



KINSTON PUBLIC SERVICES

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City of Kinston Annual Operations and Performance Report 2020

Johnnie Mosley Regional Water Reclamation Facility (JMRWRF)

NPDES	# NC0024236
Design Capacity	11.85 Million Gallons
Treatment Type	Johannesburg Process
Service Date	2006
Report Generated	February 1, 2021

Facility Comments:

The last annual state inspection report for the Johnnie Mosley Regional Water Reclamation Facility, dated January 28, 2020, was found to be in compliance with its discharge permit. There were three Notices of Violations (NOVs) during calendar year 2020 for exceeding effluent Total Suspended Solids.

The first NOV was issued April 2, 2020 for exceeding the weekly and monthly average for Total Suspended Solids. The February 8, 2020 weekly average limit value of 45 mg/L, was exceeded at an average value of 1,375.1 mg/L and the monthly average limit value of 30 mg/L, was exceeded at the monthly average value of 393.06 mg/L. The cause of the violations were the results of high flows (infiltration), high solids, and a severe case of filamentous bacteria which impeded the facility's ability to settle its sludge levels within its clarifiers. Civil penalty was assessed in the amount of \$4,100.00.

The second NOV was issued October 9, 2020 for exceeding the weekly (twice) and monthly average for Total Suspended Solids. The August 8, 2020 weekly average limit value of 45 mg/L was exceeded at an average value of 191.12 mg/L. The August 15, 2020 limit was exceeded at an average value of 91.22 mg/L. The monthly average limit value of 30 mg/L was exceeded at the monthly average value of 67.36 mg/L. The causes of the violations were the results of high flows (infiltration) associated with Hurricane Isaias and a heavy rainfall event the following week. Total rainfall for those two weeks was just over 12 inches. A Civil penalty has not been assessed.

The third NOV was issued January 7, 2021 for exceeding the weekly and monthly average for Total Suspended Solids. The November 14, 2020 weekly average limit value of 45 mg/L, was

exceeded at an average value of 120.43 mg/L and the monthly average limit value of 30 mg/L, was exceeded at the monthly average value of 32.61 mg/L. The cause of the violations was the results of high flows (infiltration) associated with Tropical System Eta that dropped over 5 inches of rain in our area. A Civil penalty has not been assessed.

No environmental impacts associated with these violations were observed.

2020 has been one of the worse years on record for the City's collection system and treatment plant. Not only have we seen record rainfall events, we have experienced unprecedeted flash flooding in our area. During heavy rains and high ground water periods, we continue to experience high amounts of infiltration in our collection system. Flows from both of the pump stations that discharge at the headworks of the treatment plant increase, so we know there is more than one cause of the issue.

Our staff has performed smoke testing of most of the major outfall lines and found some small leaks, but nothing to account for the amount of flow we are seeing. Smoke testing and CCTV inspections are continuing, and a new assessment process is being assembled to perform manual flow monitoring at various points in the system to try to further define problem areas. We completed a Condition Assessment project three years ago that included CCTV of over 50,000 feet of sewer and led to a new Wastewater CIP that was adopted by City Council. We applied for additional funding in September, 2020 to continue assessments and identify infrastructure issues.

The City of Kinston has invested heavily in efforts to replace and rehabilitate existing sewer pipes. In the last two years we have completed two major replacement/rehabilitation projects (Queen Street and Briery Run Phase IV) at a cost of over \$11.3 million. We have also completed \$1.5 million in major emergency repairs along the Upper Neuse Outfall, West Vernon Avenue, Wake Avenue and at Springhill Street during that time.

Two additional projects have recently been funded. One is the Briery Run Phase V Sewer Rehabilitation project. This \$2.9 million project will include raising all remaining manholes on this outfall above the 100 year flood elevation, plus lining of several sections of the outfall. Bidding should occur this summer. The City has also secured \$3.3 million for the Lawrence Heights Sewer Replacement Project. This project is currently advertised for bids and should be complete by the end of 2021. Sewer lines in this neighborhood were installed in the 1950's and have required numerous repairs in recent years.

Most of these improvements are loan funded, which is another challenge for a small municipality that has not seen any population growth in 25 years. We have increased sewer rates 20% since 2018 to handle the additional debt service associated with our improvement efforts.

SANITARY SEWER COLLECTION SYSTEM

During calendar year 2020, the collection system reported three sanitary sewer overflow (SSO) and spill.

Any spill of 1,000 gallons or more and any reaching surface waters are required to be reported to the DWQ.

On May 19, 2020, the City of Kinston had a wastewater spill of an estimated 276 gallons from manhole #4AV located at 1302 W. Vernon Ave., Kinston, NC. The manhole was overflowing due to debris blocking the invert out. The Jet Vac crew went to a downstream manhole to jet upstream. Once the rodder cleared the debris from the invert out, the SSO stopped immediately. All the debris was removed and the area was limed and any sewer on the ground was retrieved.

On June 5, 2020, the City of Kinston had a wastewater spill of an estimated 7 gallons from manhole #24 H located at 807 Stadiem Dr., Kinston, NC. The manhole was overflowing due to a small amount of grease blocking the invert out. The Jet Vac crew went to the downstream manhole and used the rodder to clean the grease from the invert out. The SSO was stopped immediately. The crew was then able to thoroughly clean manhole #24 H. Once this was completed, a preventative maintenance was performed on the line that runs from manhole #24 H to manhole #24 G and #24J. All the debris was removed and the area was limed and any sewer on the ground was retrieved.

On August 11, 2020, the City of Kinston had a wastewater spill of an estimated 334,692 gallons from manhole # 5V located at the 400 block of Wake Ave., Kinston, NC. Prior to the spill, severe flash flooding from Hurricane Isaias caused the City's collection system to become overwhelmed and took in more inflow than the system is designed for. Pressure from the surcharging system damaged the pipe and created a large sinkhole. Additional heavy rainfalls the next week washed large amounts of sediment into the pipe, blocking the flow and causing the SSO. The City contracted Xylem Water Solutions to install a temporary bypassing from the SSO manhole #5V to downstream manhole #5S just past the damaged pipe. This action remediated the SSO. Lime was put out on the affected area around manhole #5V and City forces made repairs to the pipe.

The City of Kinston Public Services Department confirmed that the spills, repairs and cleaning of the surrounding areas were properly addressed. The City also notified the Division of Water Quality of the incidents.

As of this report, the City believes there were no fish kills or impairments of the surface waters.

The last state inspection report for the collection system is dated November 19, 2014.

Responsible Person Contact Listing

General:

Rhonda Barwick - Public Services Director	252-939-3303
Steve Miller – Assistant Public Services Director	252-939-3285
Vacant - Water Resources Manager	252-939-3316

Stormwater Utility:

Vacant - Water Resources Manager	252-939-3316
Gilbert Acevedo - Street Superintendent	252-939-3314

Water Reclamation (Wastewater Utility):

Kenneth R. Stevens, Jr. - Water Reclamation Facility Superintendent (ORC)	252-939-3375
Swindell Flowers - Residual Management Coordinator (ORC-Land Application)	252-939-3248
Jimmy Garvey – Water Operations Superintendent	252-939-3299
Steve Miller- ORC - Wastewater Collections	252-939-3285

Water Utility:

Joey Pittman - Water Production Superintendent (ORC-Well)	252-939-3286
Jimmy Garvey – Water Operations Superintendent (ORC Distribution)	252-939-3299
Kelvin Harrison - Water Production Supervisor (ORC-Cross Connection)	252-939-3156