

# Elliott Bay Seawall Project

***Design Commission Briefing  
December 2, 2010***

# Project Area



# 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.

# Developing Alternatives

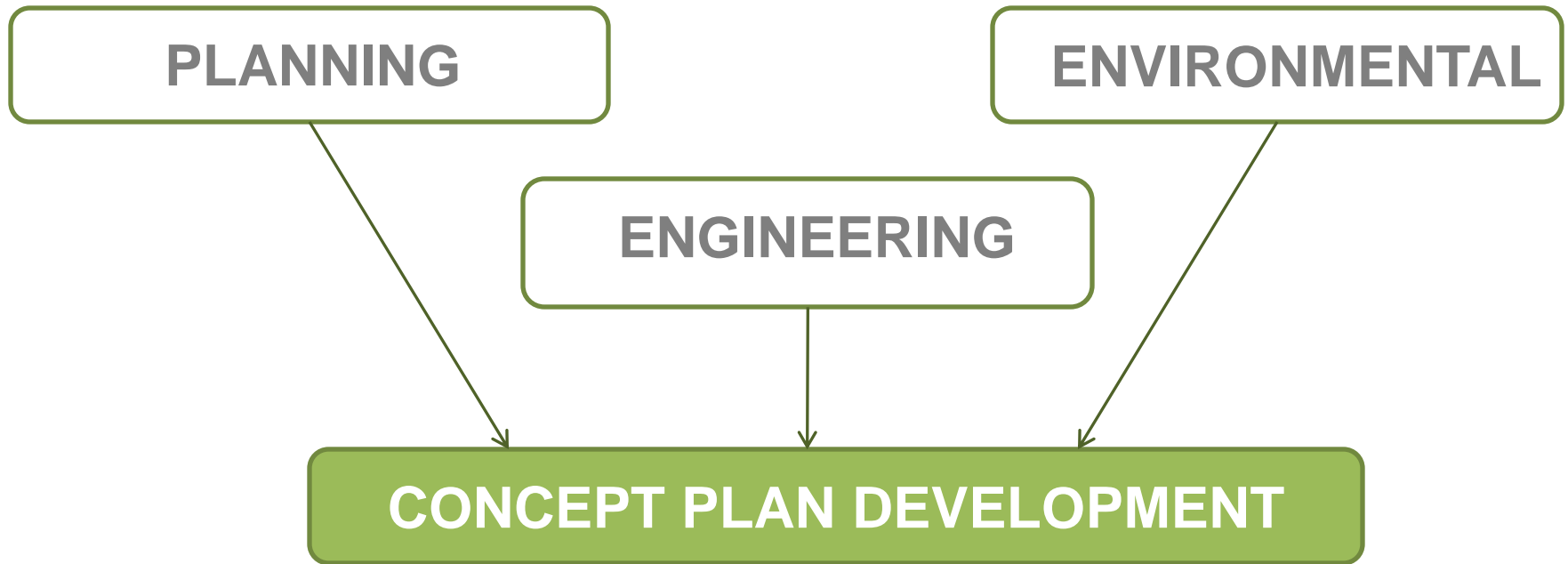
## Elliott Bay Seawall Planning and Conceptual Design Process

July	August	September	October	November	November -April
Identify waterfront zones; present preliminary goals and objectives	Identify opportunities in each waterfront zone	Present preliminary zone area designs	Present conceptual plans and preliminary analysis	Refine alternatives and conduct more detailed analysis	Review alternatives with Central Waterfront Project

★ April - Define preferred alternative



# Ongoing Team Work



seawall

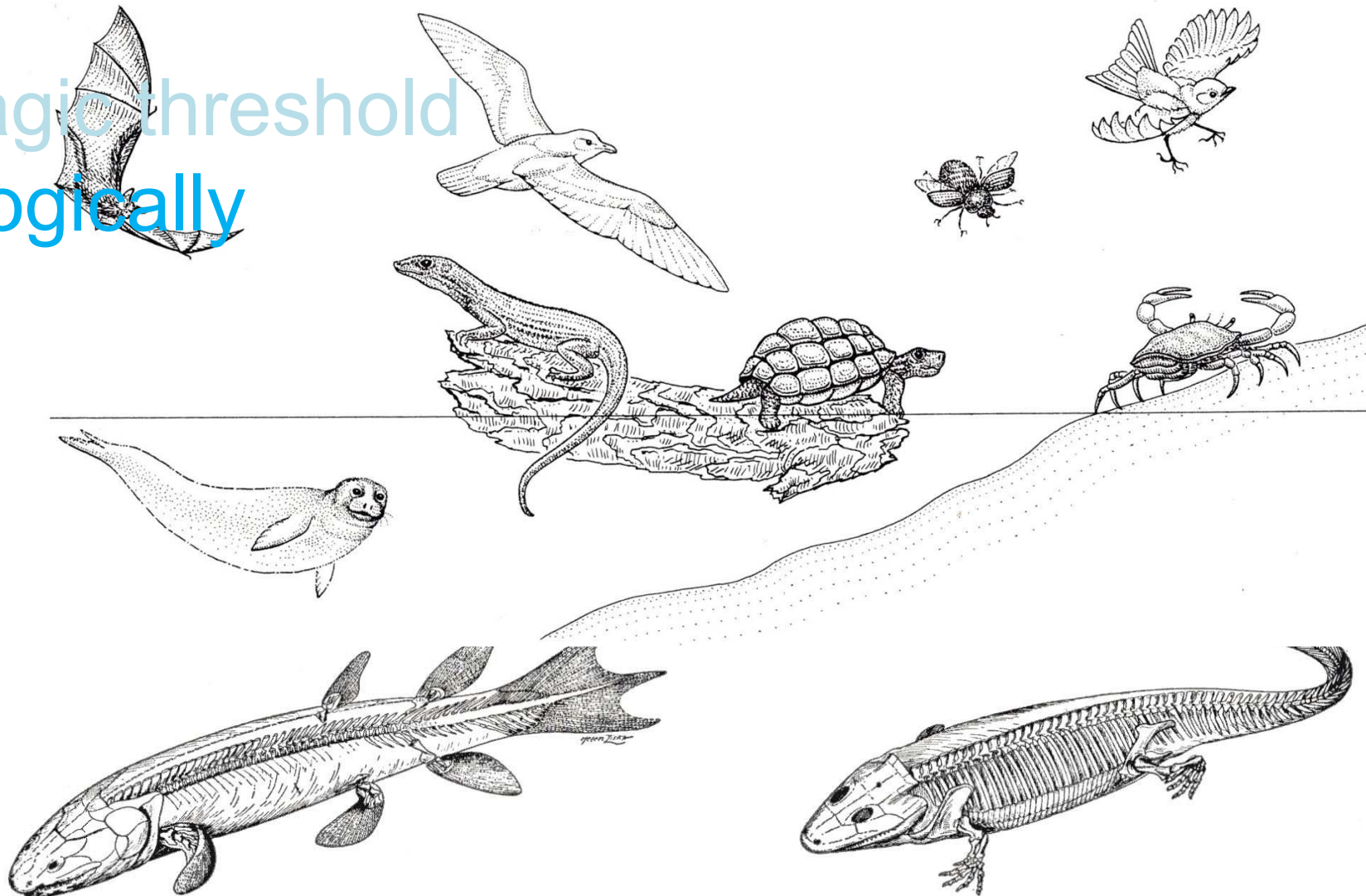




a magic threshold



a magic threshold  
ecologically



American Museum of Natural History

**31-4 The vertebrates conquer the land.** *Upper left*, restoration of the Devonian lobe-fin fish, *Eusthenopteron*, crawling out of the water. *Lower left*, the skeleton of *Eusthenopteron*. *Upper right*, the primitive Carboniferous-Permian labyrinthodont (p. 764) amphibian, *Diplovertebron*. *Lower right*, skeleton of *Diplovertebron*. Note that the limb bones of *Diplovertebron* show the same pattern, now familiar, as all higher vertebrates (Fig. 19-2) ; this pattern is still not clear in *Eusthenopteron*.





A magic threshold  
ecologically  
culturally

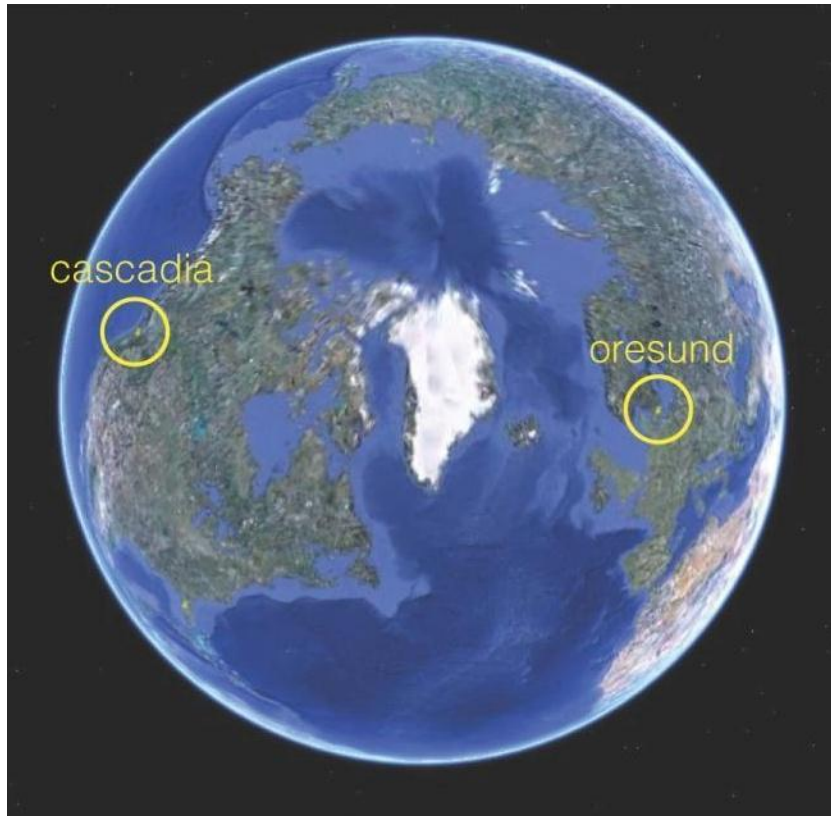


a magic threshold  
ecologically  
culturally  
commercially



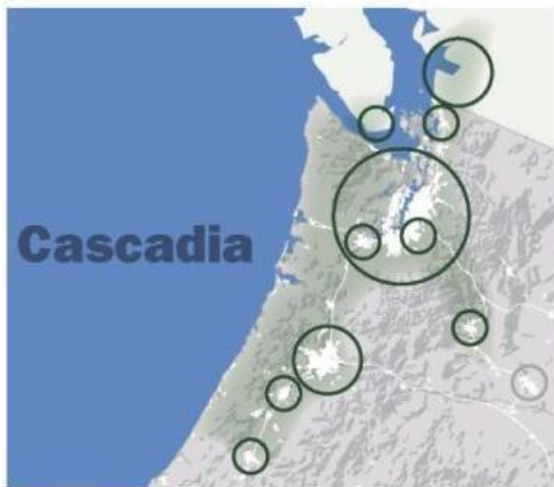


# two regions

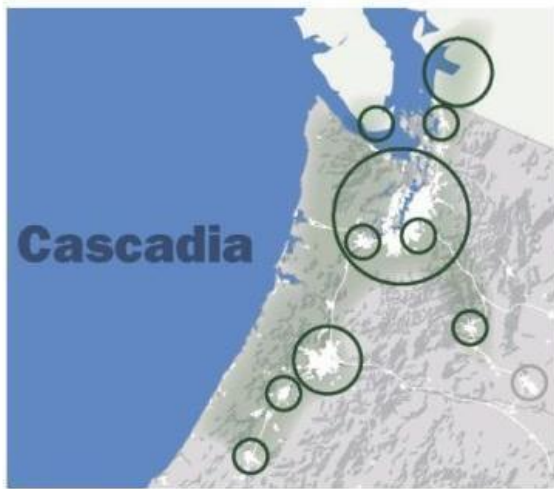


oresund region

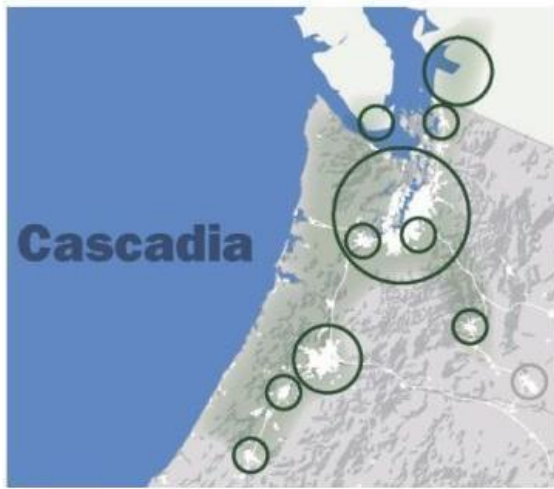




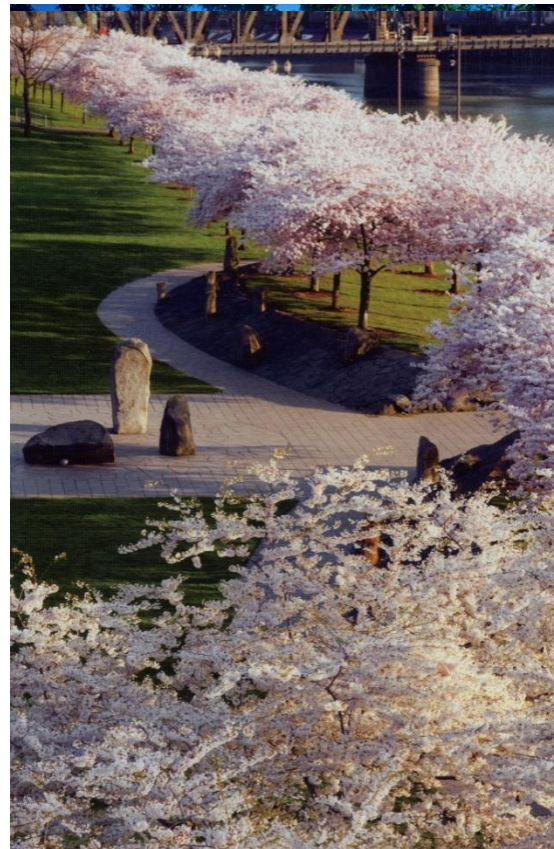
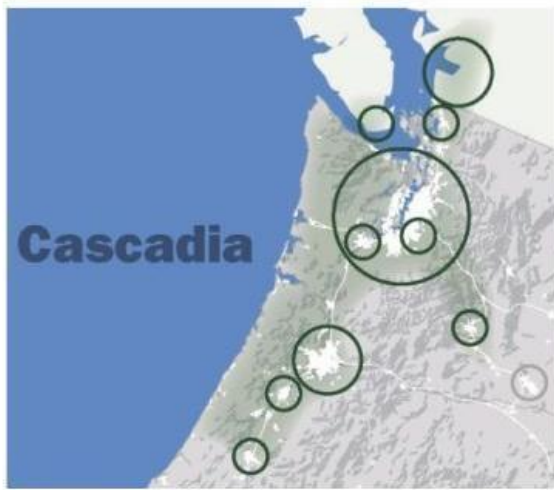








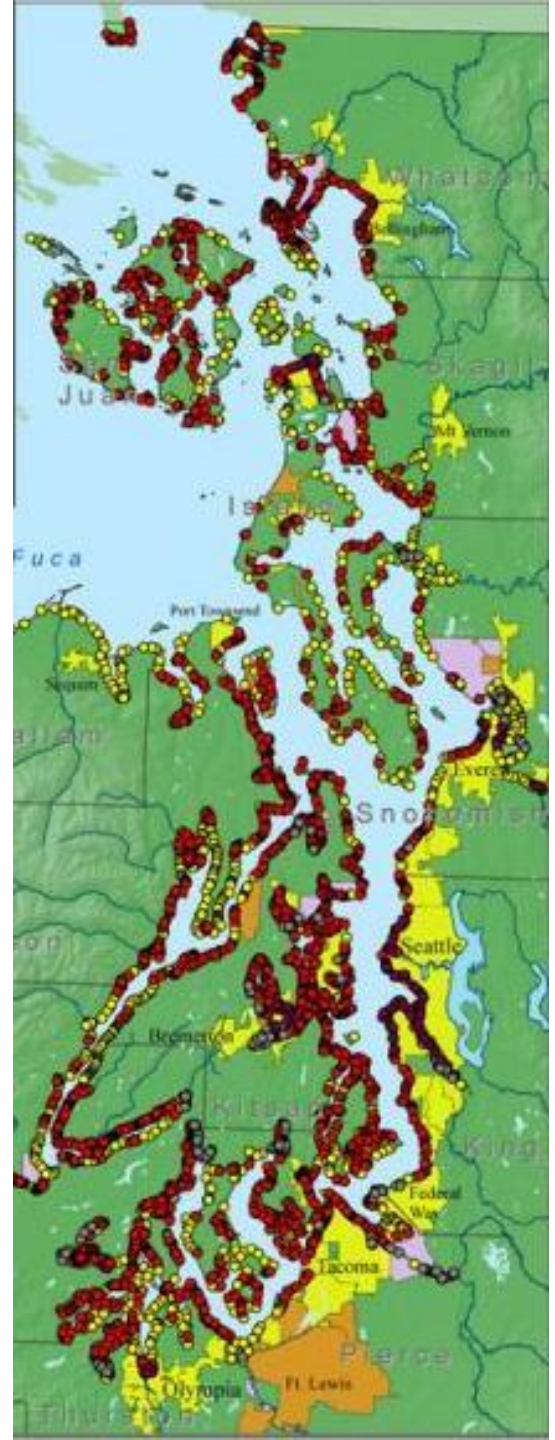






# Seattle Central Waterfront Park Planning Feasibility Study Salmon Migration

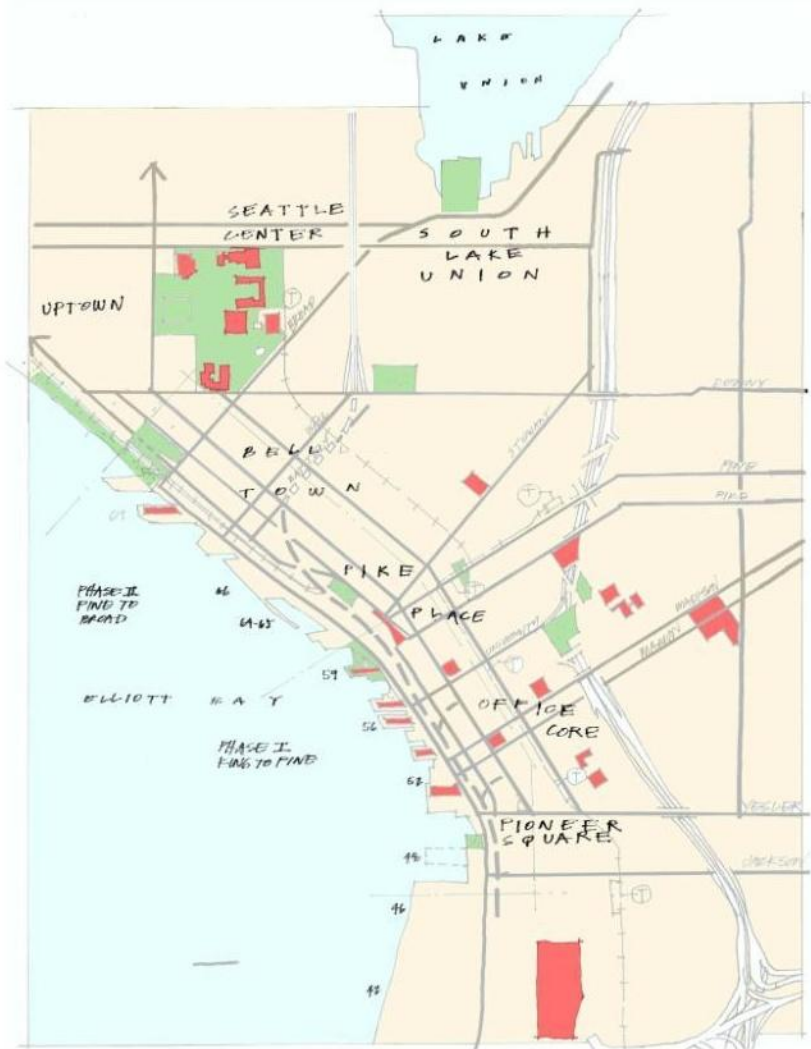
puget sound







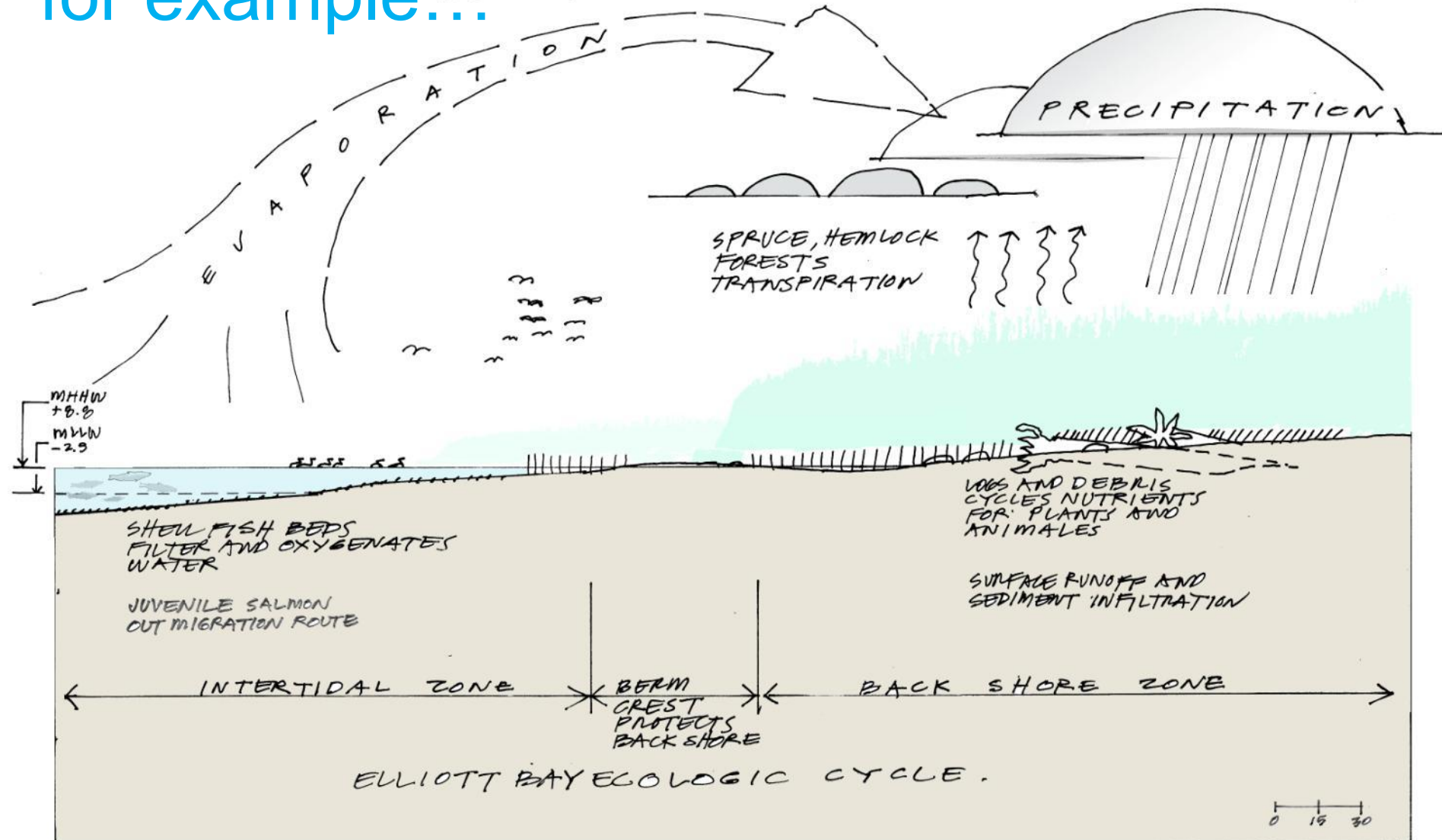
# central waterfront

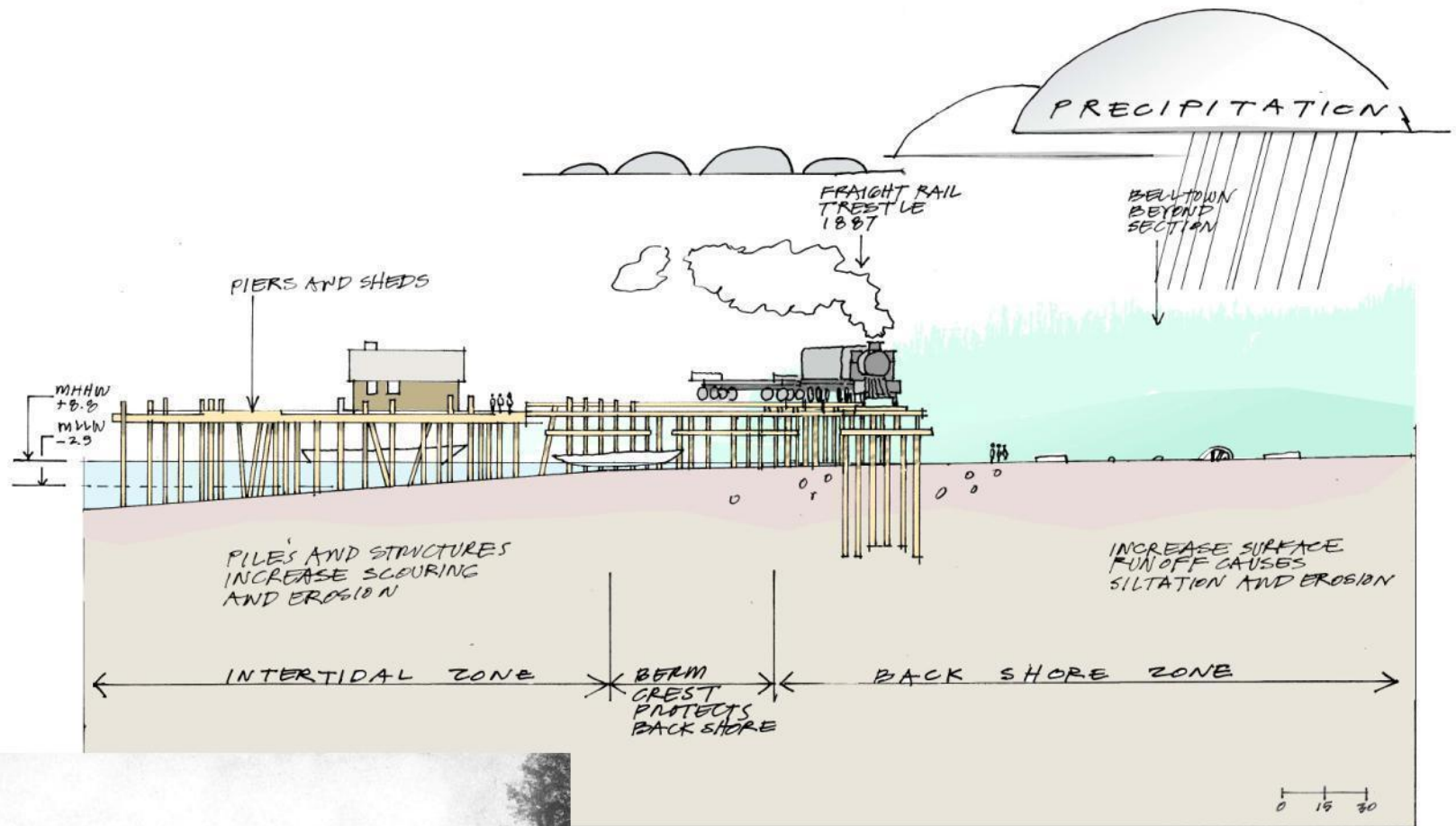


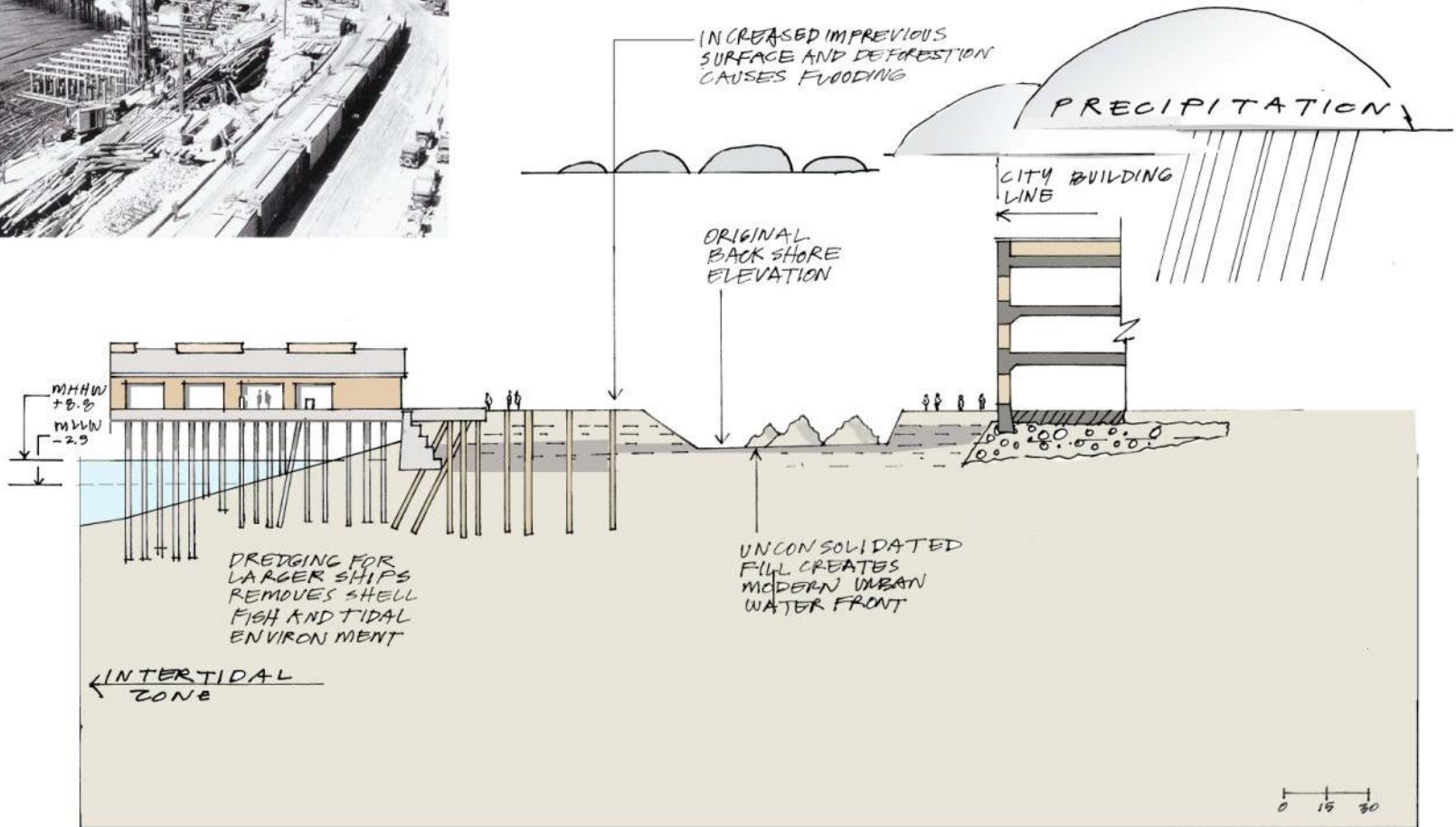
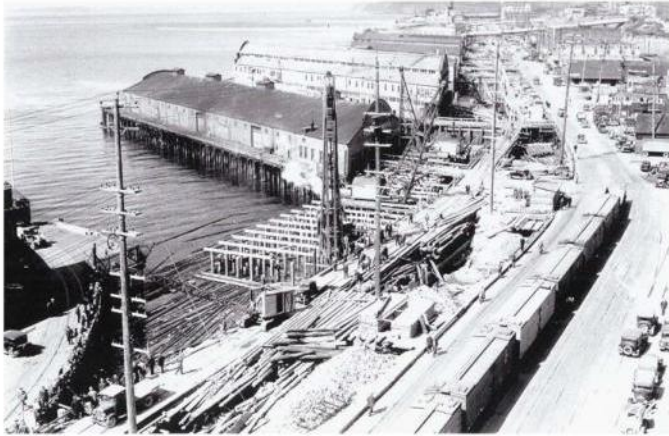


for example...

## THE HYDROLOGIC CYCLE



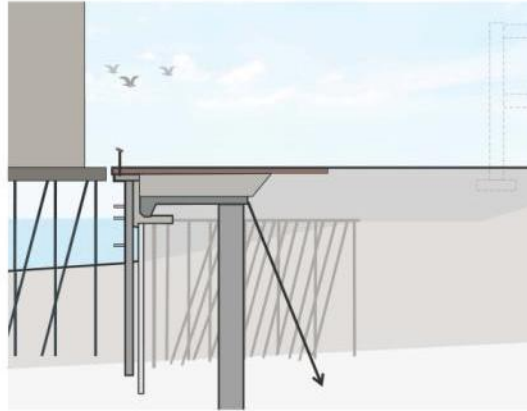
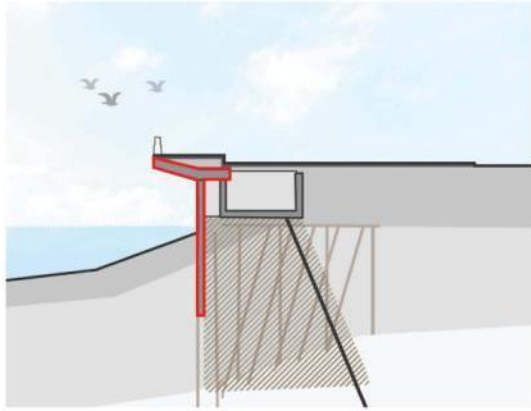








# what can the seawall contribute beyond soil stabilization?



THE ROLE OF THE  
SEA WALL INFRASTRUCTURE  
• INTERCEPTOR  
• SEPARATION  
• CONVEYOR

DRAW OFF LIQUIDS

RAIN

SEWER

DRAW OFF SOLIDS

WIND POWER  
FOR PUMPS

AIRATION

FILTER

SCREEN

SEPARATION

COMPOST  
MECHANICAL

COMPOST  
ECOLOGICAL

METHANE

CLEAN AND  
COOLED  
WATER

INDUSTRIAL  
WATER  
SUPPLY

FISH  
FEED

FERTILIZER  
PLANTING SOIL  
MULCH

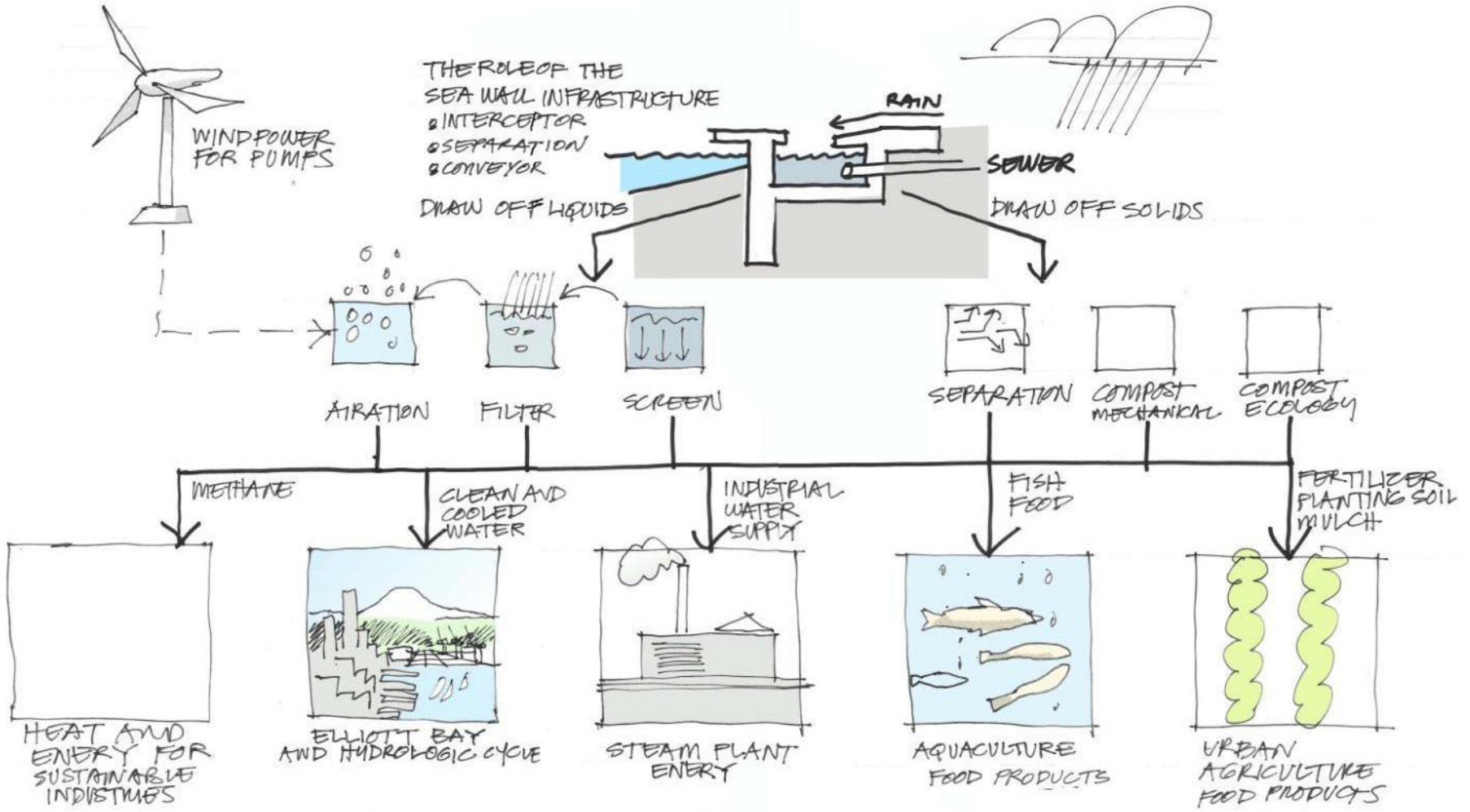
HEAT AND  
ENERGY FOR  
SUSTAINABLE  
INDUSTRIES

ELLIOTT BAY  
AND HYDROLOGIC CYCLE

STEAM PLANT  
ENERGY

AQUACULTURE  
FOOD PRODUCTS

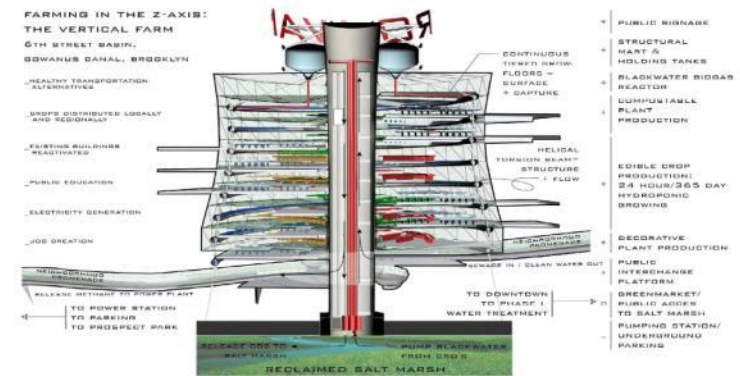
URBAN  
AGRICULTURE  
FOOD PRODUCTS







### AGRI-METRO AT GAZOMETRO: VERTICAL FARM ON THE TIBER

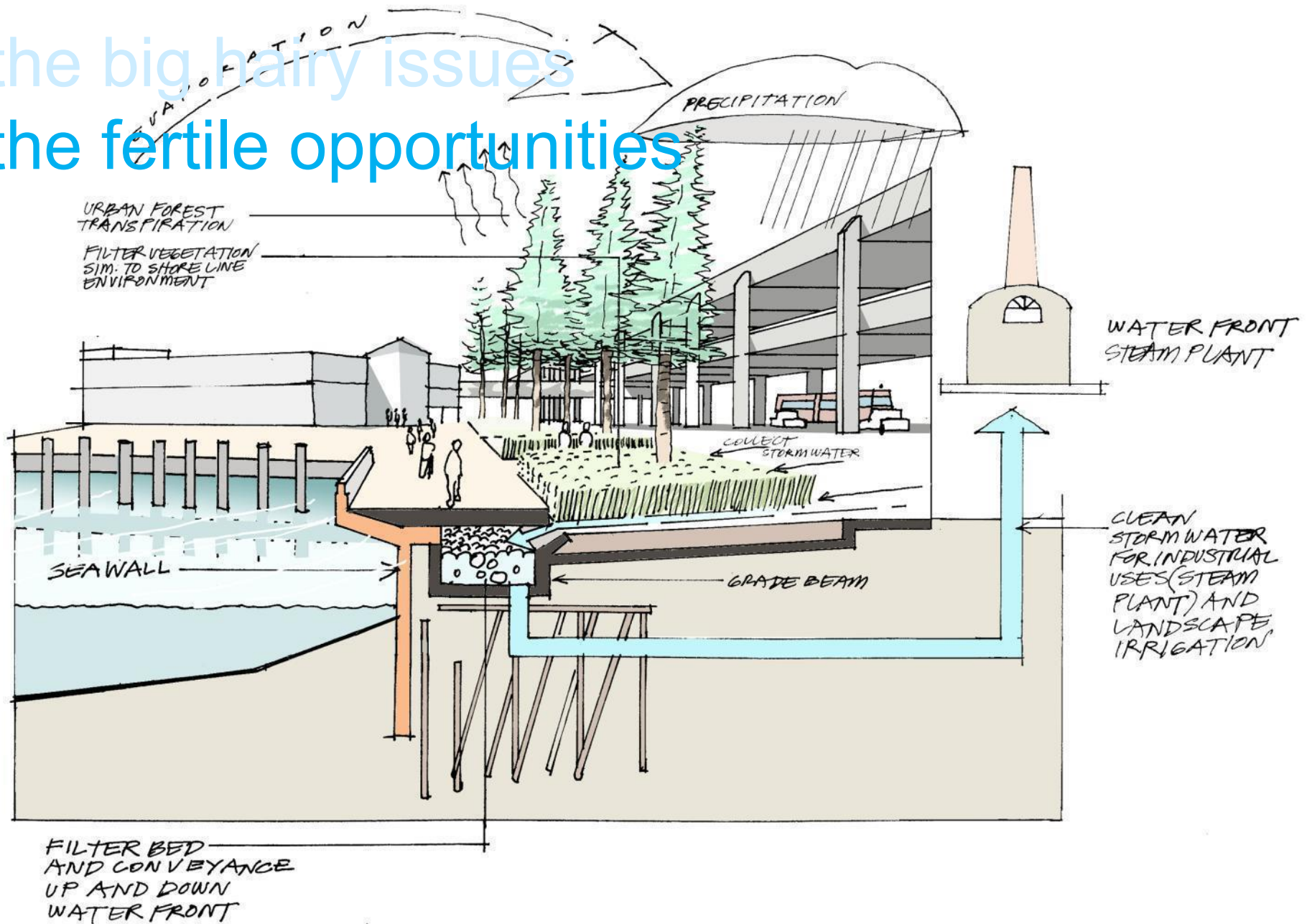




the big hairy issues



# the big hairy issues the fertile opportunities



# six design zones

## foundation

- contours and elevations
- locations and alignments
- hydrology
- habitats
- cultural resources
- navigational requirements
- property /ownership
- construction activities
- access requirements
- environmental challenges
- and...





# six design zones

## opportunities

- contour and elevation modification
- locational and alignment improvements and enhancements
- hydrologic cycle reconstitution
- habitat restoration and creation
- cultural resource protection and education
- navigational operation
- sustenance and improvement of properties and businesses
- construction as theater and economic stimulus
- access improvements
- sustainable interventions
- and...



# Developing Conceptual Plans

- Why are end-to-end concepts important?
- How did the team develop the conceptual plans?
- How flexible are these designs?



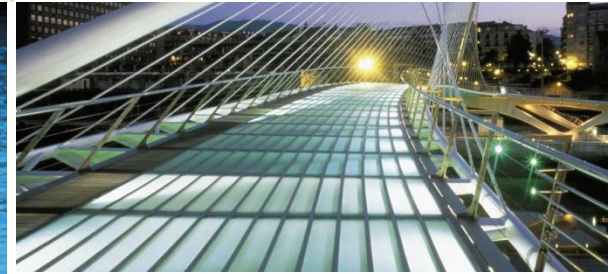
# Conceptual Approaches

	Concepts
<b>A</b>	<b>In-Kind Replacement</b>
<b>B</b>	<b>Ecological Waterfront</b>
<b>C</b>	<b>Urban Waterfront</b>
<b>D</b>	<b>Context Connections</b>
<b>E</b>	<b>Evolving Experiences</b>



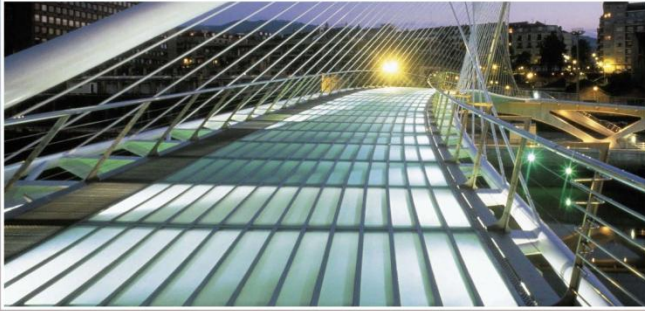
# Program Elements

- Seawall surface treatments
- Rock structures
- Habitat features
- Beaches
- Cantilevered sidewalks
- Steps
- Railings
- Lighting
- Art elements
- Boating/transportation touchpoints
- Pedestrian touchpoints
- Sustainability features
- Educational/interpretive features





# Light-Permeable Surfaces



Light permeable pavement. Photo by ZGF Architects.



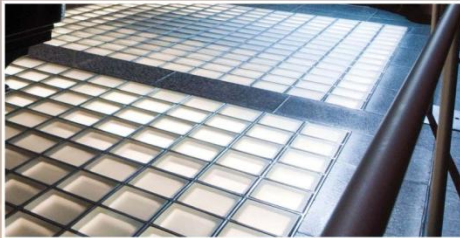
Skylight. La Tourette. Eveux-sur-Arbresle, France.



Skylight. Providence Portland. Portland OR.  
Photo by: ZGF Architects



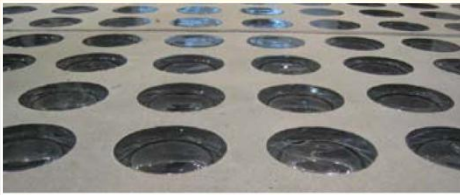
Skylight. Providence Portland. Portland, OR.  
Photo by: ZGF Architects



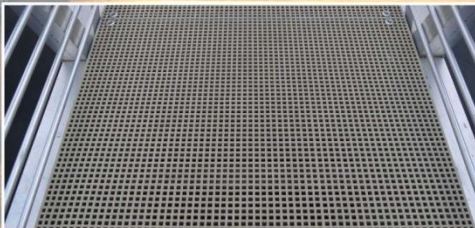
Glass block floor. Brookfield Place, Toronto, Ontario. Photo by Evan Goldenburg.



Purple sidewalk prisms in Pioneer Square. Seattle, Washington. Photo by J. A. Brennan Associates.



Glass Block. Seves



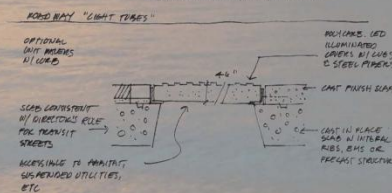
Square metal grating pedestrian walkway. South Lake Union Park.  
Seattle, Washington. Photo by J. A. Brennan Associates.



Skylight. La Tourette. Eveux-sur-Arbresle, France



Light well. Photo by Gerry Thomsen.



Light well. Photo by Peat Bakke.



# Open Water Portals



Open water portal at restaurant, Sipadan-Koplas, Malaysia. Photo by Peter Levey.



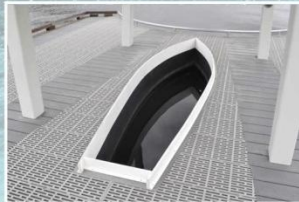
Stormwater conveyance channel, Bern, Switzerland. Photo by J. A. Brennan Associates.



Sherbourne Common park, Toronto, Ontario. Photo courtesy of WATERFRONToronto.



Water with railing edge, Alcázar de Sevilla, Spain. Photo by Jared Preston.



Opening in float, South Lake Union Park, Seattle, Washington. Photo by J. A. Brennan Associates.



Walkways surrounding beach and habitat bench, Juneau, Alaska. Photo by Peter Levey.



Beach near boardwalk and pier, Juneau, Alaska. Photo by J. A. Brennan Associates.



Open water portals along downtown waterfront, Juneau, Alaska. Photo by Mathieu Plourde.

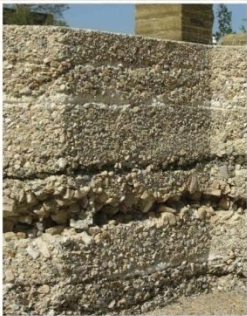
Background photo by Felipe Skroski.



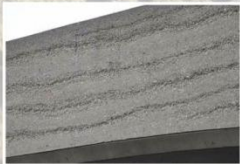
# Wall Surface Treatments



Sedimentary wall.



Sedimentary wall, Chapman University.  
Photo courtesy of Belarde Company.



Exposed aggregate wall, Discovery Park, Seattle, Washington.  
Photo by J. A. Brennan Associates.



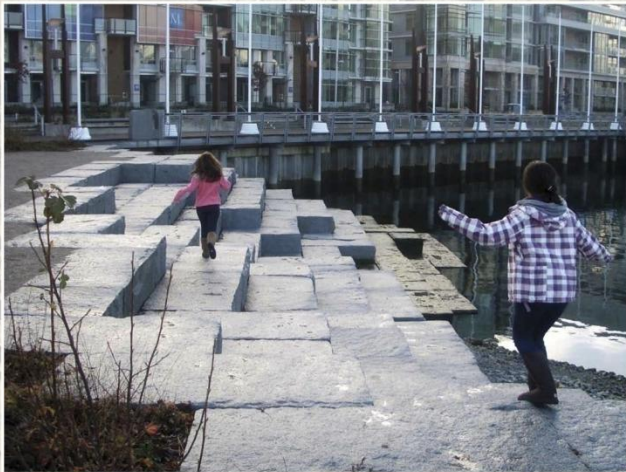
Formlined concrete wave. Photo courtesy of Fitzgerald Formliners.



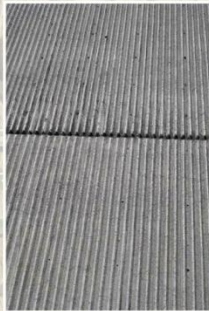
Naturalistic concrete wall texture, Seattle, Washington. Photo by J. A. Brennan Associates.



Stanley Park seawall, Vancouver, British Columbia.  
Photo by SqueakyMarmot.



Stepped seawall, Vancouver, British Columbia. Photo by J. A. Brennan Associates.



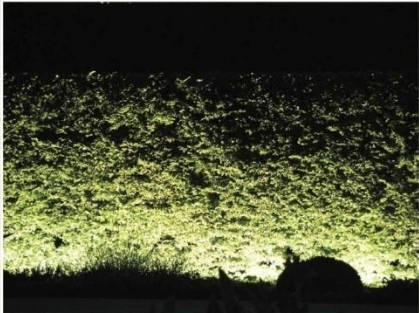
Fractured rib concrete formliner.  
Seattle, Washington.  
Photo by J. A. Brennan Associates.



Textured concrete wall panels .



Stanley Park seawall, Vancouver, British Columbia. Photo by Dougon.



Illuminated vetetated wall. Photo by Michael Radtke.



Vegetated wall. Photo by Lorna Mitchell.



Custom tribal fish concrete formliner.  
Photo courtesy of Fitzgerald Formliners.



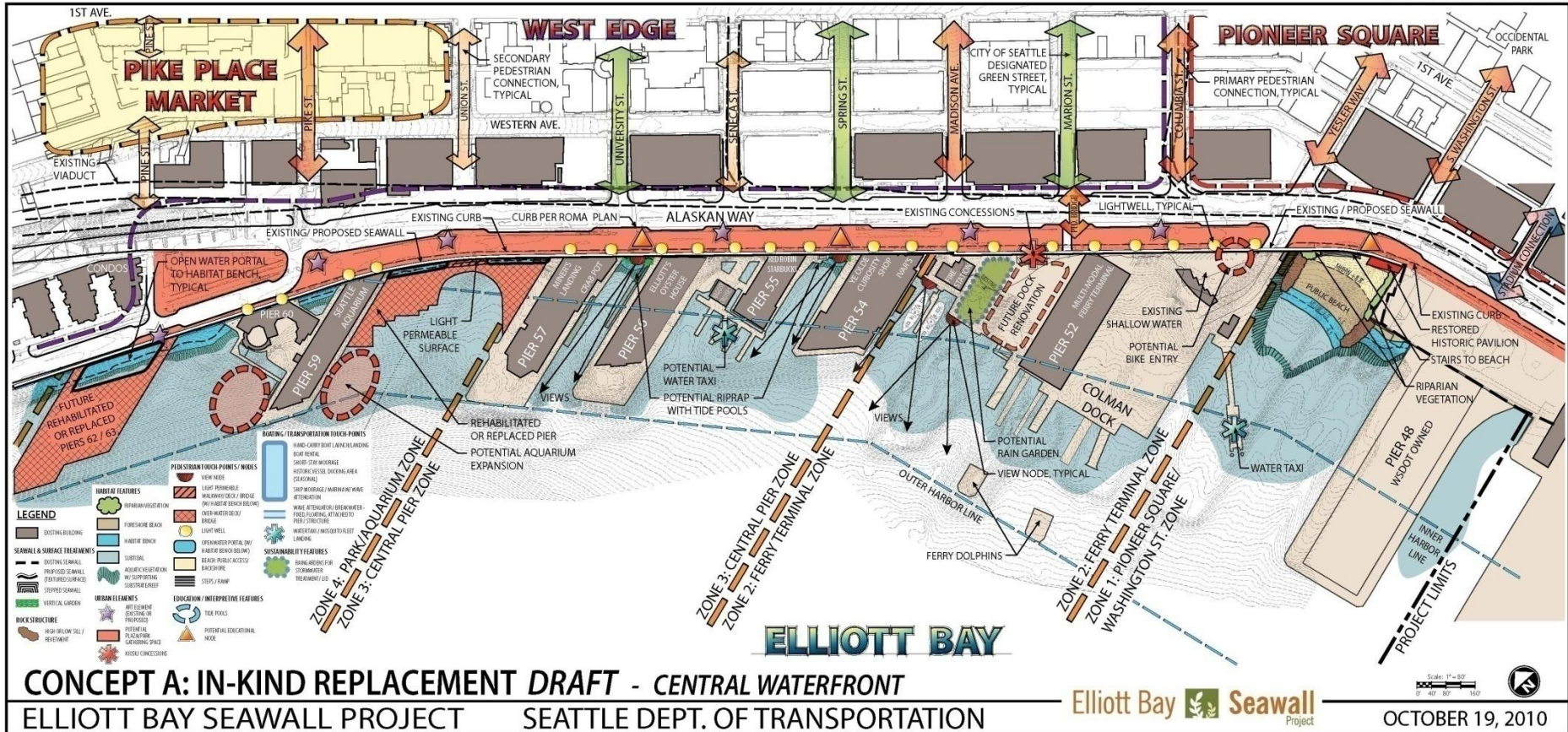
Vegetated wall. Photo by BobisTraveling.

Background: Stone veneer wall. Photo by J. A. Brennan Associates.



# Concept A: In-Kind Replacement

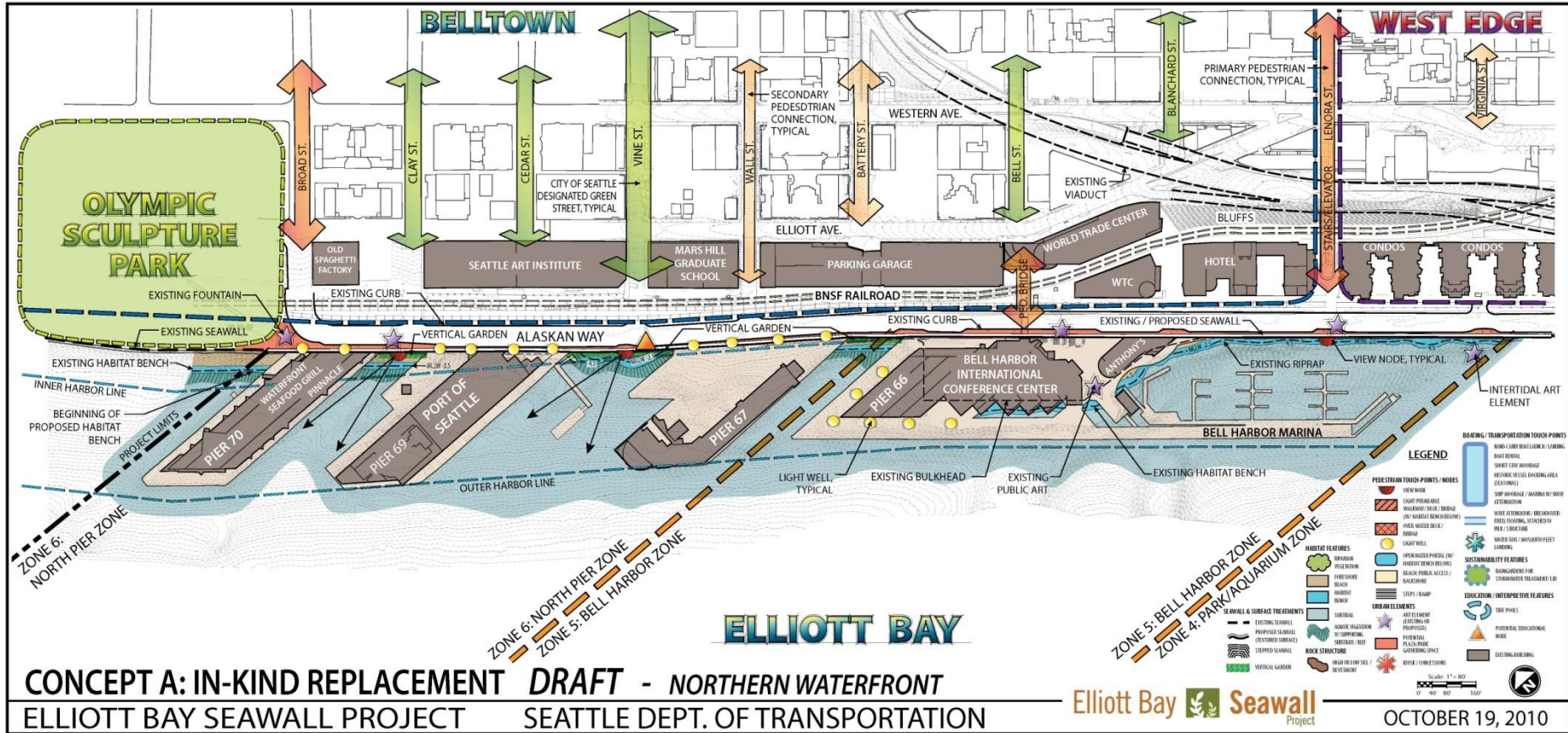
PREPARED BY: J. A. BRENNAN ASSOCIATES





# Concept A: In-Kind Replacement

PREPARED BY: J. A. BRENNAN ASSOCIATES





PREPARED BY: J.A. BRENNAN ASSOCIATES

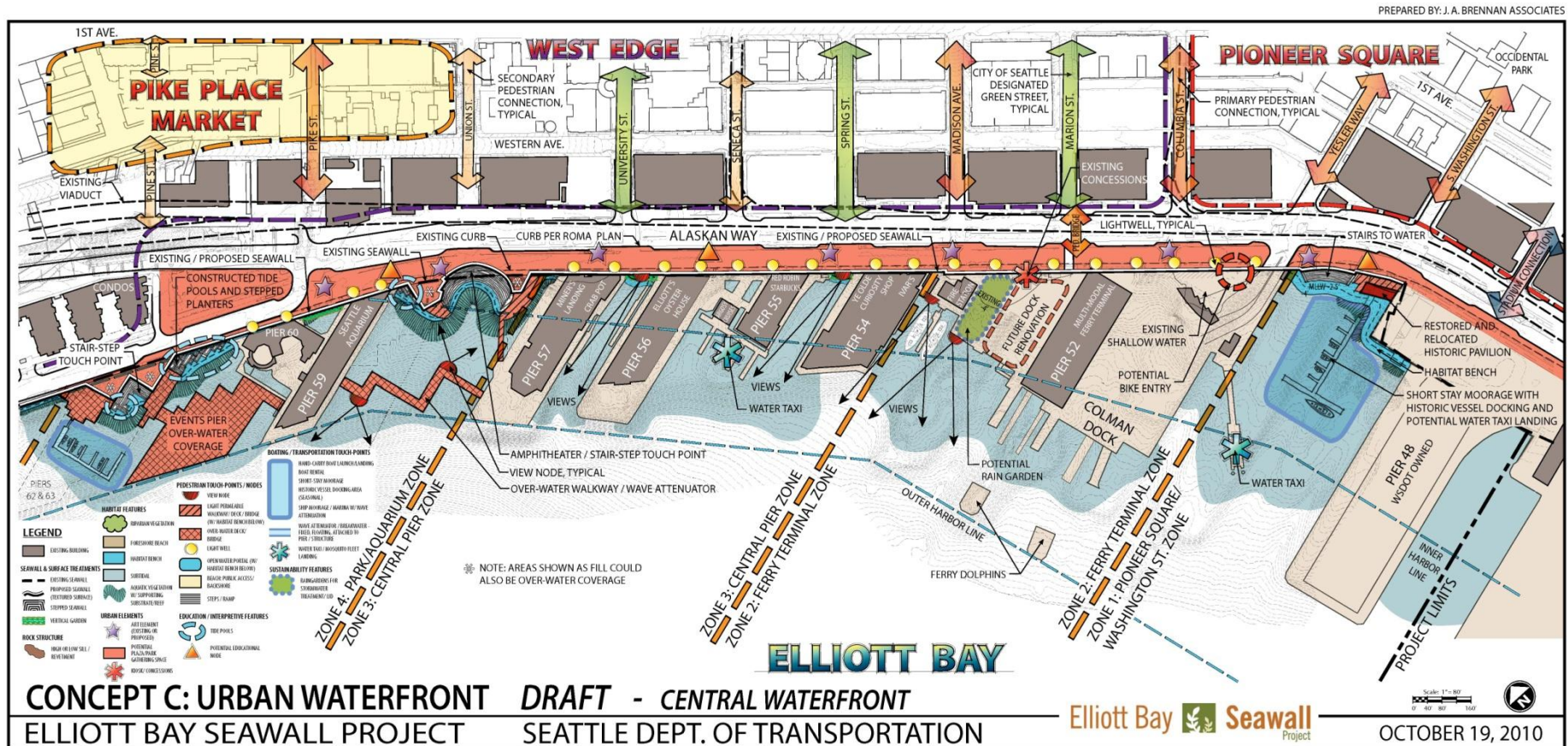








## Concept C: Urban Waterfront





PREPARED BY: J. A. BRENNAN ASSOCIATES





PREPARED BY: J. A. BRENNAN ASSOCIATES





# ***Coordination and Partnerships***

# Working with City and Corps

**Central Waterfront Project**

**Elliott Bay Seawall Project**

**Army Corps of Engineers**



# Working with City and Corps

**Central Waterfront Project**

**Elliott Bay Seawall Project**

**Army Corps of Engineers**

# Preliminary Concept Evaluation

- Concept plans evaluated based on goals and objectives
- Results will guide the team in next steps for design refinement and development of alternatives





# Upcoming Seawall Public Outreach

## December and January

- Conduct broader public outreach to gather feedback on concepts
- Develop interactive features online
- Host public meeting
- Provide organizational briefings

**Help Build A New Bridge**

**compare scenarios**

tolling choices >> compare scenarios

**Scenario 3** Toll rate **\$0.90 - \$3.25**  
Funding **\$2.3 billion**  
T routes being tolled

Route	Year	2010	2016
522	w/o tolls	19 mph	17 mph
522	with tolls	19 mph	16 mph
520	w/o tolls	26 mph	25 mph
520	with tolls	26 mph	34 mph
90	w/o tolls	35 mph	33 mph
90	with tolls	35 mph	40 mph

**Step 1: Select a tolling scenario**

- ☐ Scenario 1: Start tolling the new 520 bridge in 2016
- ☐ Scenario 2: Start tolling the 520 bridge in 2010
- ☒ Scenario 3: Start tolling the new 520 and 90 bridge in 2016
- ☐ Scenario 4: Start tolling the 520 bridge in 2010, and 90 bridge in 2016

**Step 2: View details about this scenario**

- 520 and 90 are tolled
- Tolling begins in 2016 when the 520 corridor is complete
- Includes [segment tolls](#) (PDF) beginning in 2016 on 520 and 90
- Moderate toll rate for comparison and analysis purposes (\$0.90 - \$3.25 each way)

Time of day	Toll you'd pay (each direction) 2007\$*
Morning (5-9 AM)	\$2.60
Mid-day (9 AM-3 PM)	\$2.10

**Planning Ahead > System Concepts > View Draft Service Alternatives**

☐ Today's System

☒ Alternative 1 - Reduction [zoom downtown](#)

☐ Alternative 2 - Preservation [zoom downtown](#)

**Alternative 1 - Reductions:**

Alternative 1 is based on the local sales tax funding we currently receive: 0.6%, or 6¢ on a \$10 purchase. It includes reductions throughout the system. Many routes are reduced to peak service only or are eliminated altogether. Across the system there are less bus trips offered because the bus will not come as often and will not run as many hours during the day.

**Features and Components**

- Disperses local service on Market St., Commerce St., Pacific Ave., and A St. in Downtown Tacoma.
- de-emphasizes the use of Commerce St. Transit Center
- Implements efficiencies, such as straightening out routes
- Changes made to more effectively serve North Tacoma
- Direct route from Puyallup to Tacoma via RT 402 that no longer serves Federal Way

System	Annual Service Hours	Proposed Number of Routes		Frequency (Peak/Off Peak)		Span of Service		
		Weekday	Weekend	Trunk Routes	Local Routes	Weekday	Saturday	Sunday
Today's System	618,000	51	33	15/30	30/60	5 AM - 12 AM	6 AM - 12 AM	6 AM - 12 AM
Alternative 1 - Reductions	401,000	47	28	20/30	60	5 AM - 9 PM	10 AM - 6 PM	10 AM - 6 PM
Alternative 2 - Preservation	634,000	52	34	15	15/20/30	5 AM - 12 AM	6 AM - 12 AM	7 AM - 10 PM

**Alternative 1: Reduction Plan**

Service Elimination  
Severe Reduction  
Moderate Reduction  
Reconfigured Service  
Service Unchanged

Reductions may be in how often the bus comes and/or in how many hours it operates.

Example  
interactive  
online features

# Contact Information

- **Email:** [seawall@seattle.gov](mailto:seawall@seattle.gov)
- **Website:**  
<http://www.seattle.gov/transportation/seawall.htm>
- **Phone:** Stephanie Brown, SDOT: 206-386-4635  
Jennifer Wieland, SDOT: 306-733-9970