

Rio Grande River Pump Station Project

Project Overview

The Rio Grande River Pump Station project is a critical infrastructure initiative by the Brownsville Public Utilities Board (BPUB) to replace two aging raw water pump stations with a modern, efficient, and flood-resilient facility. The existing pump stations, constructed in the 1930s and 1980s, are integral to supplying raw water to BPUB's main reservoirs. However, they face significant reliability issues due to their advanced age and outdated design.

The new pump station will be located upstream of the existing facilities and have a capacity of **64 million gallons per day (MGD)**. It is designed to enhance the reliability and efficiency of BPUB's water supply system while ensuring long-term sustainability and resilience against extreme weather events. The total estimated projected cost for the New Raw Water River Intake Facility is \$40.73 million.

Technical Specifications

Existing Infrastructure:

- **Pump Station No. 1 (built in the 1930s):** Equipped with one 32 MGD pump and one 16 MGD pump.
- **Pump Station No. 2 (built in the 1980s):** Equipped with one 32 MGD pump.
- **Combined capacity:** 80 MGD
- The existing infrastructure is planned for demolition after the completion of the new station.

New Pump Station Design Includes:

- **Capacity:** 64 MGD with four Vertical Turbine Pumps (VTPs).
- Three duty pumps and one standby pump for redundancy.
- Motors located above the projected flood elevation for protection.

Strategic Impact

- **Reliability & Efficiency:** Replaces aging infrastructure with modern equipment, reducing operational downtime and maintenance costs while ensuring uninterrupted water supply to BPUB's reservoirs.
- **Flood Resilience:** Elevated design protects critical components from damage during extreme weather events, aligning with climate adaptation strategies.
- **Operational Optimization:** The new station consolidates pumping operations into a single facility, improving energy efficiency and reducing long-term costs.

