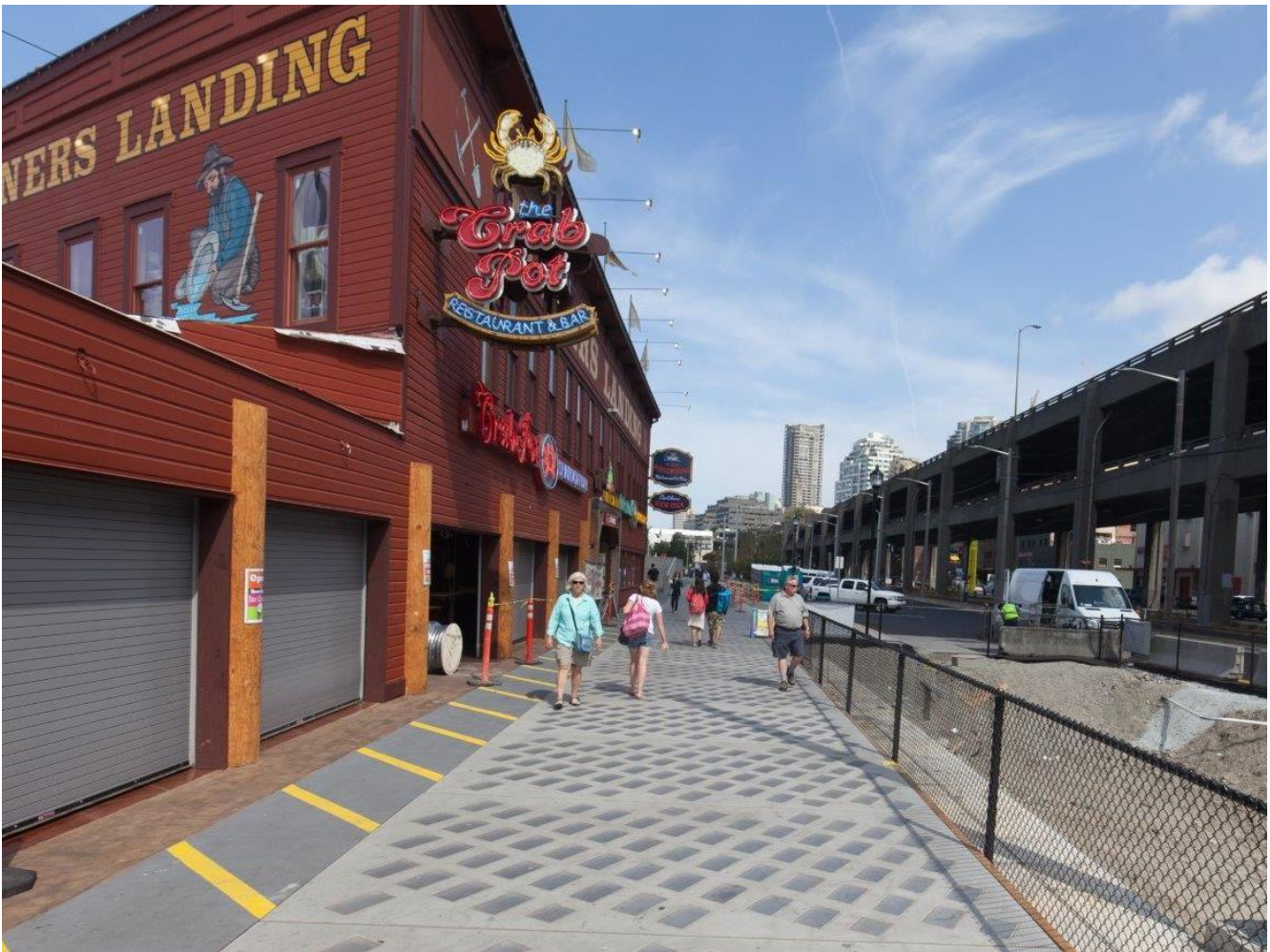


Elliott Bay Seawall Replacement

Seattle, Washington

The Elliott Bay Seawall Replacement was one of the largest global jet grouting projects performed.



The project

To improve seismic safety, resiliency, and overall redevelopment of the downtown waterfront, 0.75 miles of the existing seawall was replaced. Built between 1916-1935, the original wall included steel sheets and tens of thousands of timber piles overlain by a timber relieving platform, 13 feet below the Alaskan Way street grade. The replacement was due to the degradation of the structure, compounded by the susceptibility of underlying soils to liquefaction (emphasized by the 2001 6.8 magnitude Nisqually earthquake).

The challenge

Installation of the improved soil mass required avoidance of the vertical and battered piles located below the relieving platform, as well as avoidance and/or protection of the numerous known and unknown underground utilities. Access to waterfront businesses and safe passage of tourists, pedestrians, and vehicles had to be maintained.

The solution

5,750 jet grout columns of 3 to 6-foot diameter were installed to competent soils to depths of 40 to 90 feet. Columns were installed in an interlocking cellular pattern.

“ Work was safely and well done while minimizing disruptions to the public on our busy waterfront.

Jody Robinson, PE
Resident Engineer

Project facts

Owner(s)

City of Seattle Department of Transportation

Keller business unit(s)

Keller

Main contractor(s)

Mortenson / Manson, A Joint Venture

Engineer(s)

Shannon & Wilson Inc.
Parsons Corp.

Solutions

Liquefaction mitigation

Markets

Infrastructure
Ports and harbors

Techniques

Jet grouting

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