



PROJECT PROFILE

# Seaholm Pump Station

Assessment of Vault | Austin, TX



**CLIENT**

City of Austin

**BACKGROUND**

The Seaholm Pump Station is a four-story, below-grade, cast-in-place concrete structure that is located just east of the existing Seaholm Power Plant turbine housing facility. The Vault was constructed approximately eighty years ago and originally served as a sump station for cooling water for the original Power Plant No. 1. This power plant was partially demolished during the early 2000s along with removal of major components located inside the sump pump.

WJE was requested to perform an evaluation of the Seaholm Pump Station Vault for potential adaptive reuse in rainwater harvesting for the New Central Library project. The purpose of the investigation was to evaluate the current condition of the Vault related to material quality, assess its structural capacity for the proposed use as a water retention facility and structural support for a portion of the proposed 2nd Street extension, and provide conceptual recommendations for needed repairs to facilitate its future extended use.

**SOLUTION**

To complete the assessment, WJE reviewed various project documents, including decontamination and geotechnical reports provided by the City of Austin. WJE engineers performed extensive field investigations, which included visual assessments and non-destructive testing. This non-destructive testing included: ground penetrating radar, impact-echo testing, and half-cell corrosion studies. WJE also selected locations for removal of core samples. The cores were returned to the WJE Austin Laboratory for laboratory evaluation, which included: compressive strength testing, acid soluble chloride profiles, water soluble alkali content, and petrographic analysis.



In addition to the materials analysis, WJE also performed an evaluation, which included structural analyses of various Vault elements such as the walls, columns, pilasters, and roof slabs.

Monotonic load testing was recommended at the pertinent areas of the roof geometrically associated with the 2nd Street extension to confirm an adequate load rating.

WJE presented findings to the City of Austin in a comprehensive written report.

