

Grand Ave Flood Mitigation Project

Project Overview

The Grand Ave Floodwall is one of four ongoing flood mitigation projects designed to protect critical United Illuminating (UI) transmission assets against the risk of flooding and damage as a result of severe weather events.

The other three projects are: New Pequonnock Substation Rebuild Project, Bridgeport, completed; Congress Street Flood Mitigation Project, Bridgeport, Completed; and Singer Substation Flood Mitigation Project, Bridgeport, which is in the engineering phase.

Project Purpose and Need

Weather events experienced in the recent years, along with revisions to Federal Emergency Management Agency (FEMA) flood maps have necessitated UI to take action to evaluate the risk and potential impact of a single 100-year coastal flooding event on its coastal substations and evaluate mitigating solution alternatives. UI Planning commissioned a study, Coastal Substation Flooding Asset Condition Review, to evaluate the flood risks and impact at the Grand Ave substation. The report concluded that the substation is "at-risk" of destruction and or/incapacitation for a FEMA 100-year flood event. The report further concluded the preferred solution to address flooding at the substation is to construct a floodwall system along the substation perimeter.

The Base Flood Elevation at Grand Ave. and Mill River substations is 12.0 feet. The Grand Avenue Substation is at significant risk as the BFE flood water is one (1) foot above the finished floor of the GIS and control building. Mill River Substation is also at a significant risk as the BFE flood water is not only above the finished floor of the switchgear and control building but also partially submerges two transformer cabinets, seven motor operators, and more. A BFE (1% annual chance) flood event could be expected to cause a complete failure of both substations.

During Superstorm Sandy (October 2012), when flood waters encroached to within inches of the control room floor, again UI preemptively de-energized the substation due to the risk of equipment failure and long-term recovery issues. The purpose of the project is to build a flood protection system that will mitigate the risk of damage to the substation equipment from similar weather events in the future.

Project Information Line: 1.888.848.3697

Refer to: Grand Ave Floodwall

Email: outreach@uinet.com

Website: UIFloodMitigationPrograms.com

Project Location

Municipalities:	New Haven, CT
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Estimated Timetable *(subject to change)*

Start of Construction:	2027
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Completion/ In-Service Data:	2028
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Project Scope

Provide flood protection to these two coastal substations during severe weather conditions. The scope includes installation of flood walls and gates around the substation perimeter, modifications to river bulkhead, as well as installation of storm water management system.

To mitigate the risk, UI is installing a perimeter flood wall system, which includes a driven steel sheet pile flood wall below and above grade along the current fence line.

The Project includes: Flood gates with concrete foundations, stormwater system for runoff discharge.

The flood project will be ongoing while the substations remain fully operational and continues feeding customers.

Benefits to the Region

Grand Ave Substation is a 115 kilovolt (kV) / 13.8kV air-insulated substation that supports a network of distribution circuits.

The project will improve the reliability and resiliency of the Connecticut electric grid by providing protection from outages due to coastal flooding or storm damage and ensure uninterrupted power supply to the greater New Haven area.

