

Alchatek

CASE STUDY
SEAWALL RESTORATION

CONCRETE SEAWALL BUILT IN 1901 POULSBO, WASHINGTON

Poulsbo Historic *Seawall Restoration*

A historic waterfront residence in Poulsbo, Washington, required soil stabilization behind a 135-foot-long concrete seawall built in 1901.

SEAWALL LENGTH
135 *ft*

PRODUCT
AP Fill 720

01 What made this job *difficult.*

CONCRETE SEAWALL BUILT IN 1901
POULSBO, WASHINGTON

Engineering evaluation documented vertical cracks along the seawall without structural offset, but revealed substantial voids behind the wall. The erosion hazard area designation and 100-year floodplain location required engineered solutions to prevent continued property loss.

THE CONSTRAINT

5 *ft*

WALL HEIGHT

KEY CONDITION

Voids behind the seawall indicating ongoing soil loss, located in an erosion hazard area and 100-year floodplain.

AT A GLANCE

26 locations
INJECTION POINTS
at 5-ft intervals along the 135-ft seawall

170 gallons
AP FILL 720 RESIN INJECTED

6.5 ft
ACCESS HOLE DEPTH

30 filters
PRESSURE CONTROL FILTERS INSTALLED
with geotextile filtration media

02 What was specified, *and how it went in.*

AP FILL 720

The design specified expansive polyurethane injection to fill voids and bind soil particles. AP Fill 720 was selected for its rapid-setting properties and resistance to water infiltration. The system included 2.5-inch filter drainage ports spaced 5 feet apart to relieve hydrostatic pressure.

THE MATERIAL

AP Fill 720

AP FILL 720

Expansive polyurethane injection resin used to fill voids and bind soil particles.

THE METHOD

01 Established
26 injection locations at 5-ft intervals along the 135-ft seawall.

02 Injected
approximately 170 gallons of AP Fill 720 resin using controlled techniques.

03 Drilled
access holes to 6.5-ft depth behind the structure.

04 Installed
30 pressure control filters with geotextile filtration media.

03 What the result was, *and what confirmed it.*

COST SAVINGS

The three-day stabilization project addressed soil loss while preserving the historic structure. Post-construction monitoring confirmed successful void filling throughout the treatment area. A cost analysis demonstrated approximately 70-80% savings compared to complete reconstruction, while extending the existing structure's service life by decades and reducing construction duration compared to traditional methods.

COST SAVINGS

70-80 %

compared to complete reconstruction

START THE CONVERSATION

Send us the job.
We will send back an approach.

Contact Us Today

TECHNICAL SUPPORT

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Alchatek

Alchatek manufactures polyurethane resins, chemical grouts, and injection equipment for infrastructure repair: leak sealing, soil stabilization, concrete lifting, and seawall repair. Headquarters in Tucker, Georgia, with a bonded warehouse in Reno, Nevada.

Information in this document is believed accurate at the date of publication. Product performance depends on site conditions and application; consult the current Technical Data Sheet, which is the controlling document.

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