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THE YADKIN VALLEY SEWER AUTHORITY ANNUAL PERFORMANCE REPORT

The Yadkin Valley Sewer Authority experienced fifteen (15) reportable SSOs and three (3) non-reportable SSOs in the calendar year of 2017. The spills are attached for you review as Exhibit A.

YVSA COLLECTION SYSTEM SUMMARIZATION

The YADKIN VALLEY SEWER AUTHORITY (YVSA) oversees approximately eight-five (85) miles of sewer lines. There are approximately fifty (50) miles of sewer in Elkin (inside Surry County), twenty-five (25) miles in Jonesville (inside Yadkin County), and a five (5) mile force main to Ronda (inside Wilkes County) along with five (5) miles of sewer within the town limits.

As noted during the 2016 year (and for the 2016 Annual Report), there were several changes that occurred to the Collections System and the Wastewater Treatment Plant which mainly revolved around four (4) main capital improvement projects during the year. The four (4) projects are as listed below:

Project #1: 2015 Wastewater Treatment Plant Upgrades –

Projected started in April 2017 and consists of the following:

- Construction of a 58' diameter clarifier
- New lab building
- Cured-In-Place lining of approximately 2,150' of 18" effluent line
- Existing headworks mechanical screen replacement
- Improve aeration control with new dissolved oxygen (DO) probes and SCADA/control programming of the blowers

- Improve the RAS flow rate control by installing a magnetic flow meter on the RAS discharge force main
- Replace scum pump for clarifier
- Replace Subnatant PS pumps

PROJECT	CWSRF-PF	CWSRF-0%	Local Match	Total Cost
2017 Wastewater Treatment Plant Improvements	\$483,000	\$483,000	\$19,320	\$985,320

CWSRF-PF (State Revolving Fund) - DENR - principal forgiveness
 CWSRF-0% (State Revolving Fund) - DENR - 0% interest for 20 yrs

Project #2: Candlewyck PS Rehab –

Install new pump bases, install new ductile iron discharge piping, adjust guide rails and pipe supports, and paint with a high-build epoxy coating. Completed with local money (\$20,815).

Project #3: 2017 Collection System Rehabilitation –

The project is currently in the design phase and is expected to out to bid by December 2017. In order to reduce 1/1 (inflow & infiltration) and eliminate the SSOs and subsequent NOV's, the following work will be completed:

1. Repair or rehabilitation of 191 smoke test defect sources (defective cleanouts, plug abandoned service lines, repair defective service lines, and disconnect storm to sewer connections).
2. Repair or rehabilitation of 144 manholes [including cementitious lining of 52 brick manholes (approx. 321 vertical feet), various manhole repairs (including 22-frame reseal to riser or cone, la-frame/cover replacements, 9-raise frame/cover), and installation of 78 manhole inserts/bowls).
3. Repair and rehabilitation of gravity main defects, including replacing 575 LF of 4" to 6" Orangeburg pipe, 15 spot repairs, 18,300 LF of 8" cured-in-place pipe (CIPP) and 3,000 LF of 12" CIPP. The project will include cleaning and CCTV inspections of 81,900 LF of 8" and 12" gravity sewers to verify the highest priority segments for the CIPP and spot repairs.
4. Replace 4,800 LF of 12" VCP with 12" PVC and 24 manholes (Jonesville Yadkin River Outfall).
5. Improve the Elkin Yadkin River 21" Outfall by raising the rims of 10 manholes and replacing the aerial segment (approximately 50 feet of concrete pipe).
6. Verify exact location of storm sewer cross-connection near MH 153 and repair sanitary sewer (approximately 100 LF).

PROJECT	WWSR-GRANT	WWSR-LOAN	Local Match	Total Cost
2017 Collection System Rehabilitation	\$1,984,125	\$661,375	\$42,989	\$2,688,489

Project #4: 2017 Wastewater Treatment Plant Improvements –

The project is currently in the design phase and is expected to out to bid by December 2017, or early 2018. This project will include the following;

1. Rehabilitate concrete structures & improve access to the digester mixers.
2. Rehabilitate the sludge drying beds.
3. Repair of approximately 100 feet of eroded embankment at the effluent line.
4. Replace the WAS pumps.

PROJECT	CWSRF-GRANT	WWSR-LOAN	Local Match	Total Cost
2017 Wastewater Treatment Plant Improvements	\$483,000	\$483,000	\$19,320	\$985,320

Additionally, YVSA submitted applications for the following:

2018 Collection System Rehabilitation Project –

Rehabilitation of 15,840 LF of 8-inch gravity sewer and Forest Hill PS; replacement of 765 LF of 8-inch gravity sewer, and replacement of 2,050 LF of 4-inch with 8-inch gravity sewer.

2018 Pump Stations Rehabilitation Project –

Rehabilitation of Fox Hall PS, PVH PS, and the Hampton Inn PS to include replacement of pumps, rails, piping, valves, and valve vault; replacement of Shore Street PS with 1,670 LF of 8-inch gravity sewer, Dutchman Creek PS with 2,200 LF of 8-inch gravity sewer, and 100 LF of 3- inch force main for the Osborne Street PS, and repairs of equipment at the Regional PS due to settling.

Asset Inventory and Assessment grant for High Priority Areas Collection System Assessment.