



Central Waterfront Stakeholders Group

March 3, 2011

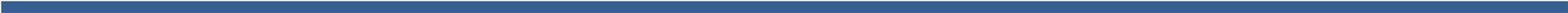


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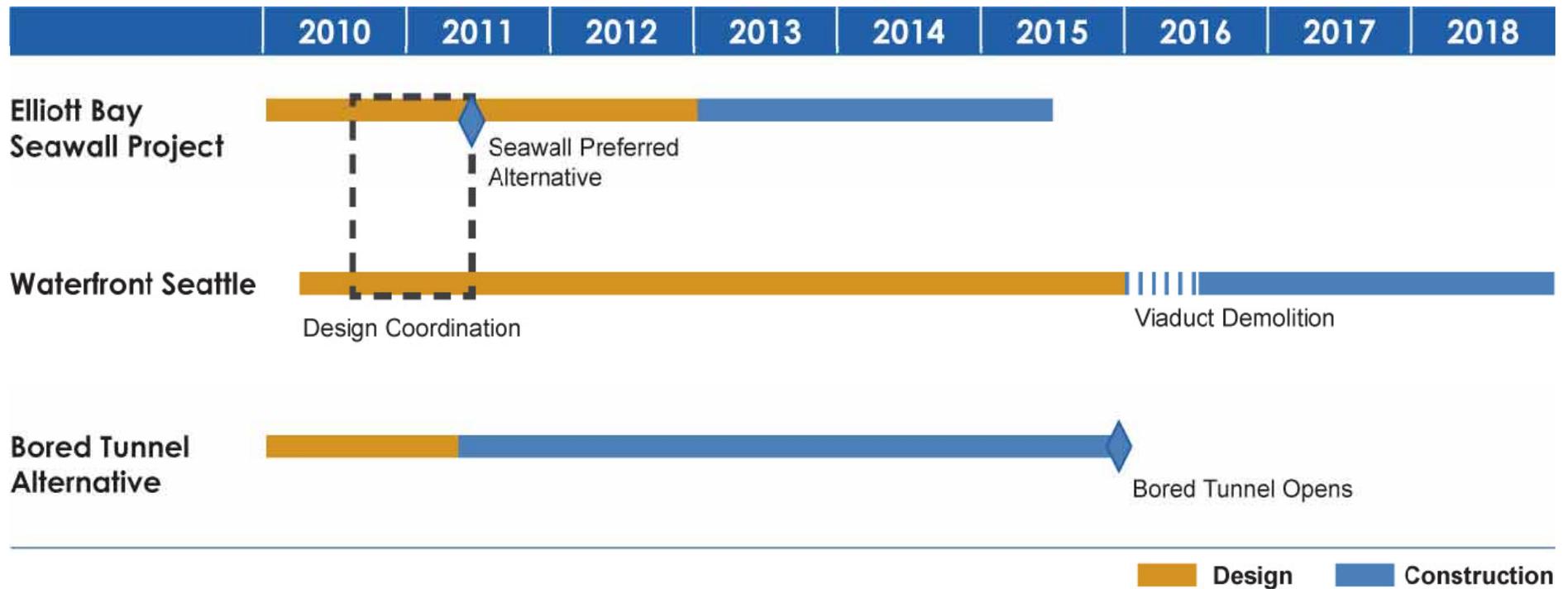




Housekeeping



Project Schedules





Waterfront Seattle Update



Waterfront Seattle.org

WHAT MAKES A GREAT WATERFRONT?



February 17 Event



February 17 Event



Online Survey

More than 900 participants to date

- What makes a great waterfront?
- Which if the following uses are most important to you? Least important to you?
- What are two main uses that would attract you?
- What would you most love to see? Be most disappointed to see?
- If we could do one thing to improve the waterfront now, what would that be?



What's Next?

- Continued close design coordination with the seawall replacement team
- Preferred seawall alternative identified in April
- Design team develops first iterations of Framework Plan and identifies "big moves"
- Hold second public event in late May 2011
- Summer event planning



*Elliott Bay Seawall Project:
Common Understanding*

Project Area



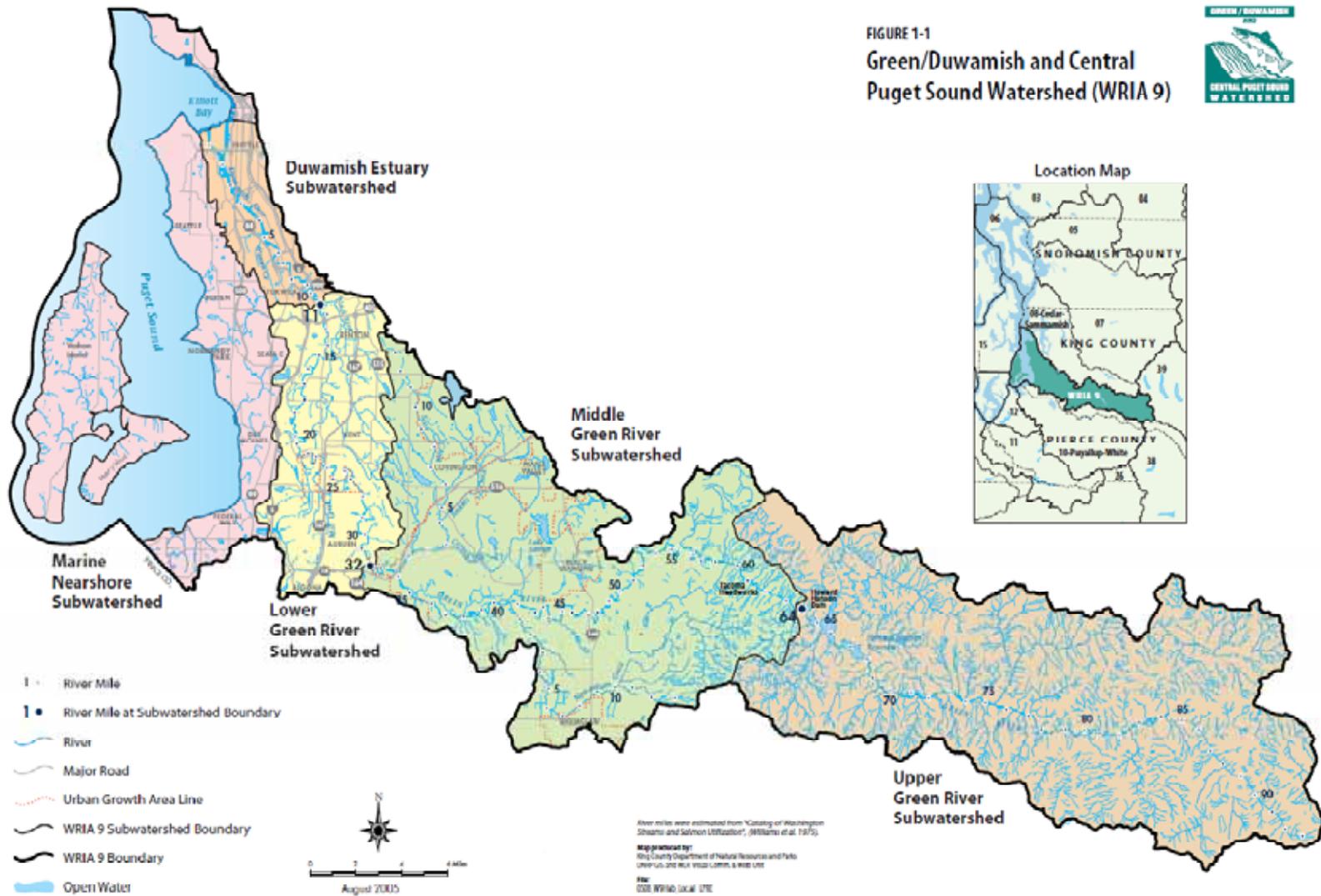
Need for Action: Problems and Opportunities

The seawall:	The project will:
<ul style="list-style-type: none">• Protects public safety as well as critical transportation and utility corridors	<ul style="list-style-type: none">• Protect waterfront from wind-driven storm waves and erosive tidal forces
<ul style="list-style-type: none">• Supports residential and commercial activities	<ul style="list-style-type: none">• Address seismic risk and deteriorating structure
<ul style="list-style-type: none">• Acts as Seattle's front porch	<ul style="list-style-type: none">• Evaluate City of Seattle opportunities to improve waterfront habitat and recreation

Project Goals

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

Setting the Context for Habitat Enhancements



Setting the Context for Habitat Enhancements

Recommended Projects

Marine Nearshore Subwatershed



LEGEND

- Road
- NS-2 NS-1 Action Project Location/No.
- Priority Habitat Protection Area NS-17
- Urban Growth Area Line
- Subwatershed Boundary
- Incorporated Area
- Publicly-owned and Managed Lands



Existing Habitat along Seawall

- ~60% overwater coverage
- Limited plant life and associated invertebrates under piers
- Increased productivity in naturally lighted segments
- Habitat is low to moderate quality overall



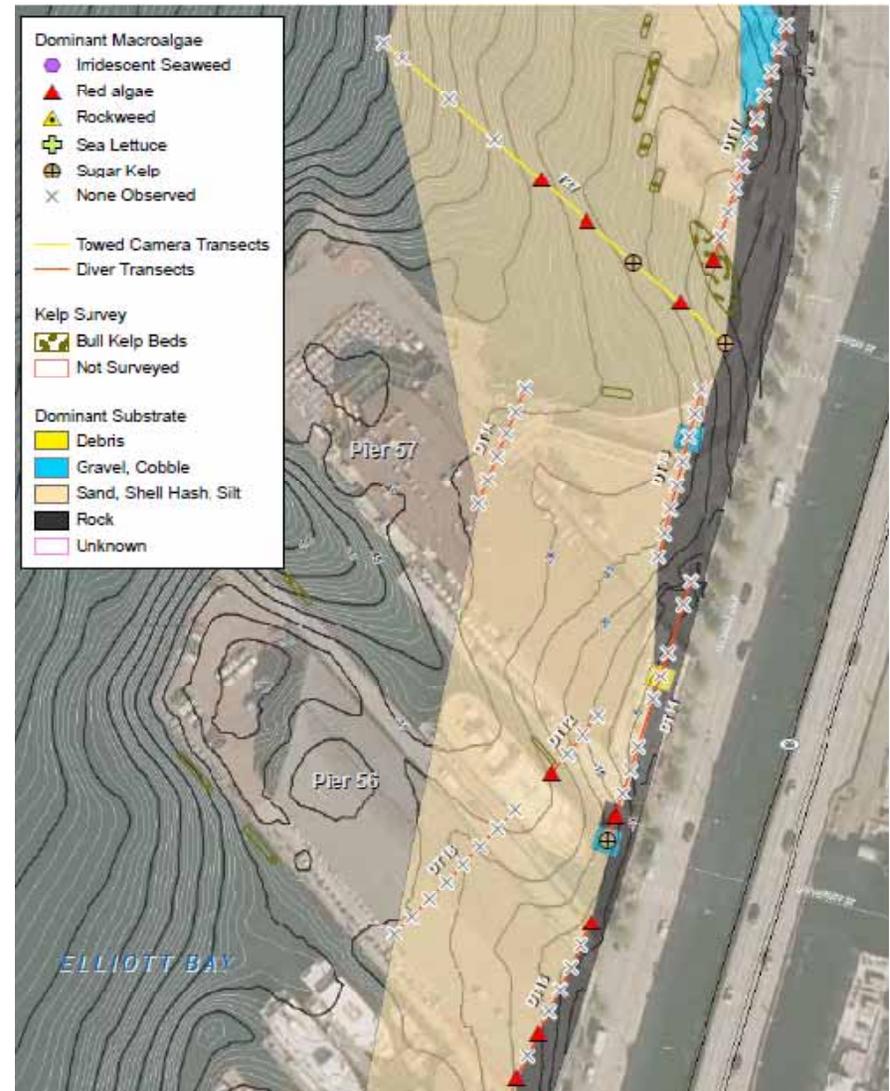
Habitat in lighted areas



Habitat in dark areas under piers

Seawall Habitat Investigations

- Ongoing textured wall monitoring by UW
- Habitat inventory
- OSP monitoring
- Salmon migration



Light Levels, Habitat, and Salmon

UW, WSF, and others have found the following:

- Shade from overwater structures essentially eliminates growth of plant life and associated invertebrates
- Juvenile salmon have difficulty migrating past overwater structures
- Contrast between light and dark is a problem for passage

Washington State Department of Natural Resources recommends retrofit of overwater structures to provide 30% of ambient light levels

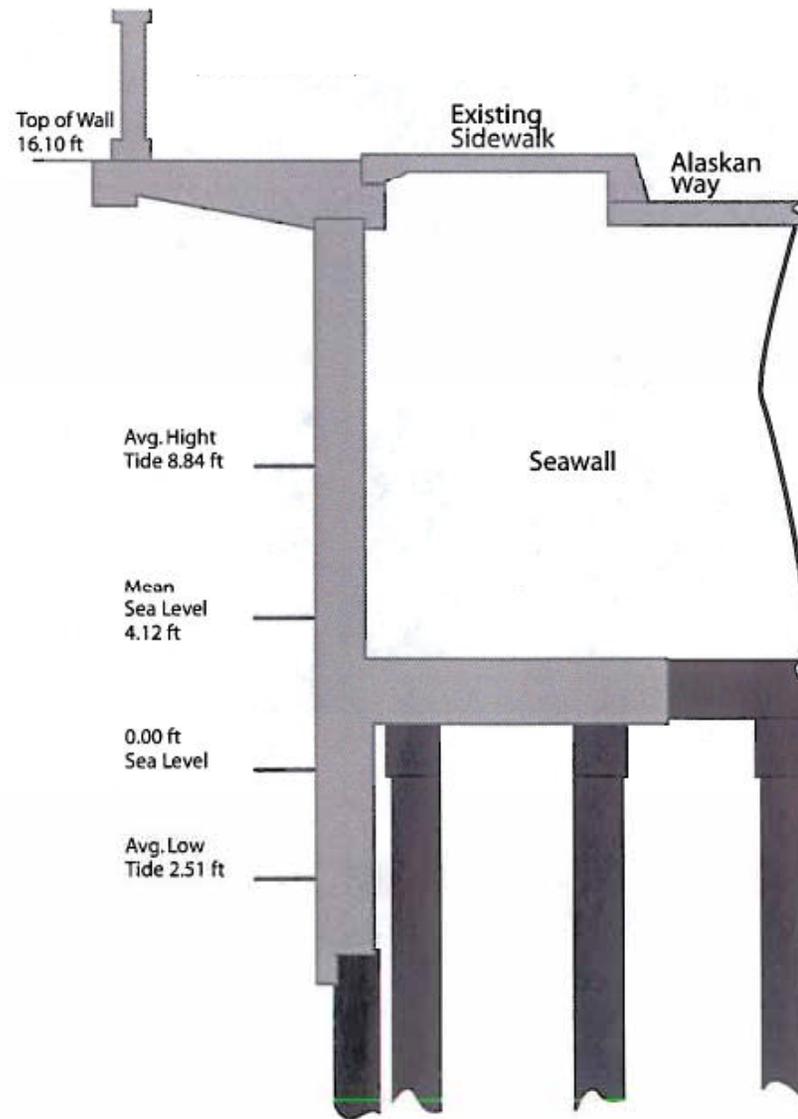


Transmitting Light: Potential Treatments

- Glass blocks
- Grating
- Open portals
- Prisms
- Reflective paint or materials
- Solar tubes or skylights
- Light-penetrating cement
- Artificial lights (such as fiber-optics)

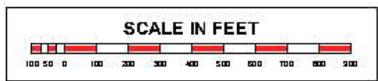
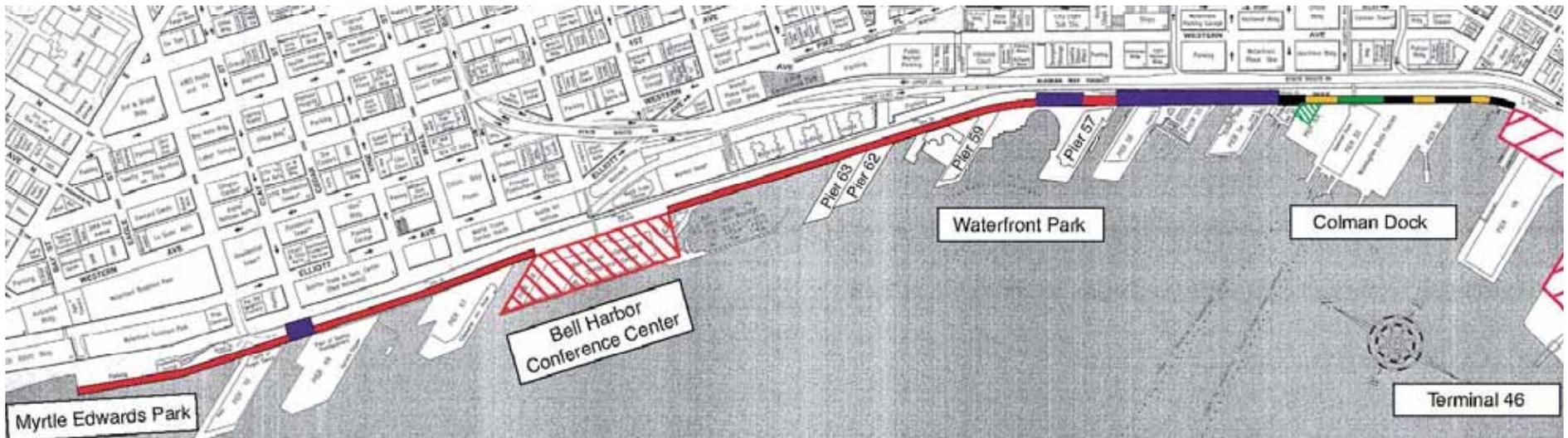


Sea Level Rise: City Coordination



Seawall Constructability

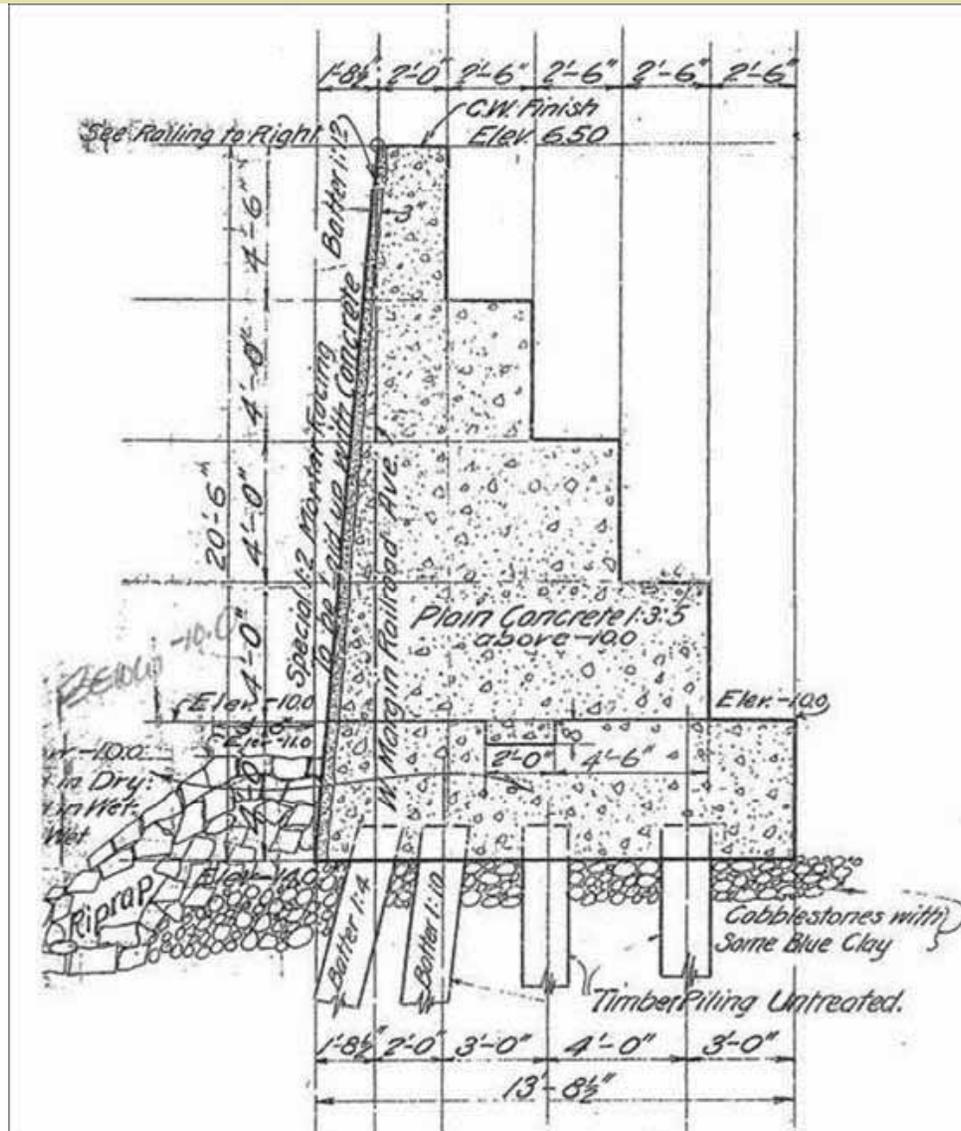
Existing Seawall Types



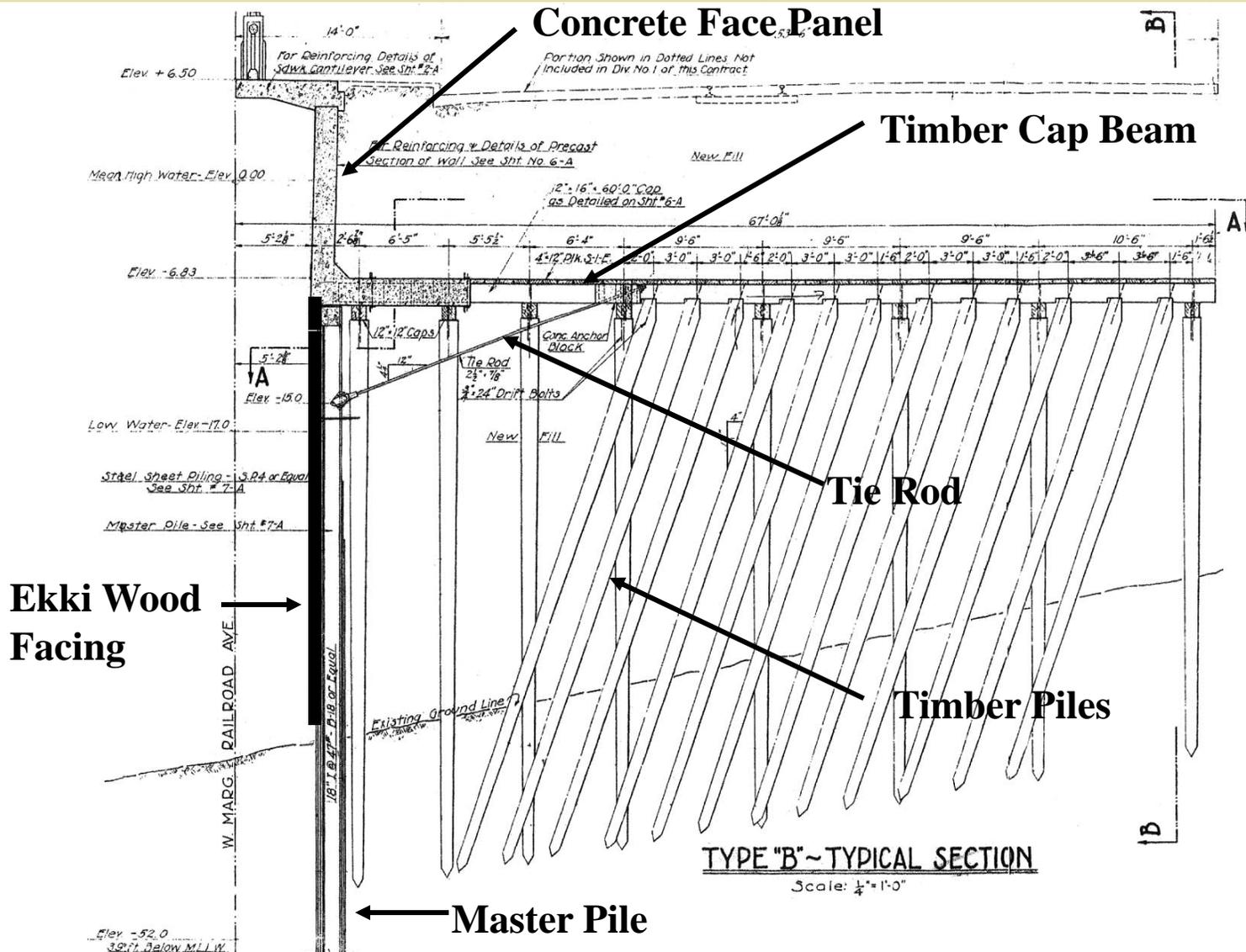
- 1916 Pile Supported Gravity Wall
- Pile Supported Sidewalks Rebuilt in 1987
- Pile Supported Sidewalks Built in 1964
- 1934 Seawall/Relieving Platform Type "A"
- 1934 Seawall/Relieving Platform Type "B"

- Port of Seattle
Fills With Bulkhead in Some Locations
- WSDOT Ferries
Fill With Sheetpile Bulkhead

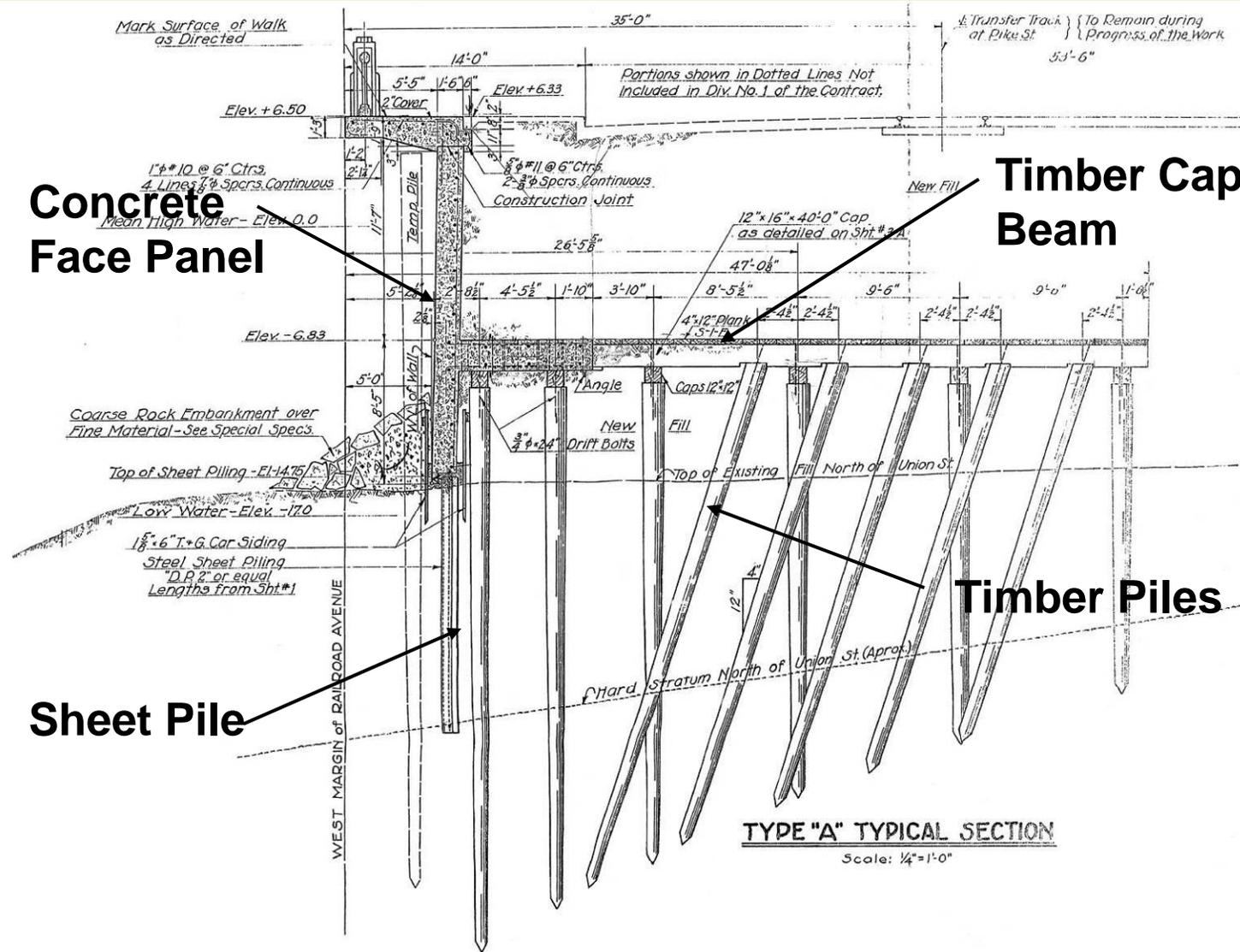
Existing Seawall: Pioneer Square/Ferry Terminal



Existing Seawall: Central Piers



Existing Seawall: Aquarium and Northward



Shoreline Stabilization: Potential Technologies

Drilled Shaft



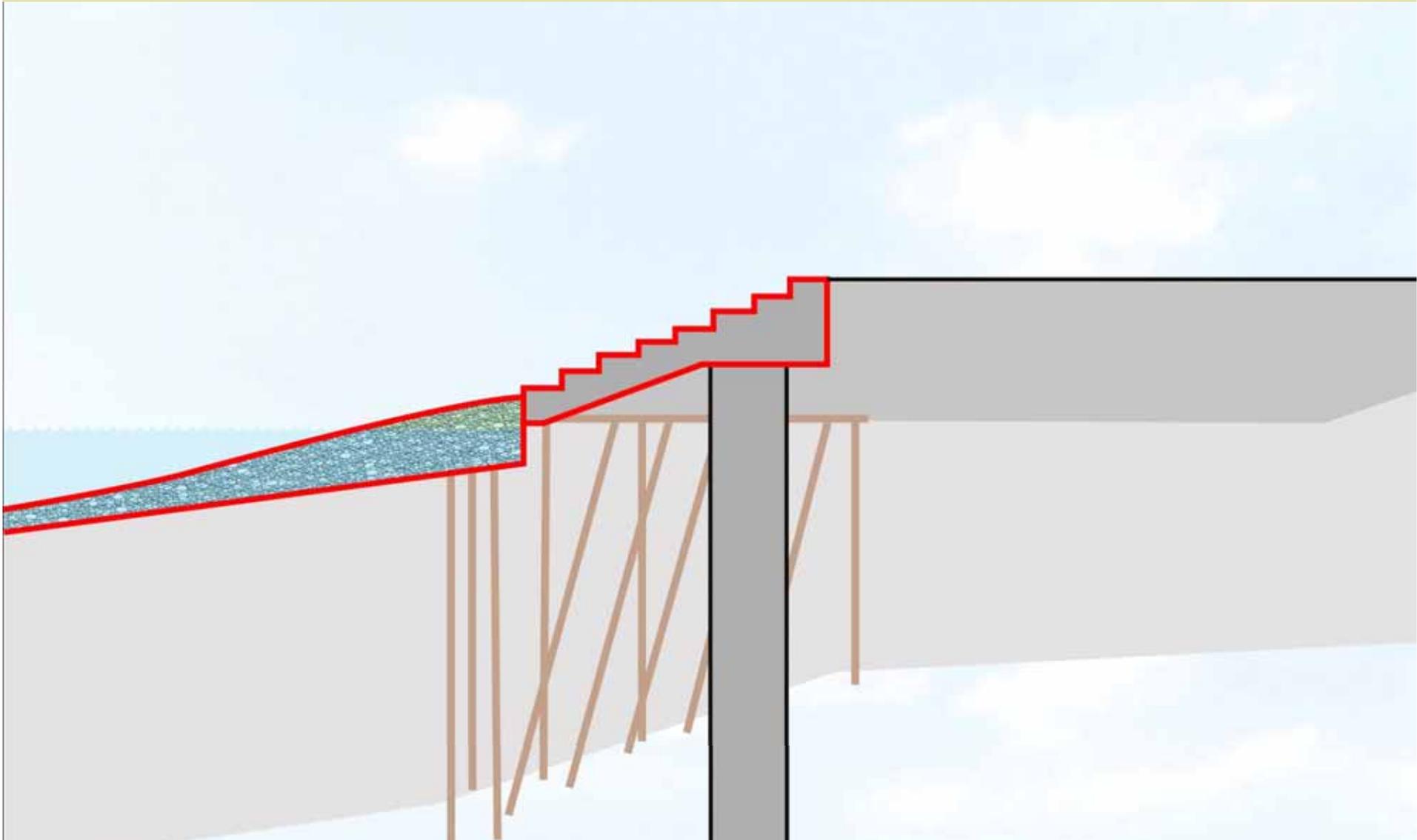
Ground Improvement



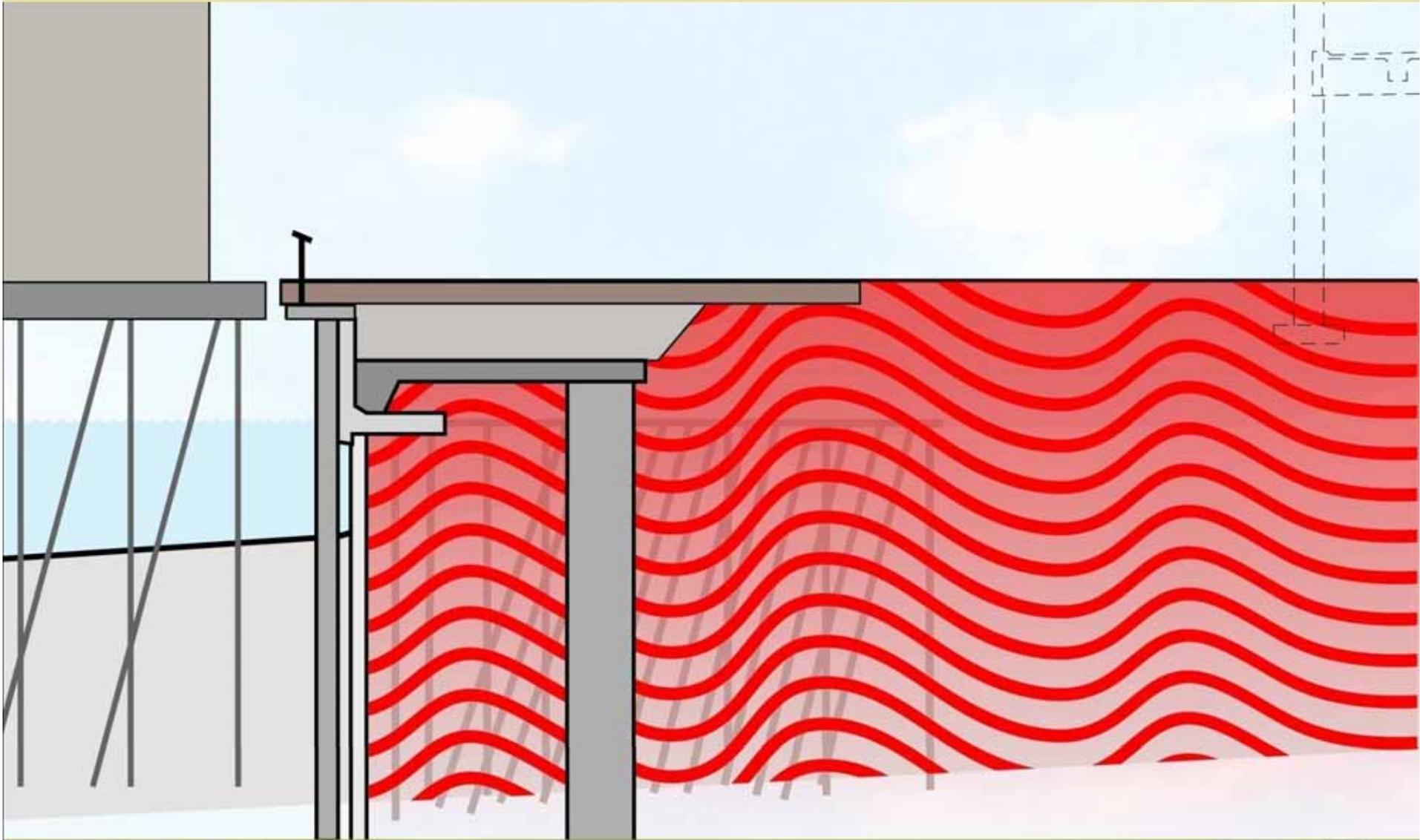
Shoreline Stabilization Systems: Flexibility



Seawall Face: Protection of Stabilization

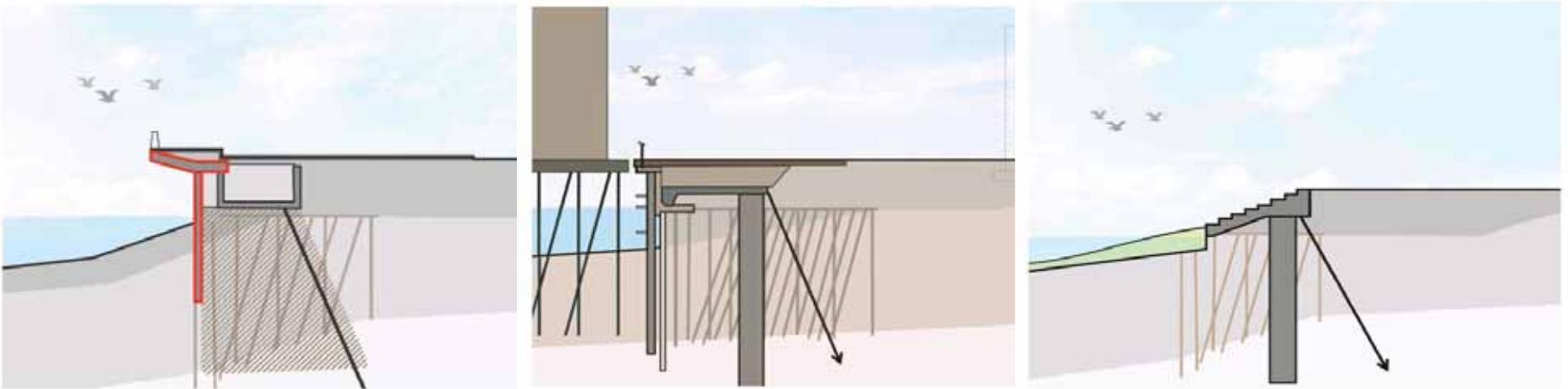


Seawall Face: Location



Beyond Soil Stabilization

What can the seawall contribute?



Process for Developing Alternatives

Environmental Impact Statement (EIS)

Spring (June) 2010	Winter (February) 2011	Spring 2011	Fall 2011	Fall/ Winter 2011	TBD*	TBD*
Define project's Purpose and Need	<i>Establish range of alternatives for analysis</i>	<i>Write environmental discipline reports for alternatives</i>	<i>Summarize discipline reports into Draft EIS</i>	Publish Draft EIS	Publish Final EIS	Issue Record of Decision

**April—Define preferred alternative(s)*

**Pending schedule coordination with U.S. Army Corps of Engineers*

Seawall Team Working in Parallel

U.S. Army Corps of Engineers



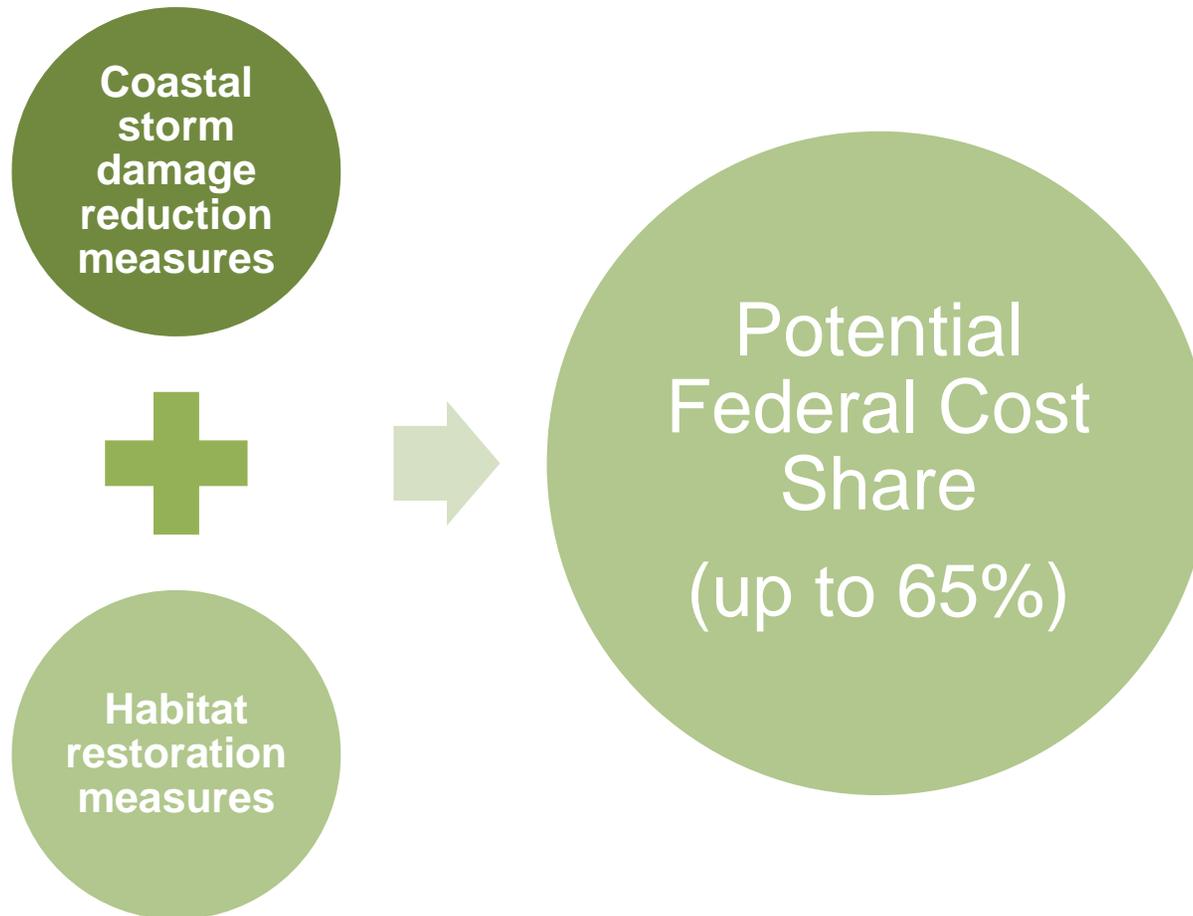
Waterfront Seattle Team



Public

**Establish
Range of
Alternatives**

Army Corps Coordination



Coordination with Waterfront Seattle



Working with the Public

- For those most affected, *the project is well-known*
- *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*

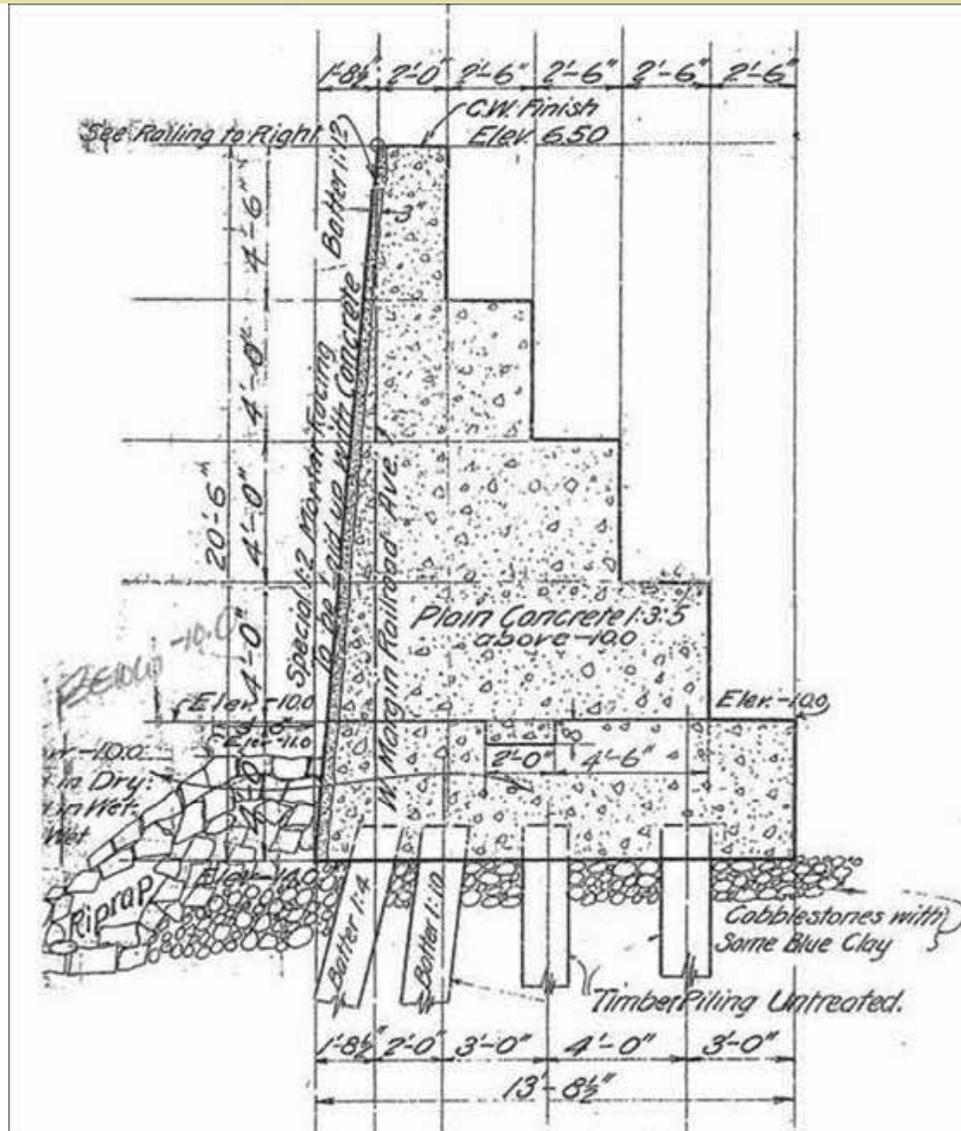
Alternatives Development: Initial Thinking



Initial Thinking: Pioneer Square/Ferry Terminal



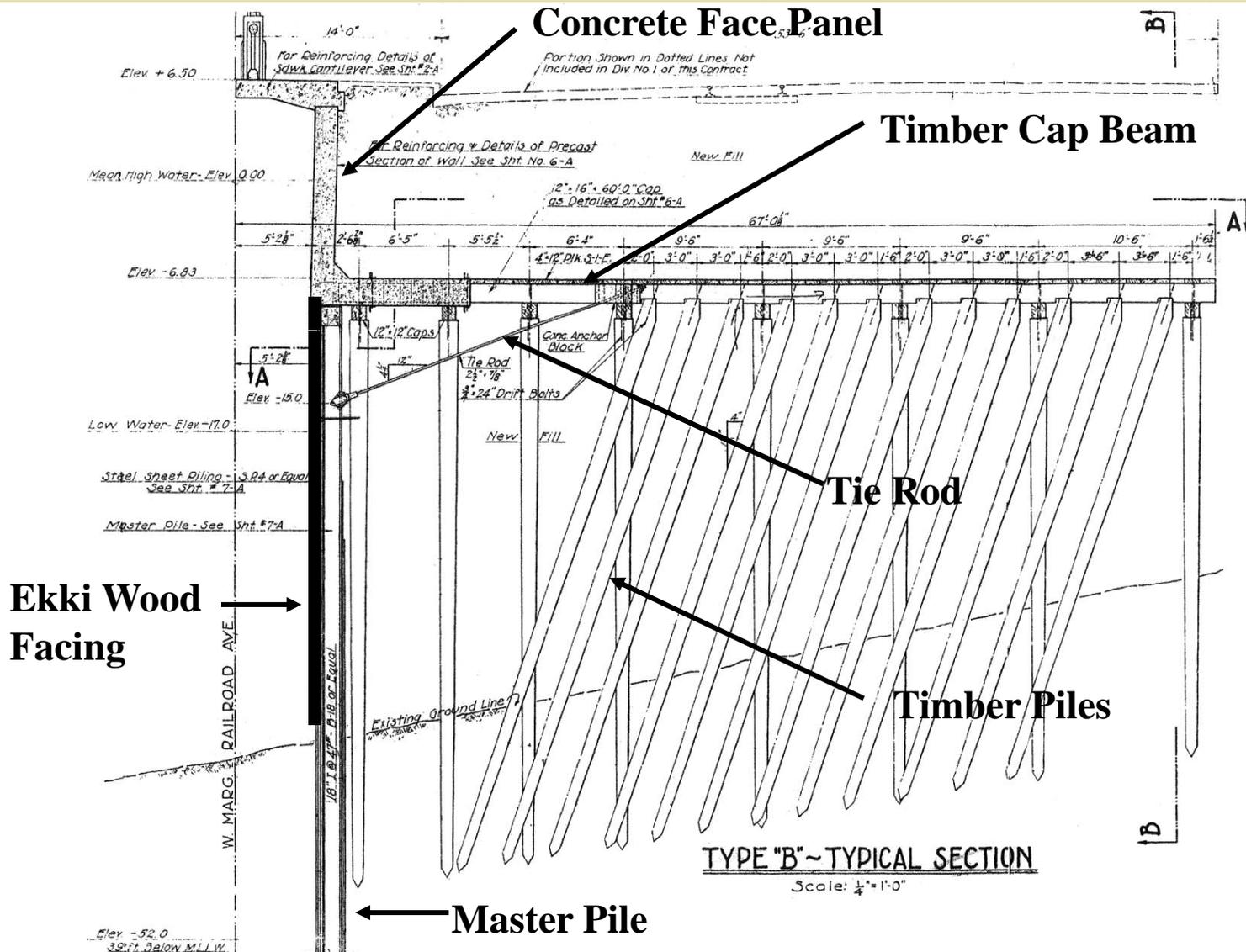
Existing Seawall: Pioneer Square/Ferry Terminal



Initial Thinking: Central Piers



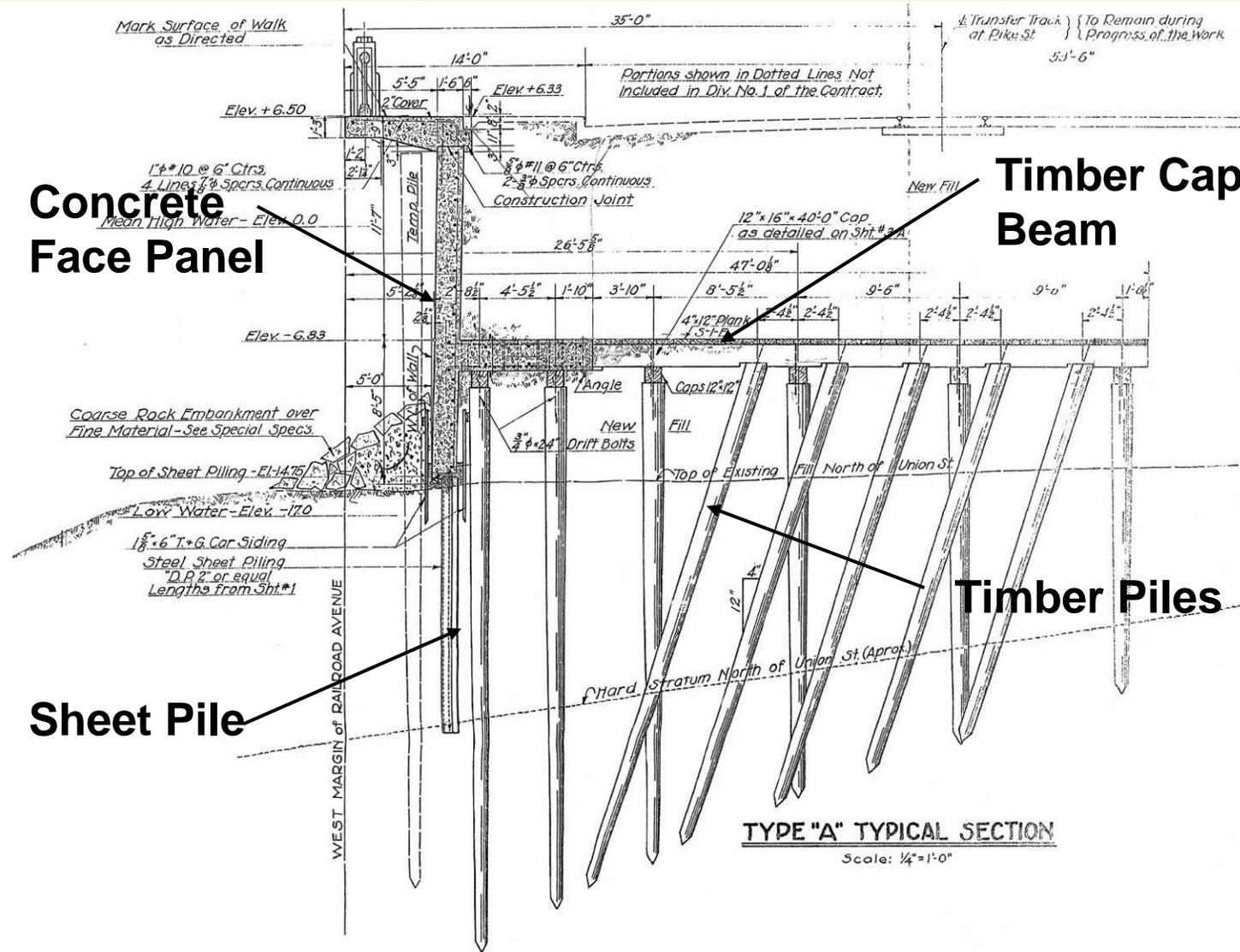
Existing Seawall: Central Piers



Initial Thinking: Aquarium and Northward



Existing Seawall: Aquarium and Northward



Potential Waterside Public Amenities

- Viewing areas
- Small boat moorage
- Water / beach access
- Restored Washington Street Boat Landing



Potential In-Water Habitat Enhancements

- Cobble reef
- Substrate enhancement
- Nearshore habitat bench
- Beach / intertidal area
- Light penetrating surfaces



Environmental Design / Evaluation Process

- **Agency and Tribal coordination**
 - US Army Corps of Engineers
 - US Fish and Wildlife
 - Department of Natural Resources
 - Washington State Fish and Wildlife
 - Muckleshoot Tribe
 - Suquamish Tribe
 - University of Washington
- **Effectiveness ratings**
- **Cost estimates**

Upcoming Seawall Milestones

Date	Activity
March 3 March 17 March 22	Central Waterfront Stakeholders Meeting #2 Seattle Design and Planning Commissions Central Waterfront Stakeholders Meeting #3
April	City Council Briefings (tentative) Seattle Design and Planning Commissions Central Waterfront Committee and Subcommittees

Feedback

- *What additional information do you need to understand the development of seawall alternatives moving forward?*



Public Comment



Next Steps and Action Items

Preliminary Meeting Schedule

Date	Possible Agenda Topics
March 22	Seawall alternatives; Seawall and Central Waterfront coordination
April	Seawall alternatives; Central Waterfront summer workshop and festival
June/July	Central Waterfront programming; Seawall environmental process update and cost discussion
September	Central Waterfront direction/big idea; Central Waterfront summary of public input on programming; Seawall construction techniques and environmental process update
November	Seawall Draft Environmental Impact Statement update

Next Meeting

Central Waterfront Stakeholders Group Meeting #3
Tuesday, March 22, 2011
5:15-7:15 p.m.
Seattle Labor Temple, 2800 First Avenue

Actions and Contact Information

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Project

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