

City of Buchanan
Joint Water Sewer Board
February 2025 Activity Report

Drinking Water Supply System

Chemical Feed System Improvements were performed at the Water Plant by Solberg Knowles Associates. The work included chlorine application equipment maintenance and calibration tasks, the installation of two new vacuum regulators, a new remote meter, a rebuilt remote meter and one new gas sensor associated with the feed equipment for the City's water distribution system. The system has been returned to service and is fully functional.

Extensive SCADA System Improvements including programming, telemetry, and firewall work was performed and completed for the City's water supply system by Gasvoda. The work included the installation of electrical equipment, cellular modems, control panels and the performance of startup and commissioning tasks associated with the project. The work was completed in October and the City has since requested warranty, licensing, startup and commissioning documentation from Gasvoda.

The pumping equipment associated with Water Well 1A was overhauled and rebuilt by Peerless Midwest. Upon initial inspection, it was determined the well casing and screen are in good condition. The well was last cleaned in 2001 and it was cleaned again recently to restore lost capacity. Machine work was performed on the 1000 GPM pump bowl assembly including skim cutting of the impeller hubs and fabrication of new wear rings. The column pipe above the bowl assembly was found in very poor condition and was replaced with a new pipe section. The inline shafting is all stainless steel and was cleaned, straightened and reinstalled. The 60 HP motor was sent to the motor repair shop and a standard overhaul was performed. Water Well 1A was returned to service in January. With completion of the overhaul work, it is expected that the equipment will be available for a service cycle of another 10 to 15 years.

Wastewater Treatment

Forty-eight (48) new lamps and associated components were purchased for the Ultraviolet (UV) disinfection system at the wastewater treatment plant in September. The system consists of two banks with 24 lamps in each bank. One complete bank of lamps (24) was replaced and installed and placed into service. The remaining lamps have been placed into spare inventory.

The UV disinfection system experienced incidents of electrical faults in November. Upon inspection, it was determined one of the system's electrical ballasts was failing. A new ballast from spare inventory was installed and this remedied the situation. A follow-up inspection of all the ballasts determined one other candidate for replacement. Four additional ballasts have been purchased and one other ballast was subsequently replaced. The remaining ballasts are in spare inventory and are available for installation when necessary.

The Mixed Liquor Mixer experienced a series of electrical faults and stopped operating in December. The mixer was removed from the mixing tank for diagnosis. A temporary aeration mixing system was installed in the tank. Upon inspection of the mixer and motor, it was determined the submersible motor failed due to the migration of moisture into the sealed motor. The equipment was shipped to Fixall Electric Motor Service for repair. Upon inspection, it was determined the motor windings were burnt and that water was in the seal chamber. The motor has been re-wound, and a new thermal sensor has been installed. The motor was re-built with new bearings, seals and O-rings. A new electrical cord was installed and the motor has been successfully tested. A new stainless steel lifting chain has been purchased for the system. It is anticipated the mixer will be delivered, installed and returned to service the week of January 27th.

Wastewater Treatment (continued)

An underground natural gas leak was discovered on December 3rd in the vicinity of the SEMCO gas meter for the old portion of the Buchanan Wastewater Plant. SEMCO personnel were notified and a crew was deployed to the site to purge the leaking gas from underground. Gas service to the meter and the old plant was terminated and the purging of all leaked gas was performed. Upon completion of the purging operation, the meter was disconnected and removed from service. The determination of natural gas needs for the old portion of the plant going forward is being evaluated and will be determined in the near future.

A kickoff meeting was held with Jones & Henry Engineers and Wastewater Plant personnel relating to the PFAS Local Limits and Pollutant Minimization Plan program. The meeting was held on January 14th. Items discussed included PFAS sources, reviewing analytical data, NPDES permit language, future capital improvements and the providing of access for Jones & Henry personnel to the Wastewater Plant's MiEnviro portal information relating to the project. A follow-up meeting will be held in the near future to discuss strategies and program implementation.