“Foundation” of the Waterfront Program
Seawall Project Area

Olympic Sculpture Park

Pike Place Market

Colman Dock/Ferry Terminal

PHASE 1

PHASE 2
Current Project Schedule

- Alternatives Development and Selection (City of Seattle)
- U.S. Army Corps of Engineers Feasibility Study (S. Washington St. to Broad St.)
- Feasibility Scoping Meeting
- Environmental Review
- Seawall Design
- Seawall Construction (City of Seattle, Phase 1—S. Washington St. to Virginia St.)
- Potential Phase 2 Construction (Virginia St. to Broad St.)
- Waterfront Seattle Design
- Bored Tunnel Design and Construction
# Project Milestones

<table>
<thead>
<tr>
<th>Year</th>
<th>Environmental Process</th>
<th>Design Development</th>
<th>GC/CM Procurement</th>
<th>Construction</th>
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</thead>
<tbody>
<tr>
<td>2012</td>
<td>Public notice</td>
<td>Start final design</td>
<td>NTP</td>
<td>Pre-construction</td>
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<tr>
<td></td>
<td>DEIS</td>
<td>60%</td>
<td></td>
<td>Construction begins</td>
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<tr>
<td></td>
<td>Permits received</td>
<td>100%</td>
<td></td>
<td>Construction complete</td>
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<td>2013</td>
<td></td>
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<tr>
<td>2014</td>
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<td>2016</td>
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Project Purpose and Need
Project Purpose

- Reduce the *risks of coastal storm and seismic damages*

- *Protect public safety*, critical infrastructure, and associated economic activities along Seattle’s central waterfront

- *Improve the degraded ecosystem functions* and processes of the Elliott Bay nearshore in the vicinity of the existing seawall
Sample Seawall Cross-Section

Type B Seawall (Madison to Union)
Seawall Location: Eastern Extent

Type A Seawall (Union to Broad)
Structural Elements of the Wall

- Relieving Platform
- Wall
- Soil
Seawall Repairs and Vulnerability

1954 failure, Clay Street (above/at right)

2002 relieving platform repairs (to right)
Result of a Seawall Failure
What’s at Risk?

- Public safety
- Transportation corridor
- Critical utilities
- Residential and commercial structures
- Public recreation
- Tourism and local attractions
- Seattle’s front porch
Degraded Nearshore Habitats

- Migratory corridor
  - Depth
  - Light

- Nearshore ecosystem productivity
  - Aquatic and riparian vegetation
  - Macroinvertebrates
  - Substrate diversity
Threatened and Endangered Species

- Salmon
- Trout
- Puget Sound Rockfish
Developing Alternatives
Public Engagement Themes

• For those most affected, *the project is well-known* and they are ready to *get construction started*

• *Seize the habitat opportunity* by using innovative and science-based enhancements

• Maintain a *responsible project budget*

• Create more *physical access to water* and public gathering space

• Maintain transportation routes, including *continuous non-motorized pathways*

• Consider *construction impacts to businesses* and tourism

• Preserve *historical and cultural significance*
Recommended Design Features

• Face of wall: 10-15 feet inland
• Soil stabilization with jet grouting
• Continuous migration corridor and nearshore restoration
• Restored Alaskan Way and pedestrian/bicycle facilities
• Early program wins
Soil Stabilization: Jet Grouting

• Standards
  – 1,000 year seismic event
  – 75-year design life

• Structure
  – Directly addresses soil liquefaction problem

• Time
  – Potentially faster construction

• Cost
  – Lower than other options
Potential Habitat Enhancement Measures

- New seawall
- Intertidal corridor
- Lighting
- Riparian vegetation
- Textured wall
- Substrate enhancement
- Cobble reefs
Existing – Zone 1
Proposed – Zone 1
Existing – Zone 1
Proposed – Zone 1
Existing – Zone 2
Proposed – Zone 2
Existing – Zone 3
Proposed – Zone 3
Existing – Zone 4
Proposed – Zone 4
Existing – Zone 4
Proposed – Zone 4
Breakdown of 35% Cost Estimate

Phase 1 Cost: $300M

- Soil Stabilization: 72%
- Design and Environmental: 16%
- Ecosystem Restoration: 4%
- Roadway and Access: 8%

7/30/2012
Delivering Final Design
Key Design and Cost Questions after 35%

**Structural:**
Do we have the most streamlined, elegant structure, with few redundant elements?

**Work sequence:**
Can we maximize access and minimize impact for:
- Businesses
- Users
- Environment
- Utilities
Moving to Final Design

35% Design

Preliminary Approach to Final Design
Design Team Organization
Systems Approach

- Waterfront vision
- Transportation
- Seawall structure
- Utilities
- Habitat
- Public realm
Defining the Public Realm
Zones 1 & 2: Washington St & Colman Dock
Zone 1 – Plan View
Zone 3: Historic Piers
Outfalls and Habitat Benches
Light Penetrating Surfaces (LPS)

- Glass blocks
- Glass plank panels
- Grating
- Solar tubes
Zone 4: Seattle Aquarium
Zone 4 – Plan View
Upcoming Fall Events and Outreach

- Light penetrating surfaces study on Pier 62/63
- Habitat/fish migration studies
- Habitat education
- Fairs, festivals, events
- Briefings
- Collaboration with Waterfront Seattle activities
Contact Information

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