

## 13.2 kV Power Cable Replacement Completed by High Voltage Electric Service, Inc. on June 16, 2021

The Gloversville Johnstown Joint Wastewater Facility (GJJWTF) contracted High Voltage Electric Service, Inc. when GJJWTF experienced a major power failure on April 29, 2021. GJJWTF immediately started both onsite emergency generators, the 50 kW and 650 hp generators. To power the Primary Building, the Fulton County Emergency Management Office loaned GJJWTF two (2) 50 kW emergency generators.

The Orangeburg pipe installed in 1970 had flaked and swelled from water infiltration causing a duct bank collapse and a facility electrical power failure. Orangeburg pipe has a life expectancy of 30 years, but failed after 51 years of service. The only good duct bank remaining was under Union Avenue from the manholes on either side of the road leading to the Screen Building. This section of duct work was reused. Approximately 1,800 feet of duct bank was replaced along with the compromised manhole by the pipe bridge which was severely cracked with 2-inch cracks and a bad floor. The duct work from the Main Electric Manhole by the Main Substation to each of the two feeders was also replaced. A new 200-amp break elbow was installed on either side of the Union Avenue's duct bank. In the future, this duct could be replaced without having to replace the new cables.

On May 4, 2021, the repair plan was finalized to enable the work to commence since time was of the essence. Repairs continued through May 11. New fuses on both 13.2 kV switches and spare fuses were installed. Both primary disconnects were tested. All cables in all manholes were fire-wrapped. Each feeder in every manhole was labeled for ease of future identification. On May 21, the Screening Building transformers, TC-1 and TC-7 were energized. Once loads were applied, the voltage and phase rotation were verified to be correct.

On May 25, 2021, the Primary Building transformer XF-11 was energized. Again, loads were applied, the voltage and phase rotation verified to be correct. On May 26, site clean-up and labeling of all cables and manhole grounds began. On May 27, plant drawings were updated to reflect the new duct bank's routing and cable pathways.

From May 26 to June 16, Stephen Miller General Contractors, a subcontractor to High Voltage Electric Service continued work on site clean-up, back filling trenches, and asphalt paving where needed. A new bore hole for signal cables under Union Avenue was successfully completed. All work was completed June 16, 2021. The total cost of the 13.2 kV Power Cable Replacement Project was \$897,241. The facility's electrical infrastructure should last another 50 years.