

2A. General Information

Background

The Gulf Beach Water Booster Station (GBWBS) is vulnerable to inundation based on information from the Pinellas County Sea Level Rise and Storm Surge Vulnerability Assessment. Furthermore, a preliminary engineering report conducted in December 2022 assessed the facility to future planning horizons that further establish the GBWBS is highly vulnerable based on the combined effects of sea level rise (SLR) and the 100-year return period storm. Inundation of electrical equipment, such as control panels and emergency generators, would result in degradation of performance at best and non-operability at worst. Such an inundation event has the potential to render the GBWBS inoperable for an extended period (days to weeks to months). The GBWBS's main function is to provide supplemental water supply and boost system pressure during peak demand and fire flow conditions. Due to the importance of this station in providing fire flows to the distribution system it services, it is considered a piece of critical infrastructure within the County's water distribution system. The proposed project will address these needs by constructing a new two-story building with critical electrical components on the second floor and a waterproof pump room located on the first floor to reduce the facility's susceptibility to storm-related flooding and anticipated sea level rise. The new facility is being designed for an 18.8-foot flood elevation, meaning the surrounding seawater level would need to reach that height before critical components of the new water booster station would be impacted. The project will ensure that Pinellas County Utilities customers will continue to receive reliable drinking water and fire protection services. The upgrade will also improve the station's storm and flood resiliency.

3. Project Workplan

Project Summary

Pinellas County Utilities (PCU) is designing improvements to the Gulf Beach Water Booster Station (GBWBS) in St. Pete Beach. The project will replace the existing drinking water booster station with a new booster station that will improve service reliability to residents and meet current industry and operational standards. This includes constructing a new two-story building with critical electrical components on the second floor and a waterproof pump room to reduce the facility's susceptibility to storm-related flooding and anticipated sea level rise.

Project Description

A new two-story building will be constructed to protect the electrical equipment from flood and storm surges. The building will be designed to match the existing architectural style. The water station is being upgraded with new booster pumps, efficient variable frequency drives, electrical equipment, delivery system, chemical feed systems, generator power with automatic transfer switch, and upgraded telemetry. All electrical equipment will be located above the storm surge and flood elevations to ensure an uninterrupted water supply after a storm. Additionally, the new pumps will be located in a waterproof area of the building to prevent damage and ensure continued water supply during a storm. These upgrades will result in more efficient and reliable service for customers. Project goals are to continue

providing drinking water that surpasses regulatory requirements and protects public health; maintain consistent water pressure for homes, businesses, and community fire protection; improve customer water service reliability; improve the booster station's storm surge and flooding resiliency; match the architectural aesthetic of the community; and improve facility operating efficiency.