City of Seattle Design Commission
October 7, 2010
• **Collaboration:** Project teams will collaborate to review seawall design options and define a preferred alternative by spring 2011

• **Integration:** Seawall design will be integrated with the overall design direction for the central waterfront public spaces upland of the seawall

• **Expertise:** Seawall team will provide in-water engineering and habitat design expertise, and the Central Waterfront Project team will provide public space and transportation facility design expertise
Project Area

[Map showing the project area with locations marked: Olympic Sculpture Park, Pike Place Market, Colman Dock/Ferry Terminal, Qwest Field, SEAWALL, and PHASE 1.]
## Preliminary Project Schedule

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History: Railroad Avenue (1931)
History: Railroad Avenue (1934-1936)
Sample Seawall Cross-Section

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

Type A Seawall (Union to Broad)
Seawall Location: Eastern Extent

Type B Seawall (Madison to Union)
Seawall Repairs and Vulnerability

1954 failure, Clay Street (above/at right)

1986 relieving platform repairs (to right)
What could happen during an earthquake?

Kobe, Japan (1995)  
WSDOT Earthquake Simulation
What’s at risk?

Public Safety

Transportation Corridor

• Alaskan Way
• Washington State Ferries
• Water taxi
• BNSF/Amtrak/Sounder
• Cruise ship terminal
• Pedestrian and bicycle path
What’s at risk?

Critical Utilities

- Natural gas
- Sewer
- Water
- Steam
- Fiber optic
- Communications
- Electrical transmission and distribution
What’s at risk?

Residential and Commercial Structures

• 3 condo buildings (over 200 residential units)
• 7 landside non-residential structures (over 1.2M sq ft)
• Piers and buildings
• Port of Seattle offices
What’s at risk?

Public Recreation
• Waterfront Park
• Pier 62/63 park

Tourism and Local Attractions
• Waterfront businesses
• Seattle Aquarium

Seattle’s Front Porch
Shoreline Stabilization: Potential Technologies

Drilled Shaft

Ground Improvement
Shoreline Stabilization Systems: Flexibility
Seawall Face: Protection of Stabilization
Beyond Soil Stabilization

What can the seawall contribute?
Project Goals

• Address critical public safety needs at shoreline.
• Respect cultural, archeological, and historic resources.
• Consider long-term vision for the Central Waterfront.
• Provide enhanced habitat.
• Provide enhanced public gathering and recreational opportunities.
• Support economic vitality of the waterfront.
• Minimize construction impacts.
• Support fiscal responsibility.
Developing Alternatives

Elliot Bay Seawall Planning and Conceptual Design Process

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*April - Define preferred alternative*
Questions?
Zone Area Designs
7 Principles

Environmental Sustainability
- Develop the waterfront as a model of environmental sustainability through redevelopment and public improvements that enhance marine habitat and migration, improve water and air quality, and reduce noise.

Destination & Movement
- Improve the waterfront's accessibility for people while acknowledging its critical role as a transportation corridor and through Downtown. Ensure that the multiple modes of transportation serving the waterfront are well integrated with each other and with the larger downtown and regional transportation network.

Authenticity & Identity
- Keep the waterfront real by accommodating functions that serve local community needs and by maintaining connections with the area's past. Promote development that reinforces the uniqueness of places, reflects the dynamic nature of the shoreline, and reflects the spirit of the people of Seattle and the Puget Sound region.

Balance & Integration
- As an overarching principle, strive for a workable balance for integrating nature, human activities, economic development, and transportation to create a functional, ecologically sound, and beautiful waterfront.

Diversity & Flexibility
- Plan for the waterfront's future in a manner that recognizes the area's dynamic nature and the need to respond to conditions likely to change over time. Make the waterfront an exciting urban neighborhood and regional destination that accommodates multiple functions, including recreation and public gathering, working waterfront activity, a place for people to live and work, and habitat conservation.

Economic Development
- Promote a healthy economy and attract investment to the Puget Sound region by developing the area as a modern, urban, working waterfront and a major recreational and cultural destination that serves as a symbol of the region's vitality and livability.

Access & Connection
- Make public access and access the primary objective for redeveloping the central waterfront, increase physical and visual access to the shoreline and link the waterfront with inland areas so that each area reinforces the other and contributes to a cohesive downtown.
Establishing Zones

Zones serve as an organizing framework based on:

• Existing and potential future land use
• Existing infrastructure (utilities) setting
• Water depth and uses
• Existing habitat
Common Opportunities

- Aquatic habitat enhancement
- Shoreline public access and/or touch points
- Cultural, education, and/or interpretation
- Sustainable design
Zone 1: Pioneer Square/Washington Street Zone
ZONE 1  Pioneer Square / Washington Street

Enhance habitat in shallow water area
Bring people to the water
Provide recreational opportunities
Connect to Pioneer Square
Restore Washington Street Public Boat Landing
Develop focal point for cultural and historic interpretation
Create bookend to Olympic Sculpture Park
ZONE 1  Pioneer Square / Washington Street

Enhance habitat in shallow water area
Bring people to the water
Provide recreational opportunities
Connect to Pioneer Square
Restore Washington Street Public Boat Landing
Develop focal point for cultural and historic interpretation
Create bookend to Olympic Sculpture Park
ZONE 1 Area Design Options

1.A Wall in Place, Pocket Beach at Pier 48 Site

1.D Wall in Place, Pocket Estuary at Pier 48 Site

1.E Wall Set Back, Urban Hardscape with Moorage (Washington to Yesler)

1.F Wall in Place, Pocket Beach (Washington to Yesler)

1.H Wall Push Out, Hardscape/Stairs (Washington to Yesler)
ZONE 1  Area Design Options

1. A  Wall in Place, Pocket Beach at Pier 48 Site
1. D  Wall in Place, Pocket Estuary at Pier 48 Site
1. E  Wall Set Back, Urban Hardscape with Moorage (Washington to Yesler)
1. F  Wall in Place, Pocket Beach (Washington to Yesler)
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ZONE 1: OPTION F, PLAN DRAFT - PIONEER SQUARE/WASHINGTON STREET ZONE

ELLIOTT BAY SEAWALL PROJECT
SEATTLE DEPT. OF TRANSPORTATION

September 24, 2010
Zone 2: Ferry Terminal Zone
ZONE 2  Ferry Terminal

Create light corridor for fish migration
Enhance habitat with modified seawall
Develop creative connections to WSF terminal
Support multi-modal transportation hub
Explore stormwater management through rain gardens
ZONE 2  Ferry Terminal

Create light corridor for fish migration
Enhance habitat with modified seawall
Develop creative connections to WSF terminal
Support multi-modal transportation hub
Explore stormwater management through rain gardens
ZONE 2  Area Design Options

2.A  Wall in Place, Light Wells

2.B  Wall Set Back, Open Water Portals
ZONE 2: OPTION A, PLAN - WALL IN PLACE DRAFT- FERRY TERMINAL ZONE

ELLIOTT BAY SEAWALL PROJECT
SEATTLE DEPT. OF TRANSPORTATION

SEPTEMBER 23, 2010
Zone 3: Central Pier Zone
ZONE 3  Central Pier

Create light corridor for fish migration
Modify substrate and water depths for habitat
Enhance habitat with modified seawall
Develop character in connections to businesses
Enliven public gathering spaces
ZONE 3 Central Pier

Create light corridor for fish migration
Modify substrate and water depths for habitat
Enhance habitat with modified seawall
Develop character in connections to businesses
Enliven public gathering spaces
ZONE 3  Area Design Options

3.A Wall in Place, Light Wells

3.B Wall Set Back, Open Water Portals
Zone 4: Park / Aquarium Zone
ZONE 4  Park / Aquarium

Provide large public gathering spaces
Bring people to the water
Provide recreational opportunities
Create a new overwater civic space
Connect to Pike Place Market
Expand shallow water habitat
Develop educational and interpretive opportunities
Mix hard and soft edges
ZONE 4  Park / Aquarium

- Provide large public gathering spaces
- Bring people to the water
- Provide recreational opportunities
- Create a new overwater civic space
- Connect to Pike Place Market
- Expand shallow water habitat
- Develop educational and interpretive opportunities
- Mix hard and soft edges
ZONE 4  Area Design Options

4.A Wall in Place, Habitat Bench

4.B Wall Set Back, Fine Substrate Pocket Beaches & Floating Park

4.C Wall Set Back, Cobble Pocket Beaches & Floating Park

4.D Wall Push Out, Hardscape/Stairs

4.E Wall Set Back, Urban Edge

4.F Wall Set Back, Stairstepped Wall
ZONE 4  Area Design Options

4.A  Wall in Place, Habitat Bench
4.B  Wall Set Back, Fine Substrate Pocket Beaches & Floating Park
4.C  Wall Set Back, Cobble Pocket Beaches & Floating Park
4.D  Wall Push Out, Hardscape/Stairs
4.E  Wall Set Back, Urban Edge
4.F  Wall Set Back, Stairstepped Wall
Zone 5: Bell Harbor Zone
ZONE 5   Bell Harbor

Create light corridor for fish migration
Enhance visual character of waterfront
Expand temporary moorage
Modify substrate and water depths for habitat
Provide space for cruise ship passenger needs
ZONE 5 Bell Harbor

Create light corridor for fish migration
Enhance visual character of waterfront
Expand temporary moorage
Modify substrate and water depths for habitat
Provide space for cruise ship passenger needs
**ZONE 5 Area Design Options**

5.A Wall in Place, Habitat Bench Improvements

5.B Wall Set Back, Habitat Bench Improvements
Zone 6: North Pier Zone
ZONE 6  North Pier

Create light corridor for fish migration
Enhance visual character of waterfront
Enliven public gathering spaces
Expand shallow water habitat
Connect to Olympic Sculpture Park
habitat improvements
ZONE 6  North Pier

Create light corridor for fish migration
Enhance visual character of waterfront
Enliven public gathering spaces
Expand shallow water habitat
Connect to Olympic Sculpture Park habitat improvements
ZONE 6 Area Design Options

6.A Wall in Place, Habitat Bench Improvements

6.B Wall Set Back, Habitat Bench Improvements
Developing Alternatives

**Elliott Bay Seawall Planning and Conceptual Design Process**

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*April - Define preferred alternative*
Public Involvement Activities

• Subgroup formation and ongoing meetings
• Sustainability workshop
• Public meetings and tours
• Briefings and fair-type events
• Project materials
• Business operations survey
• Maintaining and encouraging opportunities for public comment
Contact Information

• Email: seawall@seattle.gov
• Website: http://www.seattle.gov/transportation/seawall.htm
• Phone: Stephanie Brown, SDOT: 206-386-4635