

Interbay Redevelopment Project: Mini-Storage Warehouse

CASE STUDY



Location	Seattle, WA
Client	SeaCon LLC
Year	2017
Industry	Construction, Dewatering
Application	Stormwater & Contaminated Groundwater
Contaminants	TSS, TPH, PAHs, cPAH, VOCs, Metals (arsenic, cadmium, chromium, lead)
Solution	Electrocoagulation, pH Adjustment, Media & Carbon Filtration

Innovative Solutions in Seattle

The Interbay neighborhood of Seattle, Washington has a long history of industry. It is home to an 80 acre railway yard, the Port of Seattle's commercial fishing fleet and cruise ship dock, a US military facility with a long history of environmental concern, light industrial facilities, as well as miscellaneous retail and nearby residential properties. Recently, a 1.39 acre redevelopment project was permitted in the Interbay neighborhood. Construction of the six story, mini-storage warehouse structure began in 2017. When complete, it will contain approximately 260,000 square feet of total floor space with below grade parking for 97 vehicles.

DESIGN & ENGINEERING

The neighborhood is environmentally sensitive as it's bordered by Salmon Bay to the north and Elliot Bay to the south. It is located at the toe of a steep 40% slope, is within an Archaeological Buffer, Liquefaction Zone and Potential Slide Area as categorized by the City of Seattle. Along with slide hazards, less than ideal soil conditions, and potential archaeological considerations, past industrial use of the area added another layer of complexity. Due to the potential for environmental concerns, the project owner hired Environmental Partners, Inc. (EPI) as the lead Environmental Consultant. Characterization data indicated that historical releases to soil and groundwater had occurred. The impacts were widespread across the redevelopment area.

PROJECT SUPPORT

EPI worked closely with WaterTectonics and the construction development team included Edwards Development; Sea Con LLC; and permit specialist, Permits Northwest, to obtain an NPDES permit for construction activities. Sea Con, the project

general contractor, prepared a 1,500 square foot level pad for the detention and active treatment system equipment. WaterTectonics had been involved on other urban redevelopment projects in the area with similar groundwater and soil contamination issues. These projects had been subject to the Washington Department of Ecology's Administrative Order (AO) constraints as well so WaterTectonics was familiar with the additional information required for submittal, subsequent sampling, and management during construction.

TREATMENT SOLUTION

On-site treatment and release to the stormwater system was determined to be the best water management option. The treatment process designed by WaterTectonics consisted of a 100gpm electrocoagulation system for metals and turbidity reduction; pH neutralization of high pH stormwater from concrete exposure; aeration for VOC reduction; and granulated activated carbon (GAC) for removal of PAHs, TPH, pesticides and any remaining VOCs. Sea Con installed pumps throughout the site that continuously transferred construction stormwater and groundwater to the treatment system. Even with a historically wet winter, the treatment system was able to keep pace with the site dewatering activities. This allowed earthwork and concrete activities to continue unimpeded through the winter season. To ensure compliance with the DOE standards, analytical samples were taken weekly by WaterTectonics' Certified Erosion and Sediment Control Leads (CESCL) confirming discharge requirements were met. All water discharged from the site has met Construction Stormwater General Permit (CSWGP)/AO standards.