

Grant Activity Overview

The Federal Emergency Management Agency (FEMA) awarded GLWA a Building Resilient Infrastructure and Communities (BRIC) scoping project grant during its FY 2023 funding period. This scoping grant will allow GLWA to complete a study in preparation for the full \$14 million construction grant described below. This project and related study provide an opportunity to further harden the electrical reliability at the GLWA East Side facilities of Freud, Conner, and Conner Combined Sewer Overflow (CSO).

Proposed Project Scoping/Advance Assistance Activity

The Power Resiliency Project GLWA proposed use of this grant funding will provide support to the following critical facilities:

1. *Conner Creek Pump Station*: This facility lifts a capacity of 2.2 billion Gallons Per Day (BGD) and is responsible for managing both sanitary and combine stormwater flows from two 14-foot diameter sewers. It houses eight storm pumps, four sanitary pumps.
2. *Freud Pump Station*: With a capacity also at 2.2 BGD, the Freud Pump Station operates eight storm pumps, two sanitary pumps. It serves as a key node for receiving combine sewer flow through the 16-foot diameter Fox Creek and Ashland relief sewers.
3. *Conner Creek Combined Sewer Overflow Facility*: This facility, with a treatment capacity of 8 BGD, has been operational since 2005. It plays a critical role in collecting Combined Sewer Overflows (CSOs) from the Conner Creek and Freud Pump Stations, as well as the Conner Creek Enclosure. Treatment is carried out through bar screens and sodium hypochlorite for disinfection, ensuring compliance with environmental regulations.

The proposed project entails the installation of a dedicated microgrid, strategically positioned to support these three critical facilities. In partnership with electrical supplier, DTE, we have identified a prime location for a new substation, adjacent to the facilities referenced above. This substation will receive a robust transmission supply of 120 Kilovolt (kV), considered as the most reliable power source in the area, which will then be efficiently distributed to meet the varied power demands of each facility, ranging from 4,800 kV to 480 kV. This energy will be channeled through dedicated cabling, guaranteeing uninterrupted power supply to the Conner Creek and Freud Pump Stations, as well as the Conner Creek Combined Sewer Overflow Facility.

Currently, GLWA relies on DTE's commercial power supply from the Essex substation, which leaves GLWA vulnerable to interruptions stemming from other commercial customers. By implementing this dedicated microgrid, we will significantly reduce the risk of power disruptions to these life-sustaining and safety-critical facilities. This, in turn, will ensure the reliable provision of essential services, ultimately safeguarding the well-being of the southeast Michigan communities we serve.

GLWA will also explore green infrastructure components during the scoping process, and the final design will comply with the local stormwater ordinance. GLWA will review and consider opportunities to incorporate green infrastructure into any future design and construction associated with this project. It is possible that the final design will involve subsurface utility assets which may not be ideal locations for green infrastructure installation. GLWA continues to support the City of Detroit and the rest of our Member Partner communities in southeast Michigan who seek opportunities to advance Green Infrastructure. This scoping grant will be used to outline this project and complete a Cost Benefit Explanation (CBE) for use as the basis of a full BRIC grant.