



US Army Corps
of Engineers®
Seattle District

ALASKAN WAY SEAWALL

Feasibility Study



Request for Comments on Scope of Environmental Impact Statement

The U.S. Army Corps of Engineers, Seattle District, and the City of Seattle have begun a feasibility study on the Alaskan Way Seawall. The City of Seattle asked the Corps to assist in their efforts to replace the seawall because the Corps has expertise in seawall design and construction, and may be able to obtain federal dollars for the seawall replacement. The feasibility study will result in a recommendation to Congress regarding whether an Alaskan Way Seawall project should be authorized under the Corps' storm damage reduction authority and, if so, how much of the cost of the seawall rehabilitation effort could be funded by the Corps. As part of this process, the Corps must prepare an environmental impact statement (EIS).

This information packet provides the purpose and need for the feasibility study, descriptions and drawings of alternative construction measures under consideration, and an initial list of possible environmental impacts. Additional information on the Alaskan Way Seawall feasibility study is provided on the Seattle District website at <http://www.nws.usace.army.mil>.

We are seeking comment on the scope of issues to be addressed in the EIS. We encourage commenters to focus on alternatives; important natural and social resources in the study area; probable significant adverse impacts; and possible mitigation measures. **All comments must be received by April 30, 2006.**

Two public scoping meetings will be held to provide additional information and gather oral and written comments. Both meetings will be held on April 18, 2006 at Seattle Center, Northwest Rooms Building, Lopez Room (see <http://www.seattlecenter.com> for map). The first meeting will be held from 1:00 to 3:30 pm, and the second meeting will be held from 4:30 to 7:00 pm. Both meetings will begin with an informal open house, followed by a brief presentation, followed by public testimony.

Written comments may also be submitted to aimee.t.kinney@usace.army.mil or:

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Project Purpose

The Alaskan Way seawall is experiencing significant decay and deterioration, leading to structural instability along the Seattle waterfront and central business district. Seawall structural instability is putting a tremendous amount of public and private infrastructure, development, and transportation linkages at risk of damage due to either an earthquake or wave and tidal erosion. In addition, the failure of the seawall would result in a high risk to public safety and environmental damage.

The purpose of the proposed rehabilitation effort is to protect the public facilities and economic activities along the Elliott Bay shoreline from wave and tidal damages associated with failure of the existing seawall. The study area includes approximately 7900 feet of seawall along Seattle's central waterfront, between Washington Street to the south and Bay Street to the north.

Relationship to Alaskan Way Viaduct and Seawall Replacement Project

The feasibility study is closely related to efforts to replace the seawall as part of the Alaskan Way Viaduct Replacement project (AWVSRP). The Corps is partnering with a project already in progress. However, the Corps study process is separate because we do not have the authority to fund or construct transportation projects. The seawall will be the primary focus of the Corps' analysis, rather than a secondary element of a transportation project. We are coordinating closely with the Federal Highway Administration, Washington State Department of Transportation, and City of Seattle to share information and reduce duplication of efforts. They have accomplished much of the preliminary engineering for seawall replacement, and prepared a draft EIS which evaluates replacement of the seawall. The vast amounts of data compiled and analysis completed for the March 2004 AWVSRP draft EIS will be used in the Corps EIS.

Alternatives

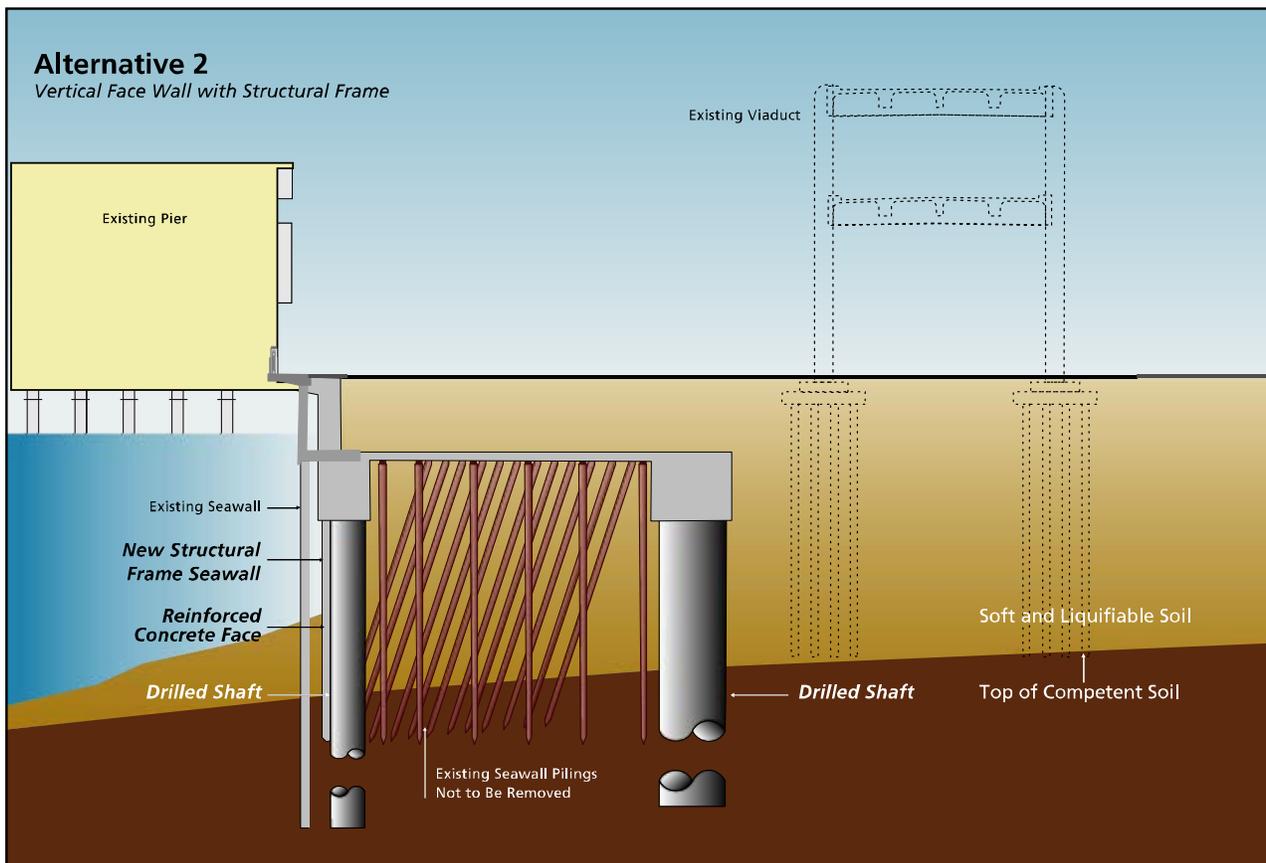
The Corps and the City have adopted the alternative screening process conducted for the AWVSRP. At this time, we are considering four alternative construction measures. These alternatives, described below, correspond to the seawall alternatives described in the March 2004 AWVSRP draft EIS.

We have not yet identified a preferred alternative, but we may identify a preferred alternative in the draft EIS. We encourage you to provide recommendations for improvements to these alternatives, especially ways to create habitat for fish/wildlife, and improve public access and aesthetics along the Seattle waterfront.



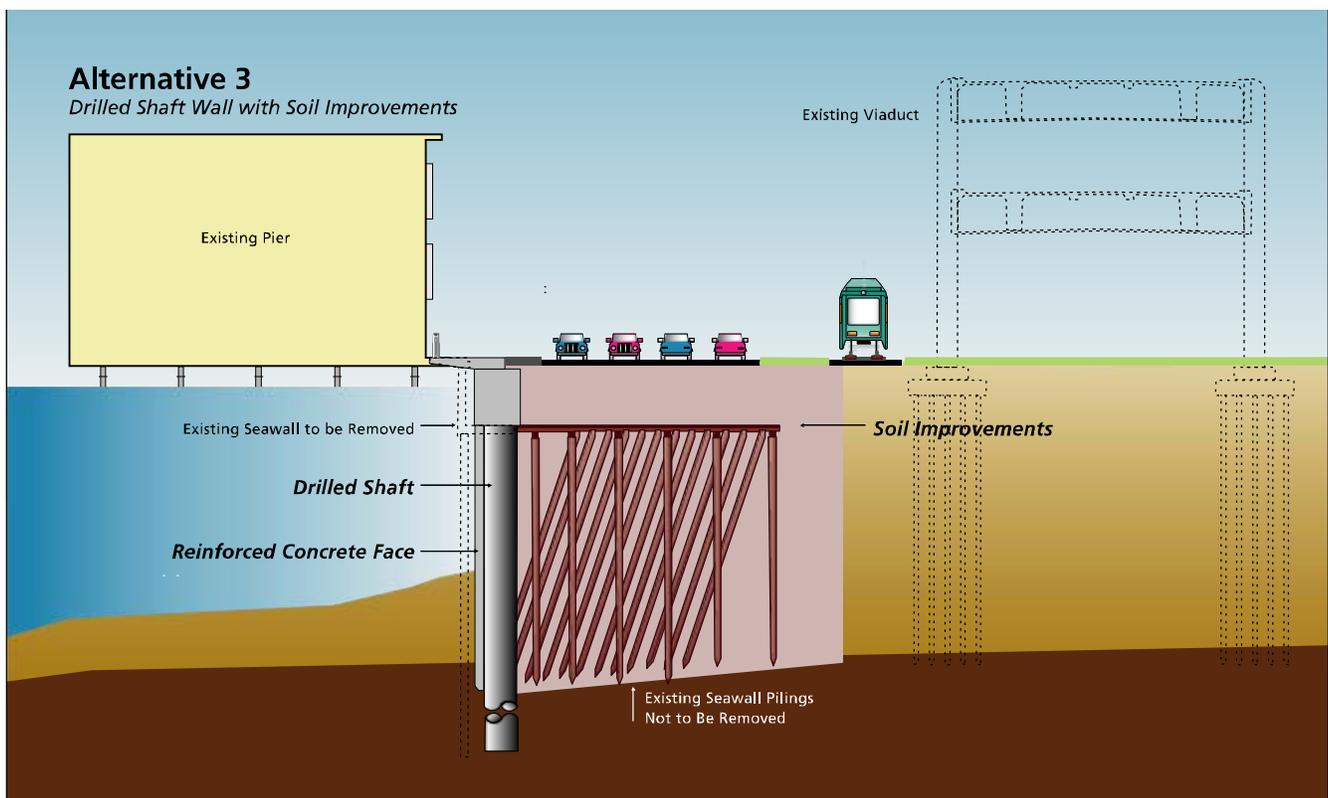
Alternative 1 – No action: The no action alternative consists of continuing to repair and maintain the existing seawall. Without seismic events, the seawall could potentially remain serviceable for 25 years with continuing periodic repairs. As the structure continues to age, the cost of repairs will likely increase considerably.

Alternative 2 – Vertical face wall with structural frame: Alternative 2 consists of two concrete walls connected by a concrete T-beam. A secant pile wall would be built behind the existing seawall. A secant pile wall consists of two drilled shafts next to each other. The shafts are driven into competent soils—up to 90 feet below ground—and filled with concrete. Another shaft is drilled between the first two, overlapping both of them and eliminating voids. This forms a continuous wall of interlocking drilled shafts. The second wall would be a bulkhead constructed of drilled shafts spaced 10 to 20 feet apart and located 30 to 60 feet east of the secant pile wall. The shafts making up the bulkhead would anchor the secant pile wall. A T-beam deck, consisting of multiple bulkhead cap beams, would connect the two walls. This alternative is the same as the frame seawall alternative in the AWVSRP draft EIS.





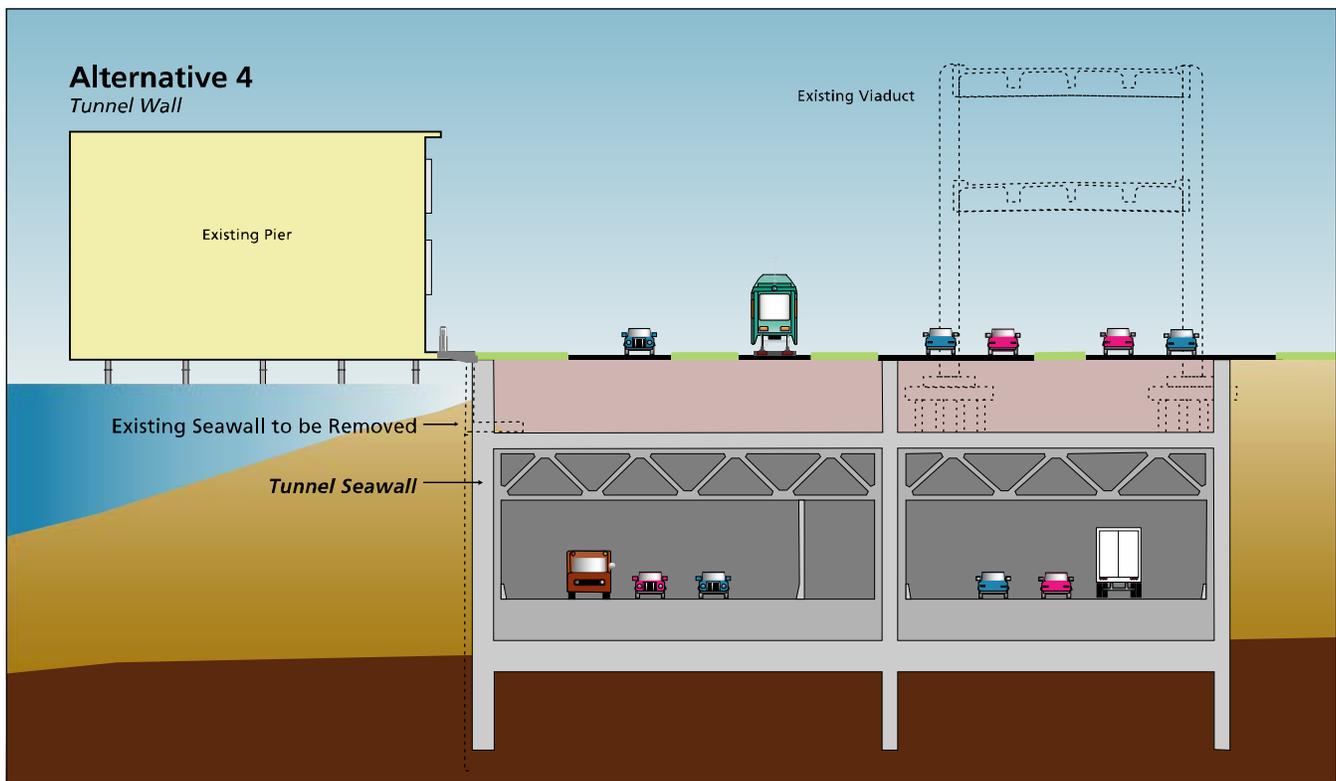
Alternative 3 – Drilled shaft wall with soil improvements: Alternative 3 involves strengthening the weak soils behind the existing seawall and constructing a continuous secant pile wall to provide needed lateral and vertical support. The soil improvements would prohibit liquefaction of the loose soils contained by the existing seawall. Soils would be strengthened through a process called jet grouting, where soils are mixed with a cement grout stabilizer. This involves drilling a hole through the existing ground surface, then inserting a rod containing a jet through which cement grout is pumped at high pressures. The high-pressure grout penetrates the existing soils, enhancing their strength. The jet is rotated while being drawn out of the hole, forming a column of improved soil. Numerous columns at close intervals are used to create a block of improved soil. The drilled shaft secant pile wall would be constructed behind the existing seawall to provide remaining required lateral resistance. This alternative is the same as the rebuild seawall alternative in the AWVSRP draft EIS.





Alternative 4 – Tunnel wall: Alternative 4 would replace the seawall with the outer wall of a tunnel between S. Washington Street and Pike Street, consistent with the proposed tunnel alternatives in the AWVSRP draft EIS. A continuous secant pile wall would be constructed to replace the existing seawall and form the outer wall of the tunnel. Most of the wall would be constructed behind the existing Alaskan Way Seawall, but a section between Pier 48 and Colman Dock may extend into Elliott Bay. This alternative would require significant excavation and dewatering.

The selection of Alternative 4 by the Corps and the City could not occur unless a tunnel alternative is adopted by the AWVSRP partners to replace the existing Alaskan Way Viaduct. Alternative 4 could be combined with Alternatives 1, 2, and/or 3 south of S. Washington Street and north of Pike Street.



The transportation alternative shown above reflects the 2004 AWVSRP draft EIS level of tunnel design development.



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Major Environmental Impacts

Several major environmental impacts could result from implementation of these alternatives. They include:

- impacts to water quality during several years of construction activities
- impacts to marine habitats – under some alternatives, portions of the seawall may be realigned waterward into Elliott Bay or landward towards Alaskan Way
- impacts to species listed under the Endangered Species Act, particularly Chinook salmon and bull trout
- impacts to historic properties
- impacts related to exposures to potentially contaminated materials landward and waterward of the seawall
- infrastructure required for post-construction storm water management
- impacts associated with the no action alternative – catastrophic failure of the seawall would lead to major impacts on the environment, as well as public facilities and infrastructure located landward of the seawall
- impacts to transportation corridors during construction activities
- impacts to businesses and residences from noise levels during construction activities
- socio-economic impacts associated with a large, multi-year construction project
- cumulative impacts – other major construction projects are located in the vicinity (including Alaskan Way Viaduct replacement, Coleman Dock upgrades, Piers 62 & 63 Central Waterfront Master Plan) and there is limited availability of suitable habitats within Elliott Bay due to historic development activities