

FINAL ENVIRONMENTAL IMPACT STATEMENT

Final EIS in Focus

03.2013



Elliott Bay Seawall Project



The Elliott Bay Seawall Project

The City of Seattle, through the Seattle Department of Transportation (SDOT), is proposing to construct the Elliott Bay Seawall Project, which would replace the existing seawall along the shoreline of downtown Seattle between S. Washington Street in the south and Broad Street in the north. The Elliott Bay Seawall Project has been proposed to protect the shoreline and upland areas from erosion and damage due to coastal storms and seismic events along the downtown Seattle waterfront and to protect public safety, critical infrastructure, and associated economic activities. The project would also improve the nearshore ecosystem of Elliott Bay in the vicinity of the existing seawall. The seawall replacement would support both existing activities and future plans for the downtown Seattle waterfront, including concepts developed as part of the City's Waterfront Seattle Program.

What's happening now?

To analyze the potential effects of this project, the City conducted an environmental analysis of the Elliott Bay Seawall Project under the Washington State Environmental Policy Act (SEPA). Analysis completed for the Environmental Impact Statement (EIS) enabled City decision-makers, with input from the public, regulatory agencies, and Native American tribes, to consider the environmental impacts of the project alternatives in conjunction with factors such as cost, schedule, and feasibility. The Draft EIS was issued on November 13, 2012, and was followed by a 30-day review and comment period. A public open house was held on December 5, 2012, and provided the public with project-related

information, as well as an opportunity to comment on the Draft EIS. The issuance of the Final EIS completes the SEPA process for the Elliott Bay Seawall Project.

Final design and permitting are expected to be completed by late summer 2013. Construction of the Central Seawall is expected to begin in fall 2013, with limited early work activities, such as utility relocations, taking place in spring and summer 2013. The Central Seawall is planned to be completed by early 2016. North Seawall construction would begin once funding is secured, but no earlier than fall 2016.



Project area

The Elliott Bay Seawall Project's Environmental Process Milestones

June 2010	Summer/ Fall 2010	April 2011	Fall 2011	Fall 2011- Fall 2012	November 2012	March 2013	March 2013	April - August 2013
Defined project's purpose and need and held public scoping period	Developed conceptual plans	Established range of alternatives for analysis (Alt A & B)	Developed hybrid Alt C and began preparing discipline reports	Summarized discipline reports into Draft EIS and coordinated with U.S. Army Corps on project approach	Published Draft EIS	Publish Final EIS	SEPA complete	Final permits received, compliant with Clean Water Act, Endangered Species Act, Marine Mammal Protection Act, etc.



The Final EIS

New Information in the Final EIS

- Comments received on the Draft EIS from regulatory agencies, Native American tribes, organizations, businesses, and the public
- The City's responses to comments received on the Draft EIS
- Updates to reflect project design refinements
- A revised cultural resources assessment
- A comprehensive list of mitigation measures to which the City has committed
- A Discipline Report Errata section (the discipline reports in their original form are included as technical appendices to the Final EIS)



Obtaining the Final EIS

The Final EIS is available online at www.seattle.gov/transportation/seawall.htm. Compact discs (CDs) of the Final EIS, the Draft EIS, and the technical appendices, as well as printed copies of the Final EIS, can be obtained by calling 206-618-8584 or by sending an e-mail to seawall@seattle.gov. Printed copies of the Final EIS are available for \$25, copies of the Draft EIS are available for \$50, and copies of the technical appendices are available for \$25. Individuals requiring reasonable accommodation of any type, including language translation services, may call 206-618-8584. Individuals who have a hearing impairment may call the Washington State Telecommunications Relay Service (TTY) at 711.





Comments Received on the Draft EIS

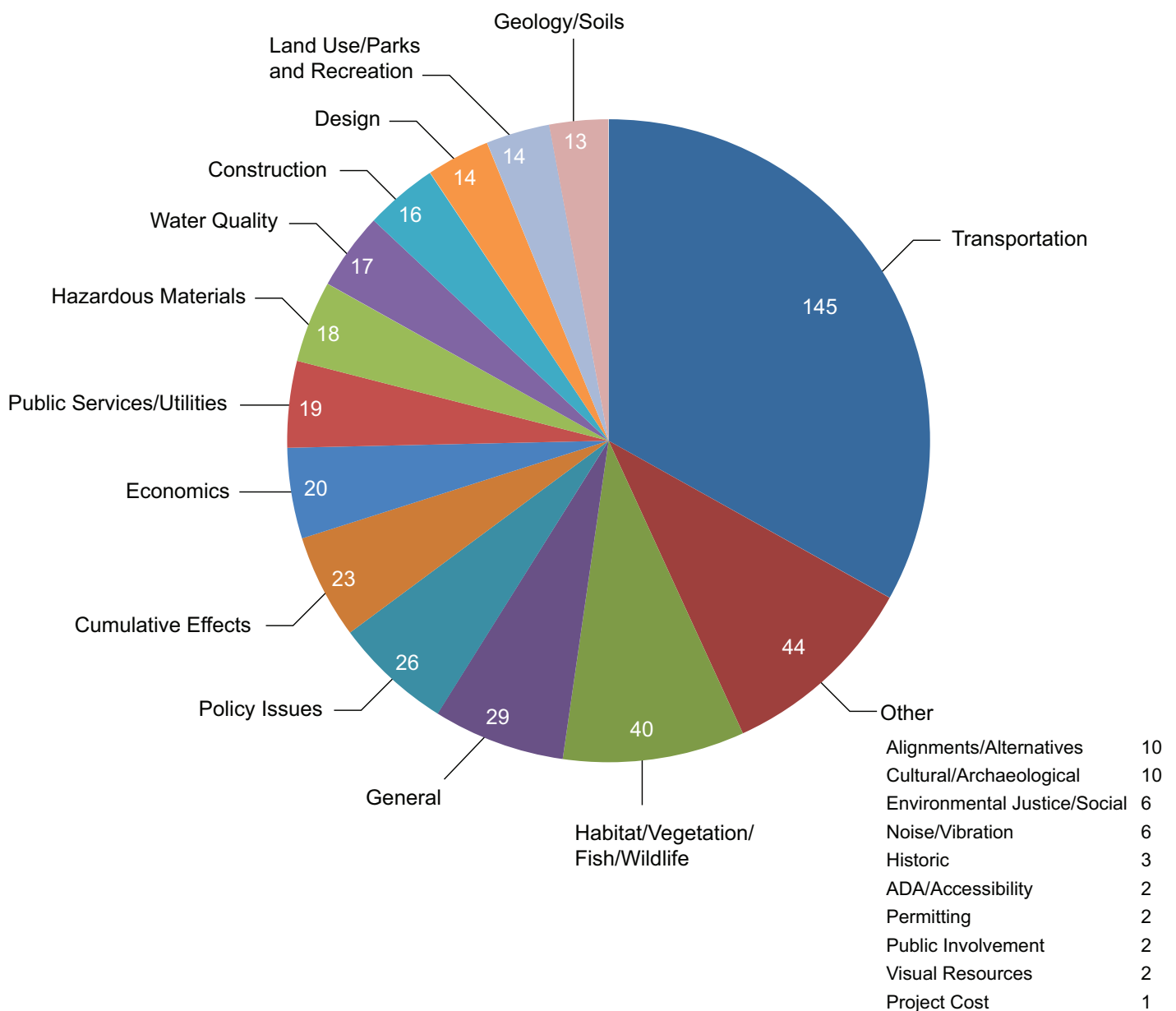
During the comment period for the Draft EIS, **54 communications** (letters or emails) were received from **49 commenters**, consisting of Native American tribes, state and local agencies, organizations, businesses, and individuals.

Within these communications, there were **438 individual comments**.

Who submitted comments on the Draft EIS?

Native American tribes	1
State and local agencies	9
Organizations	11
Businesses	14
Individuals	14

Characterization of comments received





An overview of common questions on and issues raised in the Draft EIS, along with a summary of the City's responses, is provided below. A complete record of all of the comments and the City's response to each comment is provided in Appendix P of the Final EIS.



Summer construction shutdown period

A number of the commenters requested an extension of the summer construction shutdown period to include September. To minimize the construction effects during September, which the City recognizes as a busy month for many waterfront businesses, construction would begin gradually after Labor Day, with an effort to preserve as much parking as possible. For instance, during the first construction season, the contractor could avoid construction directly in front of waterfront businesses in Zone 4 and provide some parking within the construction zone.



Tolling of State Route 99 Tunnel

Several commenters requested additional information and analysis concerning the effects of tolling the State Route (SR) 99 tunnel on downtown traffic conditions during seawall construction. In 2012, the state legislature established the Washington State Department of Transportation's authority to toll the SR 99 tunnel; the Washington State Transportation Commission is responsible for setting the toll rates, which have not yet been established.

Since publication of the Alaskan Way Viaduct Replacement Project Final EIS, studies and modeling related to tolling the bored tunnel have continued. All of these studies indicated that tolling would result in substantial diversion of traffic, with resulting congestion on the downtown Seattle arterial street network. However, there is a high level of uncertainty regarding the amount of the toll (which would need to be approved by the Legislature) as well as the resulting rate of diversion. Intersections along Alaskan Way are also expected to be highly congested with tolling in place. The range of uncertainty regarding

the rate of diversion from tolling makes it impractical to quantify the impacts of tolling the bored tunnel on the downtown street network as part of the Elliott Bay Seawall Project analysis.



Status of Elliott/Western Connector during North Seawall construction

Several commenters requested clarification of the status of the Elliott/Western Connector. The transportation analysis in the Draft EIS assumed that the Elliott/Western Connector would not be in place before the North Seawall construction. This assumption represented a worst-case scenario, because without the connector, more traffic would be directed onto Alaskan Way between Broad and Pine Streets. The availability of the Elliott/Western Connector as a bypass would lower traffic volumes and ease congestion on Alaskan Way in the vicinity of North Seawall construction, with or without tolling of the bored tunnel, although the congestion would likely be worse with tolling in place because more vehicles would divert onto arterial streets. At this time, the City anticipates that the Elliott/Western Connector would be in operation before the North Seawall construction begins.



Pedestrian routes during construction

Concerns were raised about safe pedestrian movements during seawall construction. The City will provide pedestrian and bicycle access throughout the seawall construction period. The access routes would vary depending on the phase of construction and the time of year, and would include detour signage and wayfinding features.



Specificity of and commitment to mitigation measures

There were a number of requests for more specificity regarding the mitigation measures and commitments to them. The Draft EIS identified mitigation measures for the range of alternatives under consideration. Many of those measures included the development of more detailed plans to address specific impacts. For the Final EIS, the City has developed more specific mitigation commitments that are consolidated in Chapter 8 of the Final EIS, and will continue to coordinate with stakeholders regarding these commitments.



Parking during construction

The removal of on-street parking during seawall construction was a concern raised by many commenters. The EIS presents a worst-case scenario in terms of loss of parking within the project area. The City will optimize parking availability during construction periods, as well as during the summer shutdown period, the period of highest demand along the waterfront. To reduce effects during September, which is a busy month for many waterfront businesses, construction would begin gradually after Labor Day, with an effort to preserve as much parking as possible. The City will continue to coordinate with the local business community on parking and vehicular access concerns throughout final design and construction.



Cumulative effects

A number of commenters requested additional detail on coordination among projects occurring simultaneously in the project area, especially related to the North Seawall. The cumulative effects analysis looked at over 25 projects that have been completed, are in progress, or are reasonably foreseeable in and near the seawall project area. Close coordination among these projects is clearly an important component of minimizing cumulative effects and is included in the mitigation measures in the Final EIS. In addition, SDOT has been, and will continue to be, involved in traffic management in the greater downtown area, particularly regarding traffic changes associated with the seawall and other

projects. When funding for the North Seawall construction becomes available, the City will evaluate then-current conditions to determine whether additional analysis is warranted to address cumulative effects.



Truck movements and access during construction

Several comments related to the ability of trucks to maneuver through the construction zone, access businesses, and access the ferry terminal at Colman Dock. SDOT has determined that trucks with a 67-foot wheelbase would be able to safely maneuver to, through, and within the project area along the temporary roadway during construction.



Details and monitoring of habitat improvements

Commenters requested additional details on habitat improvements and post-construction monitoring. Additional detail on the dimensions and specific locations of each habitat feature has been provided in the Discipline Report Errata. The City will implement a monitoring and adaptive management plan, in consultation with regulatory agencies and Native American tribes, to evaluate whether habitat features provide the functions proposed and to take further actions, if needed. The City anticipates the need for ongoing maintenance, such as renourishment of the substrates.



Effects of jet grouting

Concerns were raised about the use of jet grout, particularly in relation to the possible release of material into Elliott Bay. In response to these comments, the EIS describes design and containment measures to minimize the potential for releases. In addition to the installation of a temporary containment wall, these measures include directing the jet grout nozzles away from the shoreline and filling voids in the existing seawall where feasible. Once solidified, jet grout has properties similar to those of cement and forms a non-liquefiable and stable block.



Project Alternatives Evaluated in the Final EIS

The Final EIS, like the Draft EIS, evaluates a No Action Alternative and three build alternatives: Alternatives A, B, and C. The three build alternatives represent different ways of achieving the project purpose, but they share certain basic components:

- A seawall structure
- Habitat enhancements
- Upland improvements and public amenities

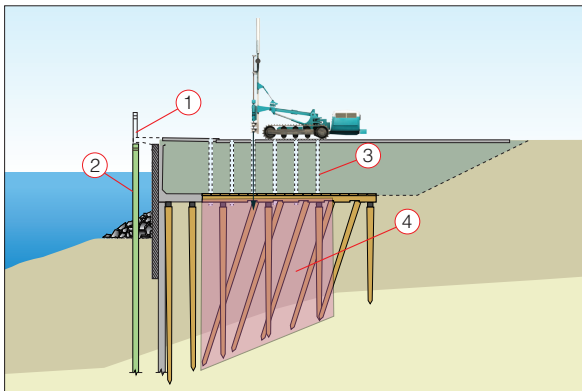
Alternative A would rebuild the face of the seawall as close as possible to its current location. Alternative A combines the lowest-cost structural option and a cost-effective suite of ecosystem restoration measures and upland improvements.

Alternative B consists of a different type of structural solution and additional ecosystem restoration measures and upland improvements. Alternative B would rebuild the face of the seawall as far landward as practical.

Alternative C was developed as a hybrid of Alternatives A and B. Alternative C uses the structural solution from Alternative A, and includes many of the additional ecosystem restoration measures and upland improvements from Alternative B. Alternative C would move the face of the seawall landward by up to 15 feet.

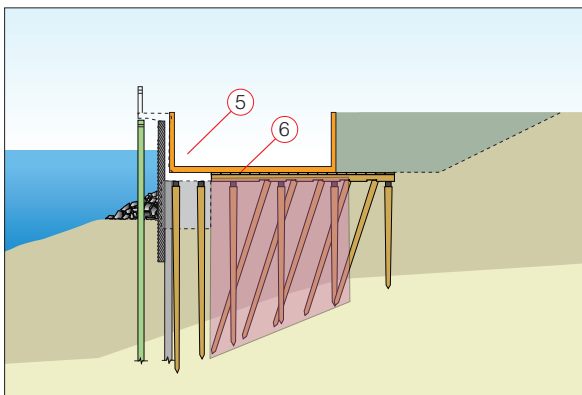
The **No Action Alternative** provides a baseline for comparison to the potential effects of the build alternatives and is projected over the next 50 years. The scenarios evaluated under this alternative include minimal damage, loss of functionality and collapse of the seawall.

Alternative C Construction Sequence



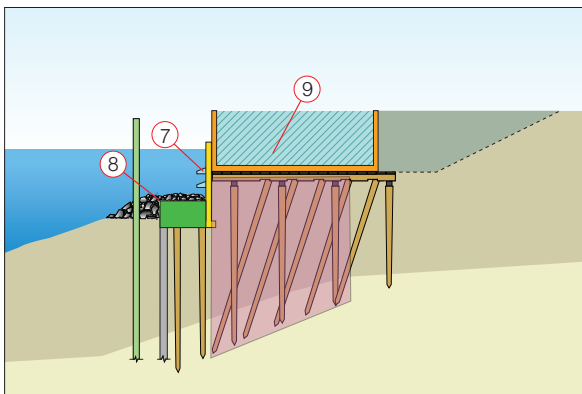
Stage 1

1. Remove existing sidewalk
2. Install temporary containment wall
3. Pre-drill and install casings for jet grouting
4. Install soil improvement with jet grouting or deep soil mixing



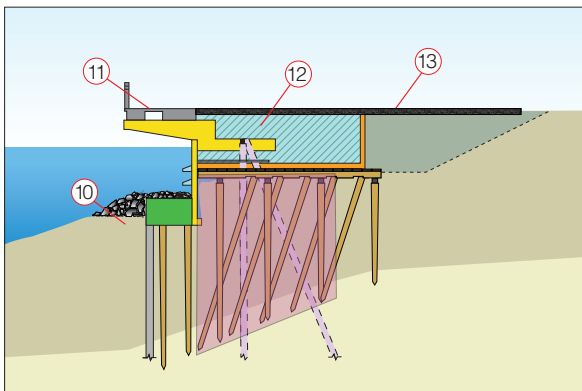
Stage 2

5. Temporarily relocate utilities
6. Excavate to timber relieving platform



Stage 3

7. Demolish existing seawall, then install new face panels and habitat shelves
8. Place habitat bench
9. Fill behind new seawall face



Stage 4

10. Remove temporary containment wall
11. Install cantilevered sidewalk with light penetrating surface
12. Restore utilities
13. Restore roadway for local traffic

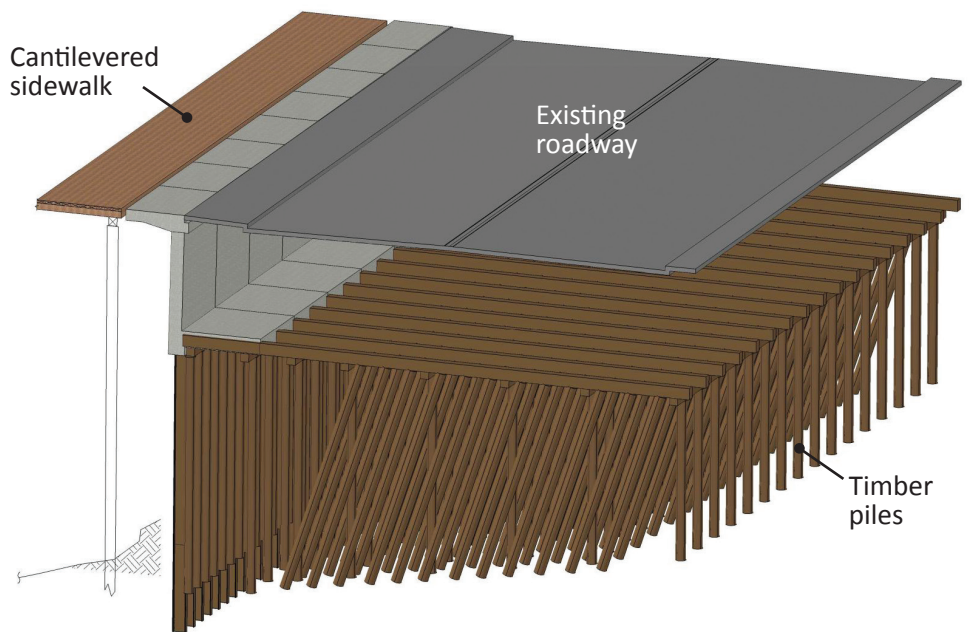


The City's Preferred Alternative – Alternative C

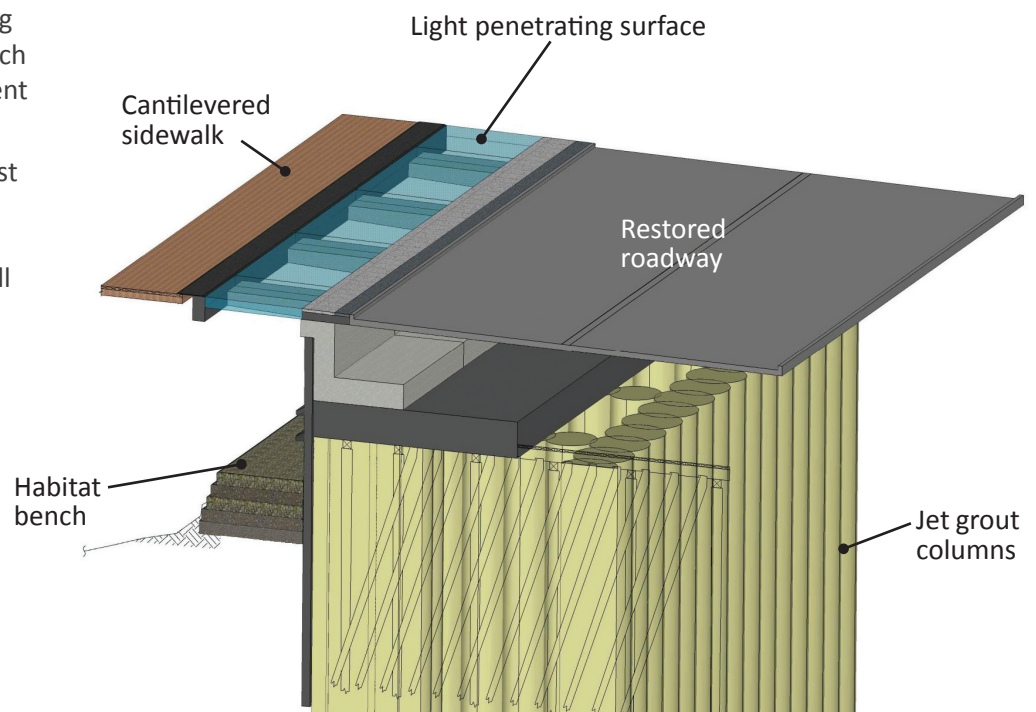
The City's preferred alternative is Alternative C, which is a hybrid of the most beneficial features of Alternative A (such as shorter construction duration) and Alternative B (greater habitat enhancements and upland improvements). For those reasons, Alternative C is a cost-effective alternative that minimizes environmental impacts.

Why is Alternative C preferred?

- It provides coastal storm damage protection and seismic protection through soil improvements, which are the most cost-effective and least disruptive of the construction techniques evaluated.
- By moving the seawall landward, this alternative provides enhanced opportunities for ecosystem restoration, including a wider continuous habitat bench for fish passage and development of nearshore enhancements.
- Alternative C requires the fewest seasons of construction, which will reduce impacts on local businesses and residents as well as the aquatic environment.



3D rendering of existing seawall



3D rendering of preferred alternative



Project Effects and Mitigation

The City analyzed the potential effects of the project alternatives on the built and natural environment both during construction (construction effects) and after construction (operational effects). All three build alternatives would achieve the project purpose; therefore, each build alternative would be beneficial due to reduced risk of seismic and storm damages, protection of public infrastructure and economic activities, and improvements to the Elliott Bay ecosystem. The primary adverse effects of the build alternatives would occur during construction. The project would minimize construction impacts by controlling noise and dust emissions, minimizing effects to parking, maintaining traffic flow and access throughout the waterfront, and protecting water quality. The City would continue to work with stakeholders to tailor these measures to specific construction stages.

Discipline	Alternative A	Alternative B	Alternative C - Preferred Alternative
Cultural, Historic, and Archaeological Resources			
<i>Historic</i>	Minor	Minor to Moderate	Minor
<i>Archaeological and Cultural</i>	Moderate	Moderate	Moderate
Economics	Substantial	Substantial	Substantial
Energy Use and Greenhouse Gas Emissions	Minor	Minor	Minor
Land Use, Shorelines, and Parks and Recreation			
<i>Land Use, Shorelines</i>	Minor	Minor	Minor
<i>Parks and Recreation</i>	Moderate	Moderate	Moderate
Noise and Vibration	Moderate to Substantial	Moderate to Substantial	Moderate to Substantial
Public Services and Utilities			
<i>Public Services</i>	Moderate	Moderate	Moderate
<i>Utilities</i>	Moderate	Moderate	Moderate
Social Resources	Minor	Minor	Minor
Transportation	Substantial	Substantial	Substantial
Visual Resources	Moderate	Moderate	Moderate
Air Quality	Minor	Minor	Minor
Contaminated Materials	Minor	Minor	Minor
Fish, Wildlife, and Vegetation	Substantial	Substantial	Substantial
Geology and Soils	Minor	Minor	Minor
Water Resources	Moderate to Substantial	Moderate to Substantial	Moderate to Substantial



Effects from Other Past, Present, and Future Projects

Cumulative effects are the combined individual effects of multiple projects over time. The Elliott Bay Seawall Project will be constructed in the midst of a busy waterfront at the same time as other capital projects, including the Alaskan Way Viaduct Replacement Program (through 2016), the City's Waterfront Seattle Program projects (2016 to 2020), and the Seattle Multimodal Terminal at Colman Dock Project (2015 to 2020), among many other ongoing or planned projects. The construction-related effects of any of the build alternatives for the Elliott Bay Seawall Project would add to the temporary adverse construction effects of these other projects.

In terms of operation, the Elliott Bay Seawall Project combined with those of other reasonably foreseeable projects would result in long-term improvements in the aquatic environment and in economic and transportation conditions along the downtown Seattle waterfront.

Therefore, the overall cumulative effect of the Elliott Bay Seawall Project combined with the other planning projects would be beneficial, resulting in a transformed waterfront from S. Washington Street to Broad Street.

How is the Elliott Bay Seawall Project coordinating with other projects in the area?

SDOT is coordinating with the Washington State Department of Transportation, Washington State Ferries, the Port of Seattle, the waterfront business community, and other City departments to minimize adverse effects due to the construction and operation of the Elliott Bay Seawall Project, both alone and in combination with other projects in the area. Close coordination among the various projects will ensure that they are completed in a timely manner while minimizing adverse effects.





For more information

Visit our website, provide your input, or contact us to hear about our latest activities.

Web: www.seattle.gov/transportation/seawall.htm

Email: seawall@seattle.gov

Project Hotline: 206-618-8584

Americans with Disabilities Act (ADA) Information:

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