew*. All lift stations were inspected, tested, generators fueled, etc. in preparation. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 10:**      **Date:** 10/8/2016                      **Gallons:** 3,356

**Location:**

3599 Treasure Court - LS#69

**Description:**

Regional flooding associated with *Hurricane Matthew* caused a power outage. Lift station continued normal operation during storm event until rising flood waters and high winds disrupted power service to the area. Flooding in the area was extensive, not allowing access to the lift station.

**Corrective measures:**

Upon flood waters receding, combination vacuum/jetter trucks were used to maintain wet well until power service was restored. Forecasts called for varying levels of impact from *Hurricane Matthew*. All lift stations were inspected, tested, generators fueled, etc. in preparation. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 11:**      **Date:** 10/9/2016                      **Gallons:** 13,200

**Location:**

3425 Hawthorne Street – MH upstream of Lift Station

**Description:**

Regional flooding associated with *Hurricane Matthew* inundated the collection system, surcharging lines and causing wastewater to exit from a manhole in an easement area.

**Corrective measures:**

Combination vacuum/jetter trucks maintained the system flows, ending the spill incident. Combination vacuum/jetter trucks maintained system flow until normal flows resumed. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 12:**      **Date:** 10/9/2016                      **Gallons:** 189,525

**Location:**

3545 Sweetbay Circle

**Description:**

Regional flooding associated with *Hurricane Matthew* caused Evans Lake Dam to fail, directing all lake and upstream flood waters towards the 18” aerial pipe crossing, causing pipe failure.

**Corrective measures:**

Upon notification from a nearby resident, heavy equipment, materials, and sewer bypass pumping equipment were mobilized to the failure area with the assistance of a police escort. A sewer bypass pumping system was installed, ending the spill incident. Forecasts called for varying levels of impact from *Hurricane Matthew*. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 13:**      **Date:** 10/9/2016                      **Gallons:** 5,023

**Location:**

713 Middle Road - LS#31

**Description:**

Regional flooding associated with *Hurricane Matthew*. Lift station continued normal operation during storm event until rising flood waters caused motor control failure. Flooding in the area was extensive, not allowing access to the lift station.

**Corrective measures:**

Upon flood waters receding, the motor controls were manually reset ending the spill incident. Forecasts called for varying levels of impact from *Hurricane Matthew*. All lift stations were inspected, tested, generators fueled, etc. in preparation. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 14:**      **Date:** 10/9/2016                      **Gallons:** 27,000

**Location:**

636 Old Wilmington Road

**Description:**

Regional flooding associated with *Hurricane Matthew*. Rising flood waters during the storm event inundated the collection system, surcharging lines and causing wastewater to exit from a manhole in the street.

**Corrective measures:**

Combination vacuum/jetter trucks maintained system flows, ending the spill incident. System flows were maintained with combination vacuum/jetter trucks until normal flows resumed. Forecasts called for varying levels of impact from *Hurricane Matthew*. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 15:**      **Date:** 10/10/2016                      **Gallons:** 4,250

**Location:**

908 Mariposa Court - LS#46

**Description:**

Regional flooding associated with *Hurricane Matthew* caused a power outage. Lift station continued normal operation during storm event until rising flood waters and high winds disrupted power service to the area.

**Corrective measures:**

Combination vacuum/jetter trucks maintained wet well, ending spill incident prior to power being restored. Forecasts called for varying levels of impact from *Hurricane Matthew*. All lift stations were inspected, tested, generators fueled, etc. in preparation. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 16:**      **Date:** 10/10/2016                      **Gallons:** 750

**Location:**

4209 Raccoon Path - LS#103

**Description:**

Regional flooding associated with *Hurricane Matthew* caused a power outage. Lift station continued normal operation during storm event until rising flood waters caused motor control failure. Flooding in area was extensive and roads closed, not allowing access to the lift station.

**Corrective measures:**

Upon flood waters receding and roads opening, motor controls were manually reset ending the spill incident. Forecasts called for varying levels of impact from *Hurricane Matthew*. All lift stations were inspected, tested, generators fueled, etc. in preparation. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 17:**      **Date:** 10/10/2016                      **Gallons:** 388,800

**Location:**

5708 Selkirk Place

**Description:**

Regional flooding associated with *Hurricane Matthew* caused Arran Lakes dam to fail. This directed all lake and upstream flood waters to Cumberland Creek tributary and resulted in an elevated manhole riser and cone to topple. Sediment from the lake bed entered the remainder of the manhole structure and downstream collection system piping.

**Corrective measures:**

Upon notification of dam failure and visual observation of the toppled manhole, heavy equipment, materials, and a sewer bypass pumping system were mobilized to the failure area. Combination vacuum/jetter trucks worked to clear the blockage unsuccessfully due to constant flows in the stream channel around the manhole. A sewer bypass pumping system was installed ending the spill incident. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 18:**      **Date:** 10/10/2016                      **Gallons:** 40,800

**Location:**

1253 Bingham Drive

**Description:**

Regional flooding associated with *Hurricane Matthew* caused the roadway to fail at the culvert crossing. The failure of the culvert caused numerous utility pipe failures.

**Corrective measures:**

Access to the failure area was inhibited by flooding in the area and road closures. All available sewer bypass pumping systems were obligated to other emergency situations and no additional vendor equipment was available to this region. Flow from the pipe failure resumed until temporary repairs were made, ending the spill incident. Forecasts called for varying levels of impact from *Hurricane Matthew*. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 19:**      **Date:** 10/10/2016                      **Gallons:** 126,650

**Location:**

6122 Lexington Drive

**Description:**

Combination vacuum/jetter trucks were attempting to clear a pipe blockage, but were unsuccessful. It was discovered that the 8” concrete pipe had collapsed. An emergency repair crew made numerous attempts to perform repairs, but were also unsuccessful.

**Corrective measures:**

A sewer bypass pumping system was installed ending the spill incident. Duration of the spill incident was lengthened due to regional flooding and numerous road closures in the Hope Mills Area. Thus delaying response times for crews and needed equipment. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 20:**      **Date:** 10/11/2016                      **Gallons:** 14,282

**Location:**

5400 Ramsey Street – LS#44

**Description:**

Regional flooding associated with *Hurricane Matthew*. Lift station continued normal operation during storm event until rising flood waters and high winds disrupted power service to the area. Flooding in the area was extensive, not allowing access to the lift station.

**Corrective measures:**

Upon flood waters receding, combination vacuum/jetter trucks maintained the wet well ending the spill incident. Combination vacuum/jetter trucks maintained the wet well until power service was restored to the area. Forecasts called for varying levels of impact from *Hurricane Matthew*. All lift stations were inspected, tested, generators fueled, etc. in preparation. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 21:**      **Date:** 10/12/2016                      **Gallons:** 1,695

**Location:**

4551 Pennystone Drive

**Description:**

Regional flooding associated with *Hurricane Matthew*. Rising flood waters during the storm event eroded the top of the creek bank and residential properties, exposing the 18" clay sewer main. Also, high winds in conjunction with the rainfall downed trees and contributed to the eroded soil.

**Corrective measures:**

Gravity sewer main was discovered by PWC field personnel during post storm inspections of the collection system. A pipe bell was damaged as part of the eroding and debris scattering caused by the storm. Emergency maintenance personnel nearby responded to make pipe repairs and ended the spill incident. Forecasts called for varying levels of impact from *Hurricane Matthew*. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 22:**      **Date:** 10/12/2016                      **Gallons:** 52,020

**Location:**

208 N. Cool Spring Street

**Description:**

Regional flooding associated with *Hurricane Matthew*. Rising flood waters during the storm event caused the roadway to fail at the bridge crossing, thus causing numerous utility failures. Also, high winds downed trees and introduced extensive debris into flood waters causing aerial piping and manhole failures.

**Corrective measures:**

A sewer bypass pumping system was installed and ended the spill incident. Forecasts called for varying levels of impact from *Hurricane Matthew*. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 23:**      **Date:** 10/19/2016                      **Gallons:** 2,501

**Location:**

301 N. Cool Spring Street

**Description:**

The SSO was the result of a bypass pump failure. The sewer bypass pumping system was installed after the storm to maintain the sewer flow until the sewer mains could be replaced.

**Corrective measures:**

A combination vacuum/jetter truck was used stop the overflow until an additional bypass pump could be installed. Installation of the new pump eliminated the need for the combination truck. Forecasts called for varying levels of impact from *Hurricane Matthew*. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. Wastewater was removed from the street area and adjacent storm drainage system. Affected area was cleaned.

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**Event 24:**      **Date:** 10/31/2016                      **Gallons:** 2,041

**Location:**

342 Offing Drive

**Description:**

Regional flooding associated with *Hurricane Matthew*. Rising flood waters during the storm event caused Lomond Lake dam to fail. All lake water and upstream flood waters went towards Offing Drive resulting in roadway failure at the culvert.

**Corrective measures:**

A sewer bypass pumping system was installed and ended the spill incident. Forecasts called for varying levels of impact from *Hurricane Matthew*. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with lake water.

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**Event 25:**      **Date:** 11/4/2016                      **Gallons:** 2

**Location:**

230 Green Street

**Description:**

Regional flooding associated with *Hurricane Matthew*. Rising flood waters during the storm event collected various types of debris and directed it directly against the 16” aerial pipe crossing and pipe supports. The result was the bending of the pipe supports and deflection of the aerial crossing at a lead joint connection.

**Corrective measures:**

PWC maintenance personnel re-packed the lead joint and installed a bell joint clamp which ended the spill incident. Forecasts called for varying levels of impact from *Hurricane Matthew*. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 26:**      **Date:** 11/17/2016                      **Gallons:** 6,750

**Location:**

936 Weiss Avenue

**Description:**

Regional flooding associated with *Hurricane Matthew*. Rising flood waters during the storm event caused the stream bank to erode and the toe of the slope to shift. This resulted in the failure of the pipe at three joints. This was discovered during post storm collection system inspections.

**Corrective measures:**

A sewer bypass pumping system was installed ending the spill incident. The pipe sections which were compromised were replaced with new joints of ductile iron sewer main. The stream bank was reconstructed and stabilized following repair of the sewer main. Forecasts called for varying levels of impact from *Hurricane Matthew*. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**Event 27:**      **Date:** 11/18/2016                      **Gallons:** 113

**Location:**

3867 Ramsey Street

**Description:**

There were elevated levels of stormwater runoff associated with *Hurricane Matthew*. The amount of heavy rainfall overwhelmed storm drainage systems of adjacent commercial developments. The stormwater runoff was directed into the sanitary sewer easement area resulting in pipe and manhole failures. Post hurricane inspections of the collection system began immediately after the flood waters receded and this failure was identified during those inspections.

**Corrective measures:**

Upon PWC field personnel discovering the failure additional personnel and materials were mobilized to the site to make the repair. The upstream manhole was plugged while combination vacuum/jetter trucks maintained the system flows ending the spill incident. The permanent repairs were performed and the system made back active. Forecasts called for varying levels of impact from *Hurricane Matthew*. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. Wastewater and associated residue was recovered during the repair process.

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**Event 28:**      **Date:** 3/14/2017                      **Gallons:** 83

**Location:**

4326 Coventry Road

**Description:**

A grease blockage was identified as the cause of the SSO at this location.

**Corrective measures:**

The sewer main was jet rodded to clear the grease blockage. The affected roadway area was cleaned up and lime applied to the creek bank. Main cleaning and cctv inspections were conducted at the site subsequent to the spill.

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**Event 29:**      **Date:** 3/24/2017                      **Gallons:** 161

**Location:**

7109 Priego Place

**Description:**

A root blockage in the main was determined to be the cause of the SSO.

**Corrective measures:**

The sewer main was jet rodded to clear the blockage and end the spill incident. The spill area adjacent to the manhole was cleaned to remove waste and wastewater residue. The affected area was treated with lime and odor counteractant. Additional mechanical root cutting was performed in conjunction with cctv inspections. Additional chemical root control was performed in June 2017. Root intrusions were previously identified in February 2011. This area has been chemically treated every two years since October 2011.

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**Event 30:**      **Date:** 4/4/2017                      **Gallons:** 3,583

**Location:**

3340 Gillespie Street-LS#26

**Description:**

The PWC sewer main rehabilitation contractor was lining the line segment which enters into the lift station. As part of the lining process, the liner is inverted and cured with heated water in excess of 180 degrees. Upon completion of the curing process, the heated water was released into the wet well making direct contact with the PVC mechanical float rod. The high temperature of the water softened the PVC material, rendering the float rod inoperable.

**Corrective measures:**

Lift station pumps were manually started to end the spill incident. The mechanical float rod was replaced and operation of the float system was tested. Wastewater exiting the lift station soaked into the surrounding soil. No waste material was there to remove. Area of impact was treated with lime.

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**Event 31:**      **Date:** 4/8/2017                      **Gallons:** 233

**Location:**

2291 Kerfield Court

**Description:**

It was determined that a grease blockage was the cause of the SSO.

**Corrective measures:**

The sewer main was jet rodded to clear the grease blockage. The affected area was cleaned up and lime was applied. Main cleaning and cctv inspections were completed at the spill location subsequent to the spill event.

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**Event 32:**      **Date:** 4/13/2017                      **Gallons:** 254

**Location:**

2037 Skibo Road

**Description:**

Concrete debris and sticks were introduced into the collection system at the location of a commercial development under construction. This appears to be the primary cause of the SSO.

**Corrective measures:**

Sewer main was jet rodded to clear the blockage and end the spill incident. Waste and wastewater residue was removed from the stormwater retention basin and area adjacent to the overflow site. Lime was also applied to the affected area.

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**Event 33:**      **Date:** 5/12/2017                      **Gallons:** 514

**Location:**

3406 Regiment Drive

**Description:**

It was determined that this SSO was the result of a grease stoppage in the main.

**Corrective measures:**

Sewer main was jet rodded to clear blockage which ended the spill incident. Main cleaning and cctv inspections were performed at the spill location. Mechanical root cutting was also performed while the operation was taking place. Waste and wastewater residue was removed from the incident location and the affected storm drainage system was also cleaned.. The line segment in question is being added to the chemical root control contract and also to the sewer main rehabilitation contract.

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**Event 34:**      **Date:** 6/4/2017                      **Gallons:** 378

**Location:**

6306 Brookshire Street

**Description:**

Report was made to PWC of a sinkhole in the roadway with sewer exiting from the sinkhole. Upon arrival of PWC staff, no overflow was observed. Evidence was present though that would indicate a spill had occurred. Upon excavation of the sinkhole it was discovered the sewer main had been damaged by recent utility directional drilling.

**Corrective measures:**

No active spill was occurring at the time PWC staff arrived on site. The sewer main was excavated in the area of the sinkhole and it was discovered that there was third party damage to the 8” clay sewer line. The damaged section of pipe was cut out and replaced. Affected storm drainage piping was cleaned to remove wastewater. During the cleanup process, passing evening rain showers created a significant amount of rainfall. This led to stormwater runoff heavily diluting the drainage tributary. Lime was applied to affected areas and cctv inspections are being conducted in the area due to ongoing contractor work activities.

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**Event 35:**      **Date:** 6/23/2017                      **Gallons:** 775

**Location:**

6791 Woodbridge Way

**Description:**

This SSO was determined to be caused by roots and debris in the sewer main.

**Corrective measures:**

The sewer main was jet rodded to clear the blockage which ended the spill event. The spill area adjacent to the manhole was cleaned to remove waste and wastewater residue. Mechanical root cutting in conjunction with cctv inspections was conducted. This line segment will be added to the annual chemical root control contract.

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**2016-2017 WASTEWATER COLLECTIONS AND TREATMENT SYSTEMS  
ANNUAL PERFORMANCE REPORT**

**Town of Stedman WQCSD0537 - Summary of Collections System Performance for Fiscal Year (July 2016 – June 2017)**

During the Fiscal Year July 2016 – June 2017, approximately 46.6 million gallons of wastewater were conveyed to the PWC collection system and treated at the Rockfish Creek Water Reclamation Facility. Two reportable sanitary sewer overflows were reported to the NC Department of Environment and Natural Resources, Water Quality Division.

**Event 1:**      **Date:** 10/8/2016                      **Gallons:** 29,757

**Location:**

6547 Blake Road - LS#76 (Town of Stedman)

**Description:**

Regional flooding associated with *Hurricane Matthew* caused a power outage. Lift station continued normal operation during storm event until rising flood waters and high winds disrupted power service to the area. Flooding in the area was extensive, not allowing access to the lift station.

**Corrective measures:**

Upon flood waters receding, a generator truck was able to connect to the lift station ending the spill incident. The generator truck maintained the lift station until power service was restored to the area. Forecasts called for varying levels of impact from *Hurricane Matthew*. All lift stations were inspected, tested, generators fueled, etc. in preparation. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. No cleanup required due to heavy dilution of wastewater with flood waters.

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**2016-2017 WASTEWATER COLLECTIONS AND TREATMENT SYSTEMS  
ANNUAL PERFORMANCE REPORT**

**NORCRESS WQCS00353 - Summary of Collections System Performance for Fiscal Year (July 2016 – June 2017)**

During the Fiscal Year July 2016 – June 2017, approximately 49.2 million gallons of wastewater were conveyed to the PWC collection system and treated at the Cross Creek Water Reclamation Facility. Three reportable sanitary sewer overflows were reported to the NC Department of Environment and Natural Resources, Water Quality Division.

**Event 1:**      **Date:** 10/8/2016                      **Gallons:** 193,953

**Location:**

6820 Lucas Street – LS#92 (NORCRESS)

**Description:**

Regional flooding resulting in power outage associated with *Hurricane Matthew*. The lift station continued normal operation during the storm event until rising flood waters caused motor control failure. Flooding in the area was extensive and roads closed, not allowing access to the lift station. Upon flood waters receding and roads opening, motor controls were manually reset, ending spill incident.

**Corrective measures:**

Forecasts called for varying levels of impact from *Hurricane Matthew*. All lift stations were inspected, tested, generators fueled, etc. in preparation. The amount of heavy rainfall and resulting flooding exceeded forecast predictions. Motor controls were manually reset, ending the spill incident. No cleanup was required due to the heavy dilution of wastewater with flood waters.

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**Event 2:**      **Date:** 5/5/2017                      **Gallons:** 1,880

**Location:**

6820 Lucas Street – LS#92 (NORCRESS)

**Description:**

This SSO was related to a failure of the pump control unit at the lift station.

**Corrective measures:**

Lift station pumps were manually started ending the spill incident. Two combination vacuum/jetter trucks were used to maintain the system until normal flows resumed. The lift station was manually operated until the pump control unit repairs were completed. Wastewater exiting the lift station soaked into the surrounding soil. No waste material was removed and the area of impact was treated with lime.

**2016-2017 WASTEWATER COLLECTIONS AND TREATMENT SYSTEMS  
ANNUAL PERFORMANCE REPORT**

**Kelly Hills - Summary of Collections System Performance for Fiscal Year (July 2016 – June 2017)**

During the Fiscal Year July 2016 – June 2017, 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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**2016-2017 WASTEWATER COLLECTIONS AND TREATMENT SYSTEMS  
ANNUAL PERFORMANCE REPORT  
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 2016 – June 2017)**

The Cross Creek Water Reclamation Facility consistently met all permit requirements in the fiscal year except for the upset conditions during and immediately following *Hurricane Matthew*. *Hurricane Matthew* produced approximately 14 - 16 inches of rain in about a 12 hour period, which resulted in extreme flooding in the Cumberland County Region. Due to unprecedented flows at the facility as a result of *Hurricane Matthew* the following NPDES violations were reported:

1. Failure to collect a fecal sample on 10/10/16. The normal sample collection point was underwater.
2. Weekly (10/9-10/13/16) average violation on CBOD5 due to upset conditions during extreme flow event.

**Event: 2**      **Date:** 10/9/2016      **Gallons:** 750,000

**Location:**

601 N. Eastern Blvd. – Cross Creek WRF

**Description:**

Discharge of partially treated wastewater at the Cross Creek facility due to flooding associated with *Hurricane Matthew*. Water from the Cape Fear River flooded the effluent outfall. As a result there was not enough head pressure for the effluent to exit the plant and Wastewater overflowed from the treatment basin and soaked into the surrounding soil. Some of this wastewater reached storm drains flowing to Cross Creek and Cape Fear River. As the river level and plant flows subsided the spill stopped.

**2016-2017 WASTEWATER COLLECTIONS AND TREATMENT SYSTEMS  
ANNUAL PERFORMANCE REPORT**

**Corrective measures:**

The spill stopped when the river receded enough for flow to exit outfall and flows through the facility returned to somewhat normal levels. The area of impact onsite was treated with lime.

**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 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 2016 – June 2017)**

The Rockfish Creek Water Reclamation Facility consistently met all permit requirements in the fiscal year except for the period upset conditions during and immediately following *Hurricane Matthew*. *Hurricane Matthew* produced approximately 14 - 16 inches of rain in about a 12 hour period, which resulted in extreme flooding in the Cumberland County Region. Due to unprecedented flows at the facility as a result of *Hurricane Matthew* the following NPDES violations were reported:

1. Failure to meet 6.0 pH requirements on 10/10/16 due to process upset during extreme flow event.
2. Failure to meet 6.0 D.O. requirements on 10/10/16 and 10/11/16 due to process upset during extreme flow event.
3. Weekly (10/9-10/13/16) average violation on Fecal, CBOD5 and Ammonia due to process upset during extreme flow event.
4. Monthly average violation on Ammonia due to process upset during extreme flow event.
5. No residual chlorine result for week of 10/9-10/13/16 due to sample location being submerged by Cape Fear River.

**2016-2017 WASTEWATER COLLECTIONS AND TREATMENT SYSTEMS  
ANNUAL PERFORMANCE REPORT**

**Event 2**      **Date:** 10/9/2016      **Gallons:** 2,500,000

**Location:**

2536 Tracy Hall Rd. – Rockfish Creek WRF

**Description:**

Discharge of partially treated wastewater at the Rockfish Creek facility due to flooding associated with *Hurricane Matthew*. Water from the Cape Fear River flooded the effluent outfall. As a result there was not enough head pressure for the effluent to exit the plant and Wastewater overflowed from the final clarifier and soaked into the surrounding soil. Some of this wastewater reached storm drains flowing to Rockfish Creek and Cape Fear River. As the river level and plant flows subsided the spill stopped.

**Corrective measures:**

The spill stopped when the river receded enough for flow to exit outfall and flows through the facility returned to somewhat normal levels. The area of impact onsite was treated with lime.

**2016-2017 WASTEWATER COLLECTIONS AND TREATMENT SYSTEMS  
ANNUAL PERFORMANCE REPORT  
Notification and Certification**

**Prevention**

During the time from July 2016 - June 2017, 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 1900 "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 10 phone broadcasts targeted to customers in identified grease problem areas.

**Notification**

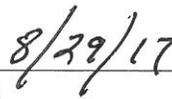
The report shall be available on the Public Works Commission's web site ([www.faypwc.com](http://www.faypwc.com)) and at the PWC Communications/Community Relations Office (910-223-4009). A statement of availability will be included in customers' billing.

**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. Moland  
Chief Operating Officer-Water Resources Division  
Fayetteville Public Works Commission



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Date