Public Spaces | Public Life

for Seattle's Central Waterfront

2011 Scan | Design Interdisciplinary Master Studio
University of Washington : College of Built Environments

Studio Participants

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Bianca Hermansen, Master Teacher, Gehl Architects
Britt Bandel Jeske, Teaching Assistant, Architecture

Acknowledgements

Scan I Design by Inger & Jens Bruun Foundation
Gehl Architects
Seattle Department of Planning and Development
Seattle Department of Parks and Recreation
J.A. Brennan Associates, PLLC
Seattle Aquarium

Cover images by Nancy Rottle

Foreword

The City of Seattle's public waterfront will experience dramatic transformations in the next several years as the city invests in creating a "new waterfront for all." In response to this exciting prospect, our 24 graduate students in landscape architecture, planning and architecture tackled the portion of the waterfront that stretches between Waterfront Park and Pier 63/63, and extends from the Aquarium at the water's edge uphill to the Pike Place Market. With the imminent removal of the Alaskan Way Viaduct and replacement of the aging Elliot Bay Seawall, Seattle has the extraordinary opportunity to reconnect the city to the bay, restore ecological systems for Puget Sound, and create lively public waterfront space. With these goals in mind, the studio focus was to envision an active, vibrant and multi-dimensional public realm that serves a multicultural, intergenerational population and reclaims the waterfront as an ecological space, both aquatic and terrestrial. Applying their unique skillsets, students worked in interdisciplinary teams to create conceptual plans for the district. Within these teams, students then each designed a piece of the site in detail, and worked together to weave a complete and compelling overall team proposal.

Through the generous sponsorship of the Scan|Design Foundation, our students were able to experience contemporary waterfronts and sustainable urban design in Denmark and Sweden, and then apply lessons and inspiration to their Waterfront design work in Seattle. During the two-week September tour in Copenhagen, students had the opportunity to study with the internationally renowned Danish firm of Gehl Architects, and practice their methods for assessing and creating quality public space. As a class we walked both Copenhagen and Malmo's public spaces, sketching their design qualities and analyzing how they performed. The group bicycled around these exemplary cities to experience their renewed neighborhoods, innovative architecture, and repurposed waterfronts. The staff of Gehl Architects, Copenhagen's bicycle planners, Malmo's Western Harbor designers, COBE Architects and others were our guides, providing insight into the cities' historical development and contemporary planning issues, elucidating design approaches to successful projects, and sharing personal perspectives. Back in the studio in Seattle, students applied the lessons learned to our waterfront project, aided by the expert guidance of Bianca Hermansen of Gehl architects, who travelled to Seattle on two separate occasions to assist in teaching. In addition, professionals and stakeholders working on various aspects of the Central Waterfront shared critical information, and many design and planning practitioners came to both the midreview and the final review. Their help and insight were an invaluable contribution to the studio experience.

We have many people to thank for this remarkable opportunity in teaching and learning. Without the support of the Scan|Design Foundation, we could not have applied the rich set of images and experiences from Scandinavia or so deeply integrated Gehl's approach in our design work. We are sincerely grateful for Bianca Hermansen's generous, clear and insightful teaching and critique, and to her, Louise, Lars, and Rasmus at Gehl architects for the fantastic lectures and tours in Copenhagen. Marshall Foster both lectured and led us through the Seattle Central Waterfront and gave as an appreciation and understanding of the site from the City's perspective. David Graves from Seattle Parks assisted with the tour and was our prime facilitator in mounting our "Playing on the Pier" temporary interactive exhibit on Pier 62/63. Architect Paul Olson co-led the Copenhagen tour, inspiring the students' sketching and deepening their understanding of the built environment, and provided invaluable guidance in the form of desk crits and reviews throughout the quarter. And finally, we couldn't have done it without our able and talented teaching assistant, Britt Bandel Jeske, who has kept us organized for months, provided so much assistance from running errands, to budgets to graphics, and compiled this book with the student work, working closely with the students.

We thank you all, and hope that this work will make a difference not only in the education of our diverse and enthusiastic students, but also will suggest exciting, thought-provoking and ecological designs for a new, vibrant public waterfront.

Nancy Rottle, Associate Professor, Landscape Architecture
Kathryn Rogers Merlino, Assistant Professor, Architecture, Adjunct Assistant Professor, Landscape Architecture

Copenhagen Study Tour

September 02 - 18
Scan|Design Master Studio Study Tour

In September 2011, 21 graduate students from the University of Washington's College of Built Environments studied exemplary urban and regional planning strategies in Copenhagen, Denmark. Students were immersed for two weeks in the famous Danish networks of public space and the culture's emphasis on bicycle and pedestrian planning.

Students came from three disciplines in the College of the Built Environment: Architecture, Landscape Architecture, and Urban Planning & Design. In Copenhagen, these students were led by the renowned urban planning consultants Gehl Architects, who introduced the group to their working methods. Other highlights included tours of redeveloped neighborhoods, the waterfront, plazas, and parks. The trip to Copenhagen was generously supported by the ScanIDesign Foundation.

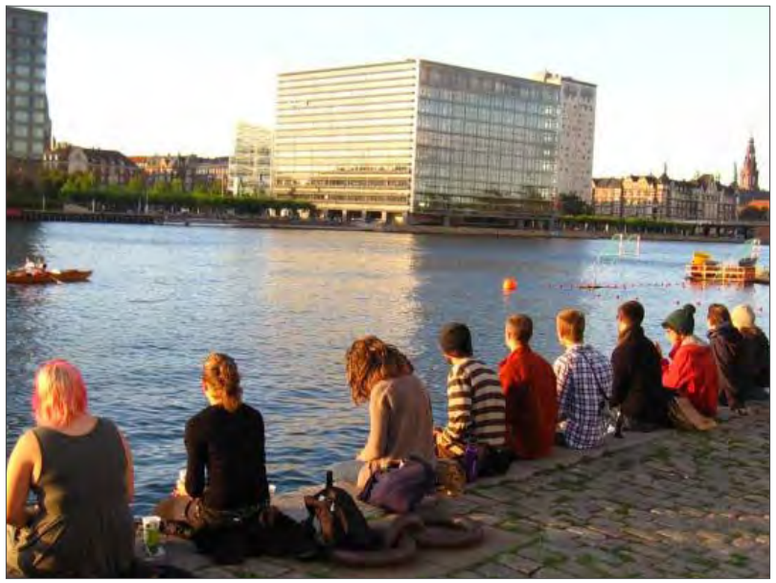
After returning from the trip, the group continued working in our Scan|Design Master Studio course to study and design public spaces in Seattle's Central Waterfront, with the goal of creating a socially vibrant, ecologically healthy public realm.

Scan|Design travel-study group at Lars Gemzøe's allotment garden

source: Nancy Rottle

Malmo Waterfront

source: Britt Bandel Jeske



Copenhagen Waterfront

source: Erin Feeney

Augustenborg Public Housing, Malmo

source: Britt Bandel Jeske

Lessons from the Scan|Design Travel Study

CONNECTIVITY:
Surface treatments and delineated linkages improve place to place connectivity. Small carved out spaces with interesting edges and active spaces provide person to person connectivity. Direct access to waterfront initates a connection between person and place.

ELEMENTS OF DELIGHT:
Mundane elements of daily life can be transformed into fine grain details of comfort and delight using color, warmth, and humor.

TEXTURE:
Bold use of color, pattern and dimension create more interesting and memorable streetscapes.

MEANDERING PATHS:
Subtle curves into hidden destinations inscribe a human scale and encourage human powered modes of transportation.

UNEXPECTED VIEWS:
Framed views create a sense of protection and element of surprise for site users.

Analyzing Copenhagen's pedestrian streets
source: Britt Bandel Jeske

Discussing Copenhagen's public space
source: Britt Bandel Jeske

Copenhagen cycling culture
source: Delia Lacson

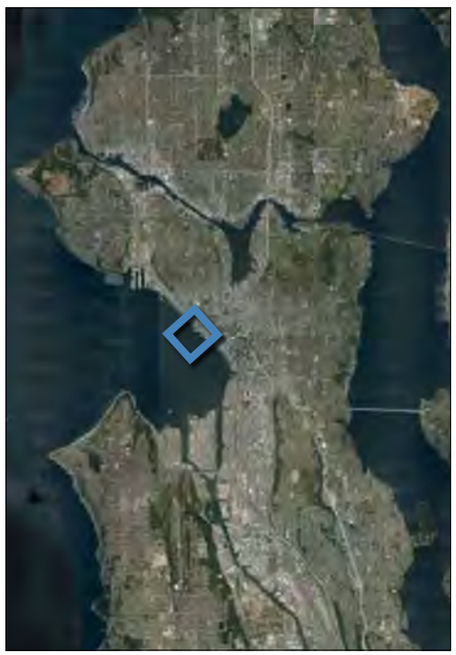
Studio Project

In the studio, we began by collecting and sharing the significant amount of research and previous planning conducted for the waterfront. We also invited expertise from local planners, designers, and stakeholders, who gave us a detailed waterfront tour, presented significant issues in an expert panel, and provided as-needed advising and information. We augmented our knowledge of global waterfront designs by investigating precedents of significant contemporary projects, for which students developed and presented case studies. Our initial planning exercise was then to quickly incorporate this information into a temporary, “pop-up” exhibit for Pier 62/63. Five teams designed and built exhibits for an event titled “Playing on the Pier,” which brought Seattle natives and visitors to the pier for an exploration in how the waterfront could be experienced and enjoyed.

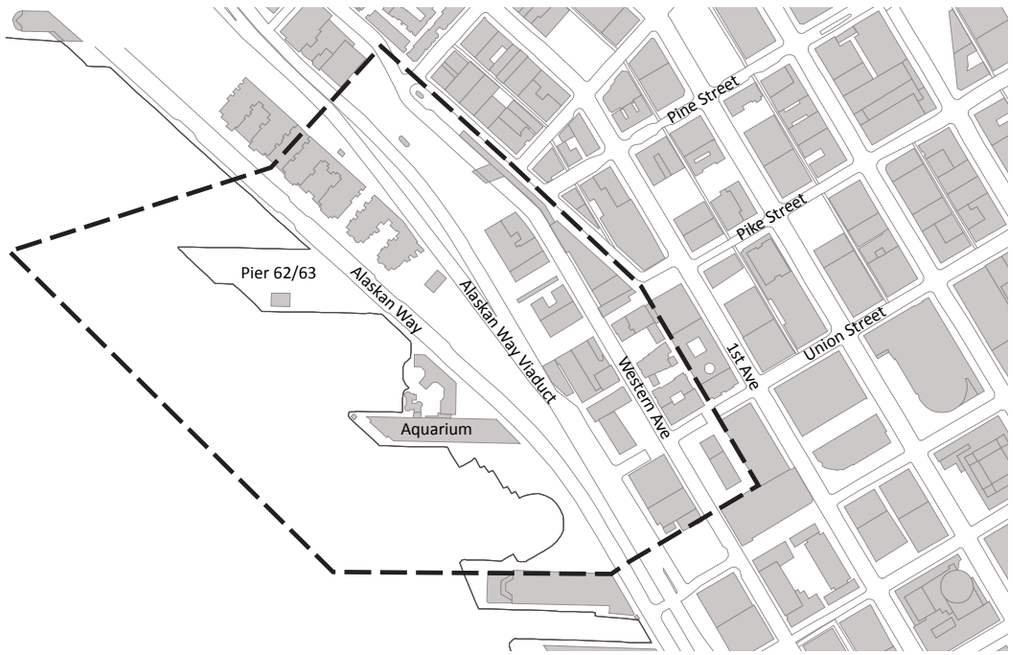
This initial exploration provided the structure and background for four teams to approach site planning and urban design work. These teams focused on the northern, Aquarium/Pike Place Market, waterfront district, and suggested strategies for strengthening the district and connections to the rest of the city. Students developed solutions for waterfront-wide connective tissue including new road and seawall alignment, stormwater integration, design guidelines, and unifying design elements.

Design students worked individually or in pairs to develop detailed proposals for specific sites according to their particular interests. They developed and re-examined their work through several cycles over the course of ten weeks, interacting with Bianca Hermansen of Gehl Architects, studio professors Nancy Rottle and Kathryn Merlino, and outside professional and faculty reviewers as well as through peer review. Our aim has been to integrate Gehl Architects’ theory and methodology for successful public space, Seattle’s aspirations for a “waterfront for all,” and our region’s ecological knowledge, goals and ethics. Our working process is outlined in the following Analysis and Framework section, and the students’ more detailed district and design proposals are represented in the final Design sections of this document.

Seattle Waterfront, Pier 62/63 and the Aquarium
source: Travelswithana.wordpress.com



studio site location
source: Google Earth



studio site location
source Britt Bandel Jeske

Scan|Design Travel Study + Studio

Summer Travel Study to Denmark + Sweden

ScanIDesign Master Studio

Precedent Studies

Barcelona Waterfront
Coal Harbour and the Vancouver Convention Center
Chicago Waterfront
East River Park, NYC
Eastbank Esplanade, Portland
Hudson River Park, NYC
Minneapolis Central Waterfront
SE False Creek Waterfront
Wellington Waterfront

Site + Context Analysis

History + Site Use
Land Use + Built Environment
Circulation + Pedestrian Environment
Ecological Environmental
Economical Environment
Lessons from the Travel Study

Gehl Architects:
Theory + Methodology

Playing on the Pier Site Expressions

Caught in the Current
Home Sweet Waterfront
re:connect
rePORT
Submerge

Team Master Plans

City Quilt
POD [People-Oriented Design]
Seaweed
Tides and Pools

Individual Projects

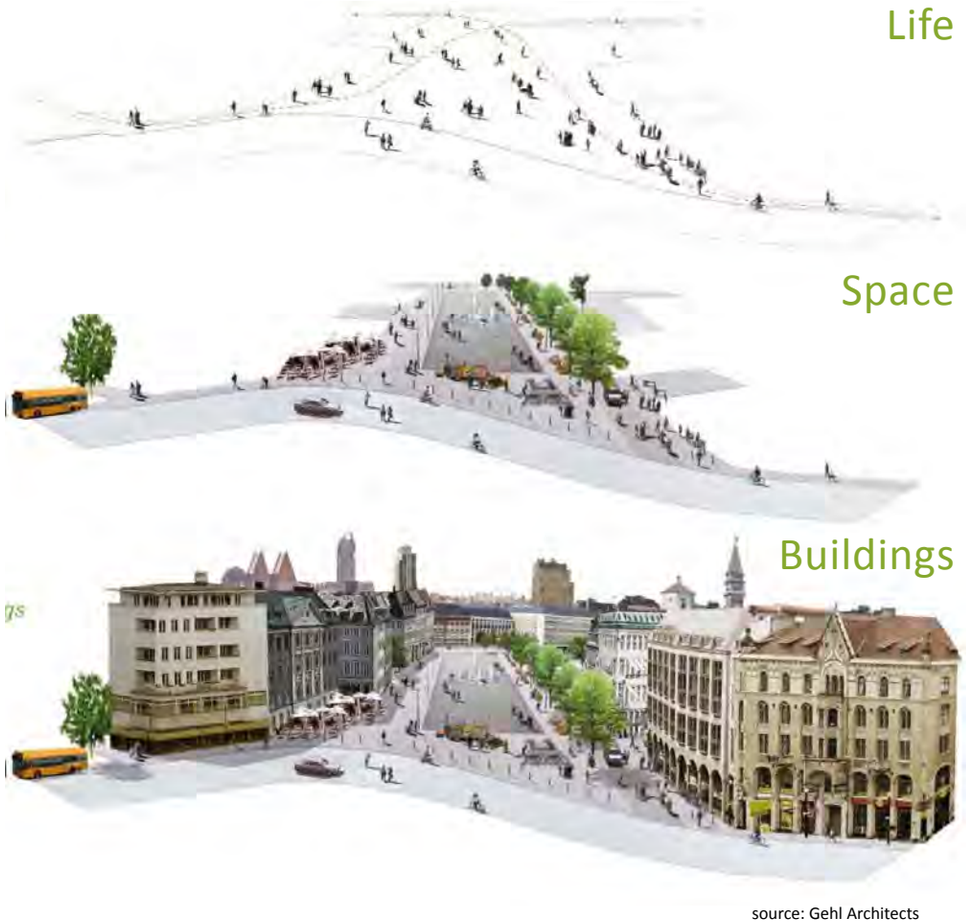
Design Methodology

15 Quality Criteria

During site analysis, students used Gehl Architects' 15 Quality Criteria approach for observing and assessing sites for their pedestrian quality. This approach complemented the project area's quantitative pedestrian analysis, allowing students to understand how people might experience the neighborhood. The students also used these 15 Quality Criteria to evaluate their finished design proposals.

Life | Space | Buildings

In addition to using the 15 Quality Criteria, in one exercise called "Life|Space|Buildings" students took on different roles: student, artist, business woman, club goer, etc. to establish the required program elements needed to create vital public space that is inviting to all.



source: Gehl Architects

PROTECTION

PROTECTION AGAINST VEHICULAR TRAFFIC
- Traffic accidents
- Pollution, fumes, noise
- Visibility

PROTECTION AGAINST CRIME & VIOLENCE
- Well lit
- Allow for passive surveillance
- Overlap functions in space and time

PROTECTION AGAINST UNPLEASANT SENSORY EXPERIENCES
- Wind / Draft
- Rain / Snow
- Cold / Heat
- Pollution
- Dust, Glare, Noise

INVITATION

INVITATIONS FOR WALKING
- Room for walking
- Accesibility to key areas
- Interesting facades
- No obstacles
- Quality surfaces

INVITATIONS FOR STANDING AND STAYING
- Attractive and functional edges
- Defined spots for staying
- Objects to lean against or stand next to

INVITATIONS FOR SITTING
- Defined zones for sitting
- Maximize advantages
- pleasant views, people watching
- Good mix of public and café seating
- Resting opportunities

INVITATIONS FOR VISUAL CONTACT
- Coherent way-finding
- Unhindered views
- Interesting views
- Lighting (when dark)

AUDIO & VERBAL CONTACT
- Low ambient noise level
- Public seating arrangements condusive to communicating

PLAY, RECREATION & INTERACTION
- Allow for physical activity, play, interaction and entertainment
- Temporary activities (markets, festivals, exhibitions etc.)
- Optional activities (resting, meeting, social interaction)
- Create opportunities for people to interact in the public realm

DAY / EVENING / NIGHT ACTIVITY
- 24 hour city
- Variety of functions throughout the day
- Light in the windows
- Mixed-use
- Lighting in human scale

VARYING SEASONAL ACTIVITY
- seasonal activities. (skating, christmas markets,)
- extra protection from unpleasant climatic conditions
- Lighting

DELIGHT

DIMENSIONED AT HUMAN SCALE
- Dimensions af buildings & spaces in observance of the important human dimensions in related to sences, movements, size & behavior

POSITIVE ASPECTS OF CLIMATE
- Sun / shade
- Warmth / coolness
- Breeze / ventilation

AESTHETIC & SENSORY
- Quality design, fine detailing, robust materials
- Views / vistas
- Rich sensory experiences

15 Quality Criteria
source: Gehl Architects

Studio Team and Group Work

Throughout the quarter the students had the chance to work in various groups to take advantage of the interdiscplinary studio format. The students were divided into pairs for precedent studies and small groups for site analysis and the Playing on the Pier exhibit. For the final design project, the studio was divided into four teams to develop a master plan, in which their individual or pairs project was located. Over the course of the term, students continually refined their design proposals, working between districts and site scales and responding to feedback from guests, peers, faculty, and Bianca Hermansen of Gehl Architects.

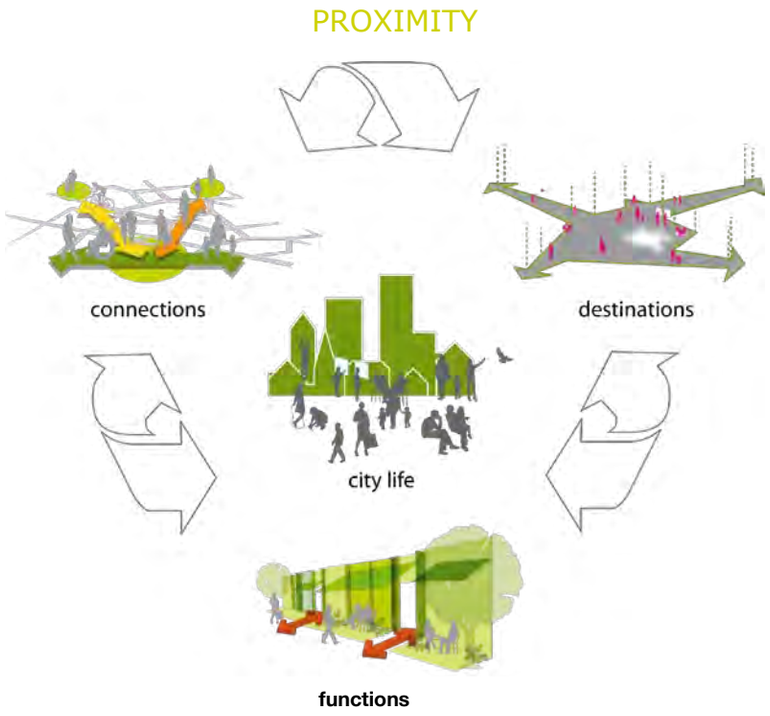
Mid-Review wrap up discussion with students and reviewers
source: Peter Cromwell

Gehl Architects Master Instructors

Students were first introduced to Gehl Architects' working methods while in Copenhagen, through lectures and exercises. Students benefitted from an additional two and a half weeks working with Bianca Hermansen in Seattle, during the middle point of the studio and at the end of the term. Bianca provided valuable feedback to guide the development of students' designs for an inviting waterfront.

Bianca's visits were highlights of the quarter
source: Manami Iwamiya

Post mid-review master plan team discussions
source: Peter Cromwell



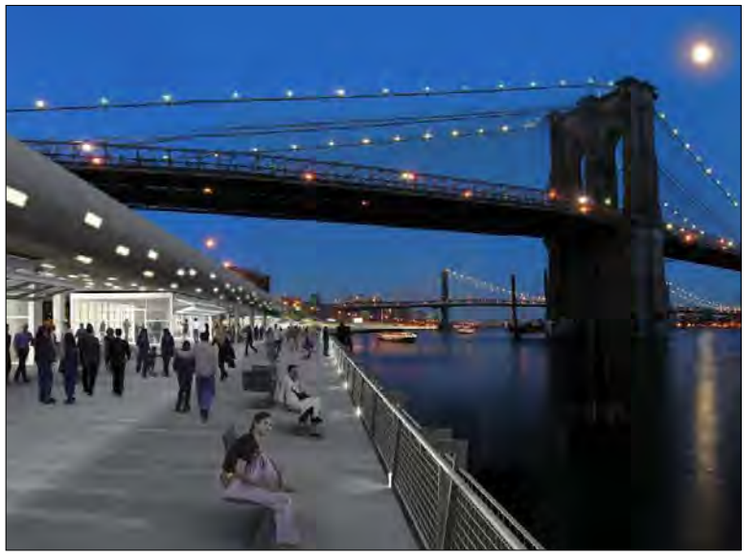
concept of proximity vs. density
source: Gehl Architects

Formal reviews included guest critics in the fields of architecture, landscape archtecture, and urban planning
source: Peter Cromwell

Precedent Studies

During the initial stage of site analysis, students researched relevant precedents from around the world with a focus on waterfronts. The full case studies, and case studies from previous studios, can be found on the Master Studio course website (http://courses.washington.edu/gehlstud).

Barcelona Waterfdront
Barcelona, Spain
source: dirklie65, www.flikr.com



East River Park and Esplanade
New York, New York
source: www.nycgovparks org/parks/eastriverpark

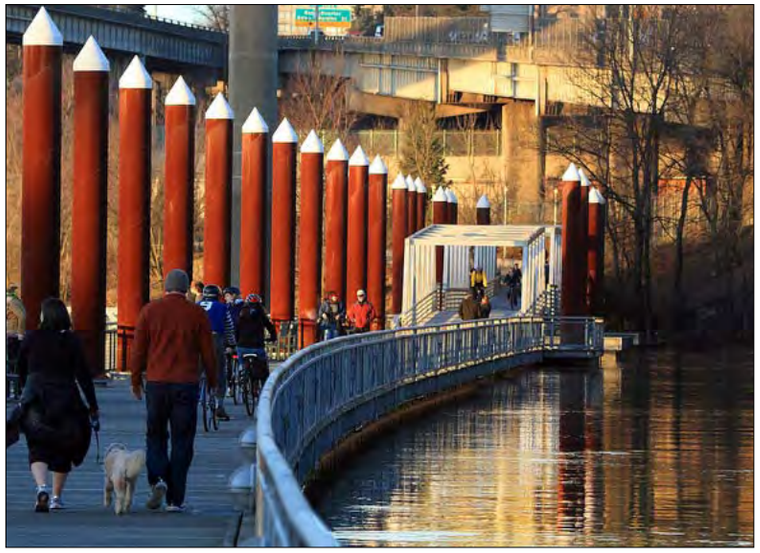
Vancouver Convention Center/Coal Harbour
Vancouver, Canada
source:www.lmnarchitects.com

Chicago Waterfdront
Chicago, IL
source: JJR and Studio Gang
www.worldlandscapearchitect.com

Wellington Waterfront
Wellington, New Zealand
source: http://www.fl ickr com/photos/jackol/516092798/

SE False Creek Waterfront
Vancouver, Canada
source: www.vancouversun.com

Hudson River Park
New York City, New York
source: www.hudson-river-park.com



Eastbank Esplanade
Portland, Oregon
source: www.southwaterfront.com

RIVERFIRST
Minneapolis, Minnesota
source: Tom Leader Studio and Kennedy and Violich Architecture

History


1990s: implementation of ongoing planning



1982: waterfront streetcar links waterfront activity

1970s: concerted effort for recreational development

1950s: 99 Viaduct built

1939-1945: World War II


1930s: Railroad Avenue is rebuilt as Alaskan Way/Seawall

1920s: World War I & the Great Depression retards growth

1911: Port of Seattle formed



1900s: transportation industry dictates development

1889: Great fire destroys much of downtown

1895: Klondike Gold Rush

1893: Great Northern Railroad is completed, ending in Seattle

1873: Seattle loses bid for Northern Pacific Railroad (N-S) terminus

1852: Henry Yesler develops Yesler steam mill


prior to1792: Salish uses included hunting, fishing, gathering

1900: large reclamation projects reshape the waterfront - monopolies

SOURCES

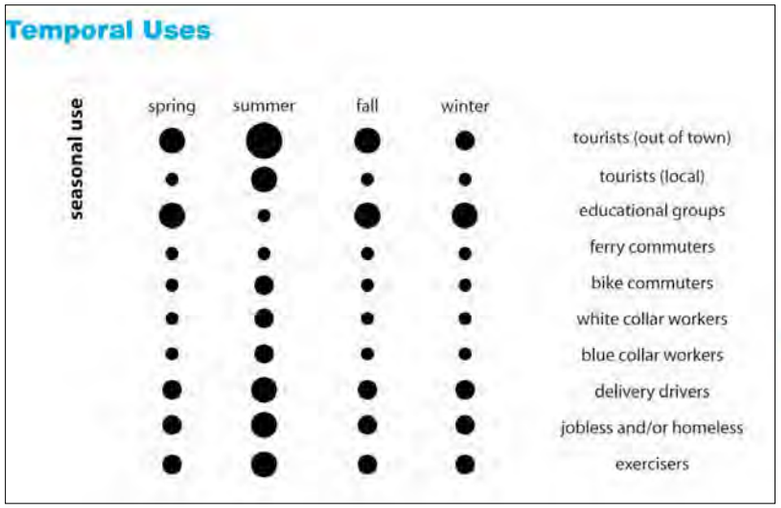
www seattle.gov/dpd/Planning/Central_Waterfront/Archive/Background/default asp
"East-West and Physical Connections" graphic

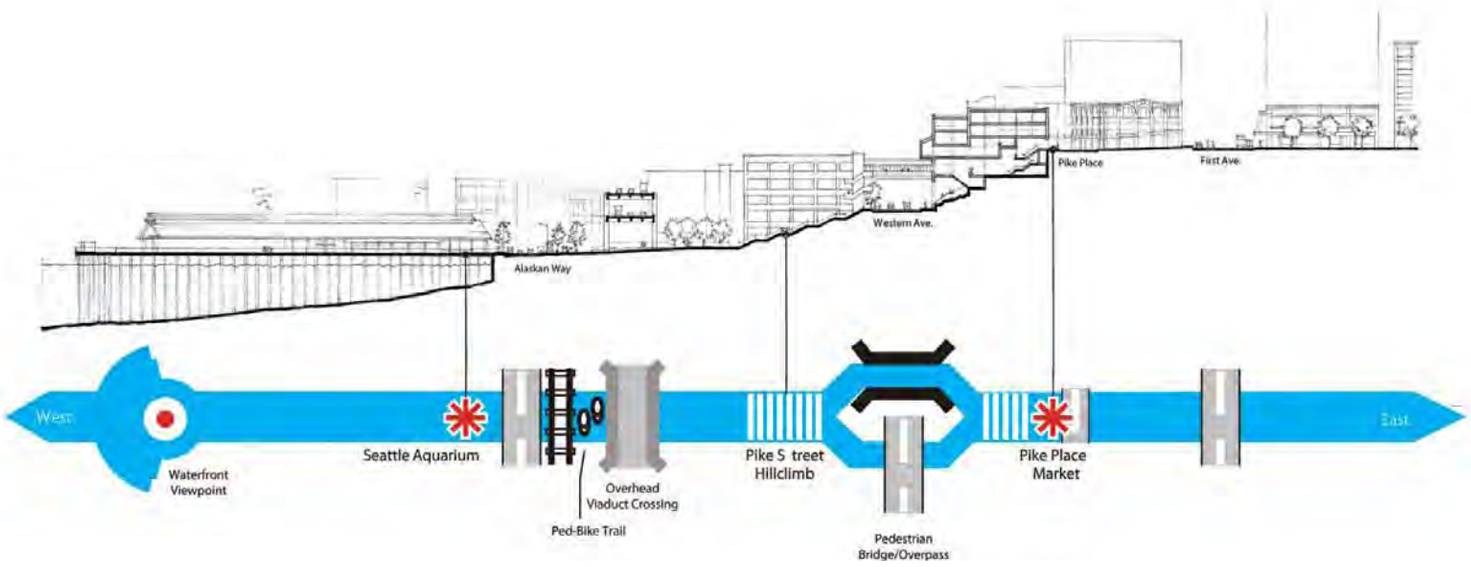
www seattle.gov/dpd/Planning/Central_Waterfront/PartnershipsCommittee/BriefingBook/index.htm
"Council Legislation Related to the Central Waterfront"
"Center City Public Realm Guide"
"County Legislation Related to the Central Waterfront"
"2006 Central Waterfront Concept Plan Summary"

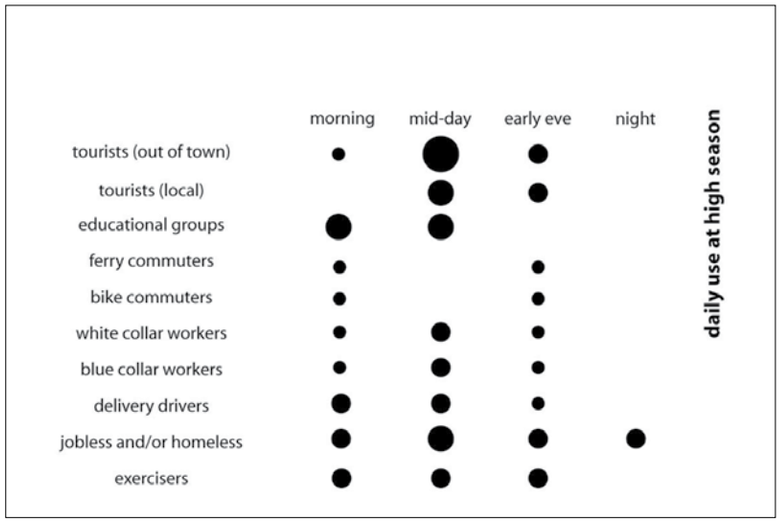
www.historylink.org/index.cfm?DisplayPage=output.cfm&file_id=7072
"Seattle Central Waterfront Tour, Part I: Overview" (information and photos)

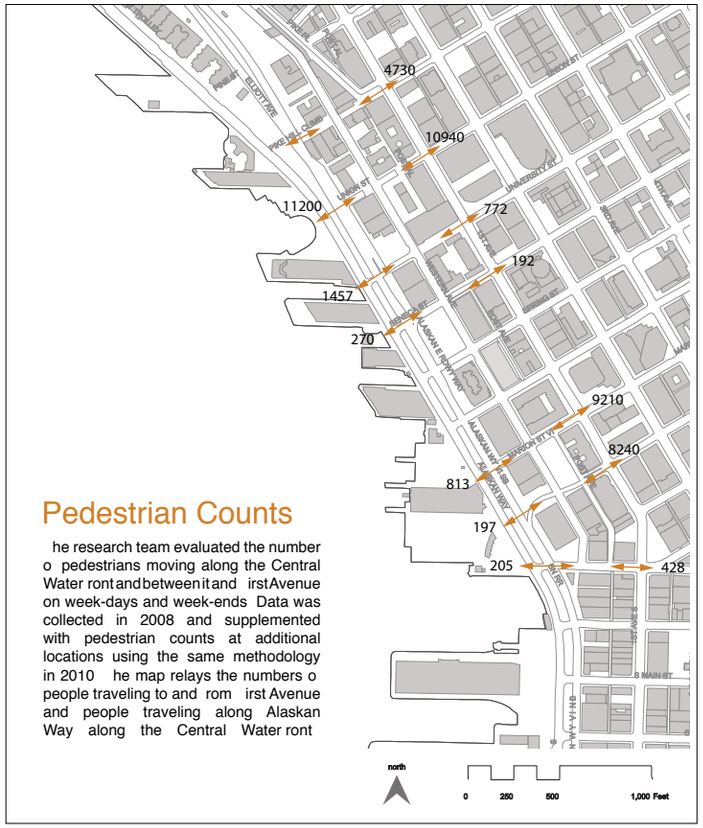
www.historylink.org/index.cfm?DisplayPage=pf_output.cfm&file_id=7056
"Port of Seattle Central Waterfront Cybertour" (photos)

Temporal Environment





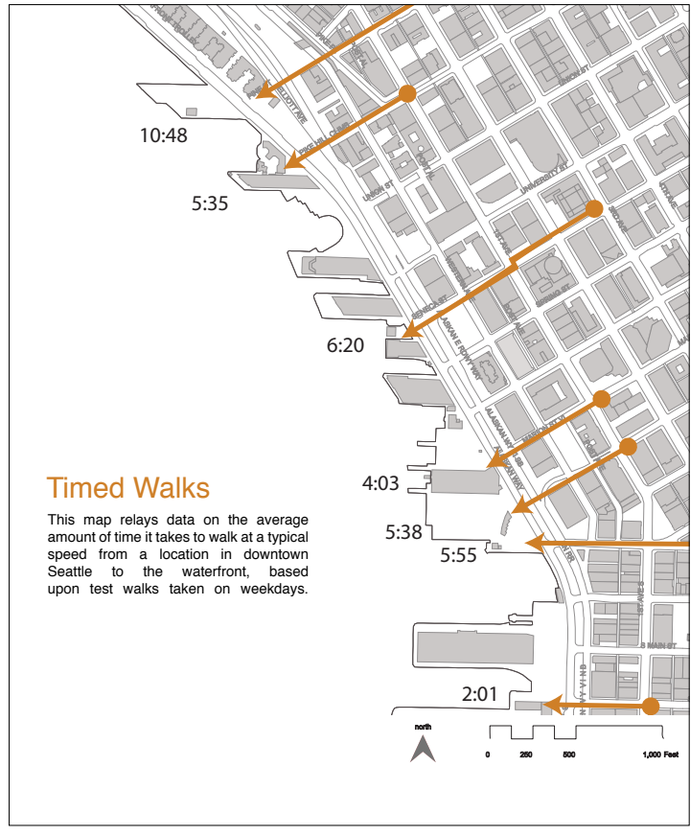




Pedestrian Counts

he research team evaluated the number o pedestrians moving along the Central Water ront and between it and irst Avenue on week-days and week-ends Data was collected in 2008 and supplemented with pedestrian counts at additional locations using the same methodology in 2010 he map relays the numbers o people traveling to and rom irst Avenue and people traveling along Alaskan Way along the Central Water ront

source: GFL Waterfront Analysis 2010



Timed Walks

This map relays data on the average amount of time it takes to walk at a typical speed from a location in downtown Seattle to the waterfront, based upon test walks taken on weekdays.

source: GFL Waterfront Analysis 2010

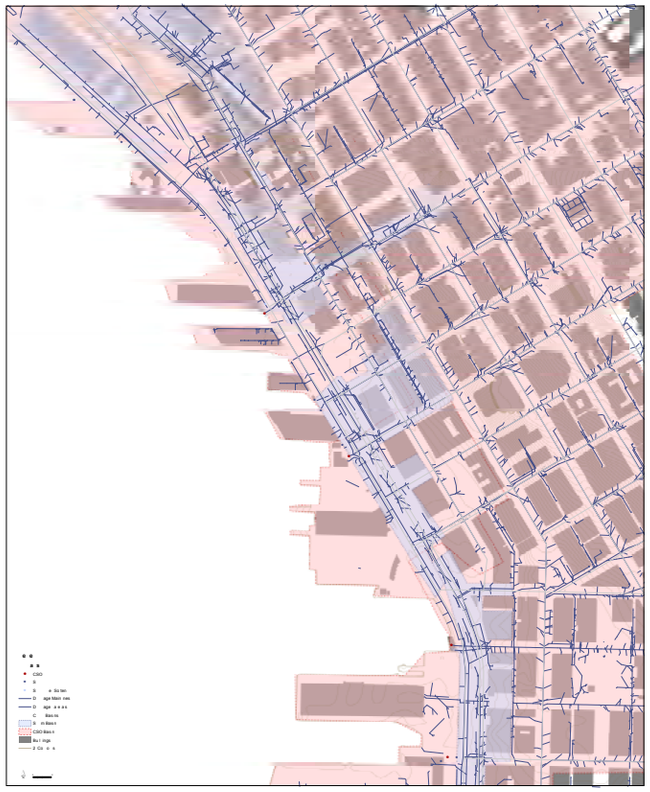
Ecological Environment: stormwater

Visualize Climate Change:

source: Aaron Vandenberg

Consequences of a 20’ rise in sea level

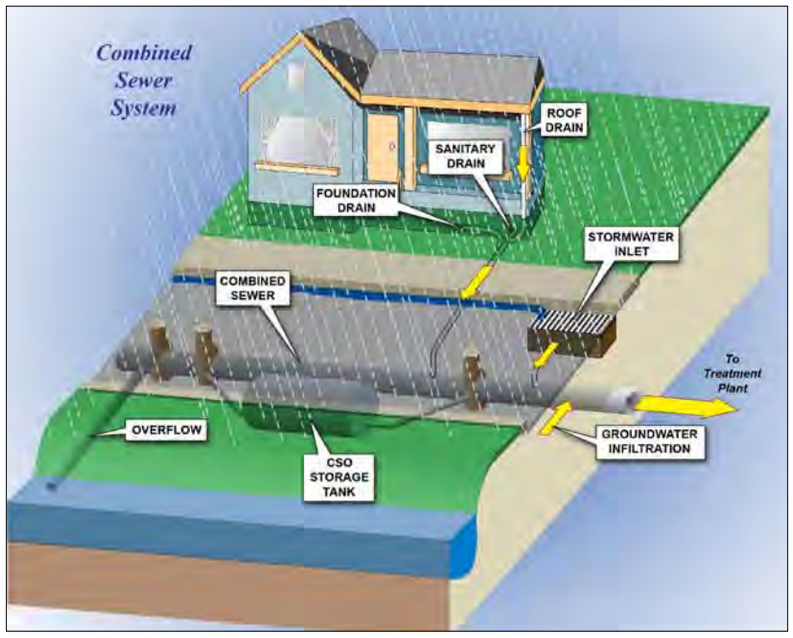
Stormwater Basins:



source: City of Seattle

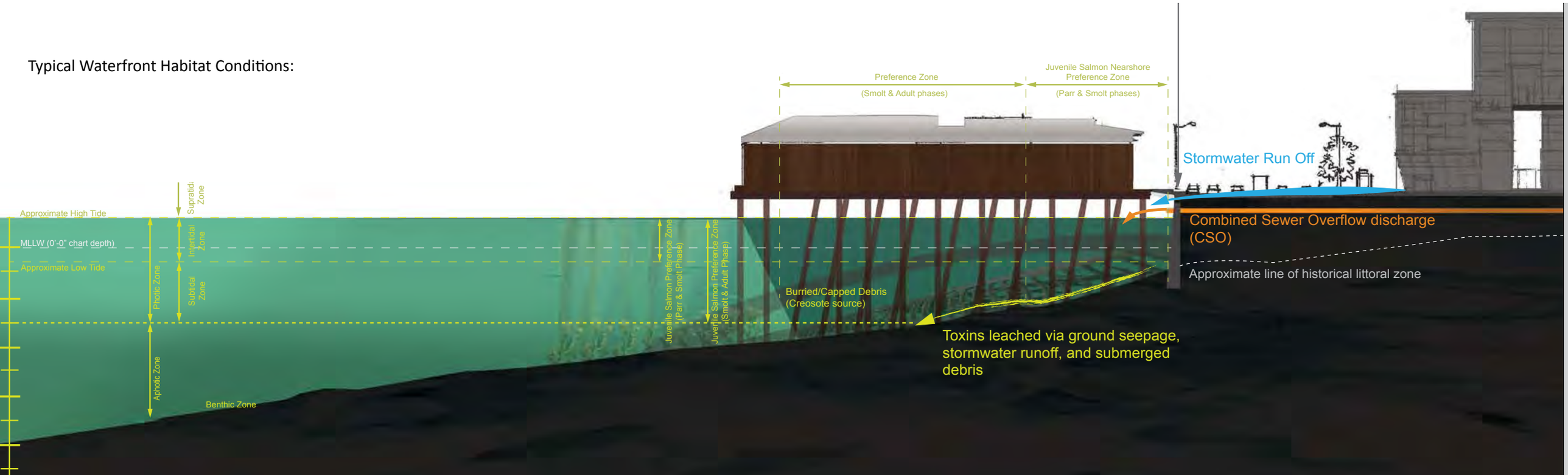
Several separated stormwater “pipesheds” (lavender) discharge polluted water directly into Elliott Bay. Pink areas are drained into combined sewers.

Combined Stormwater System:



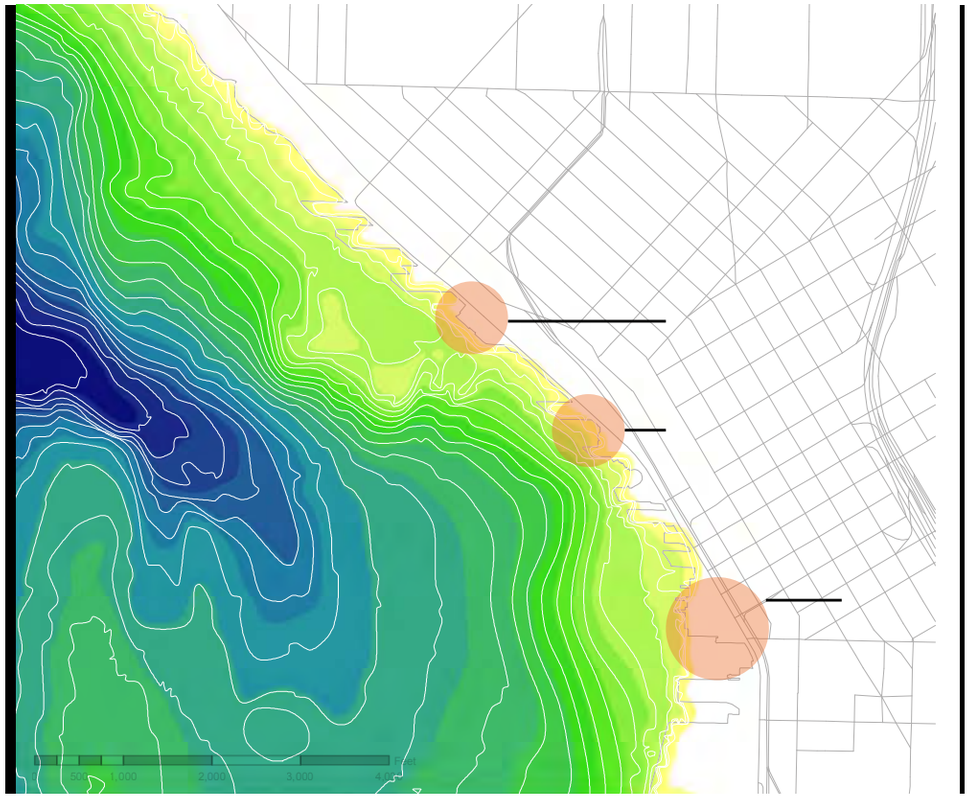
source:City of Seattle -Windermere Basin CSO Reduction Project; Public Meeting: May 20, 2010

Typical Waterfront Habitat Conditions:



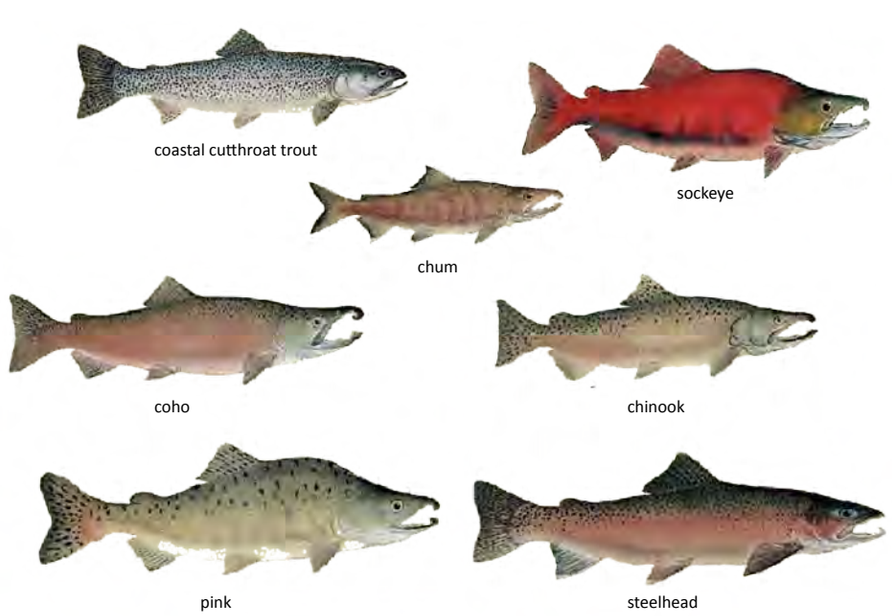
Ecological Environment: habitat

Waterfront Bathymetry:



source: Easton Branam and Aaron Vandenberg

Three areas have been identified as potential shallow water and beach to improve aquatic habitat conditions.



source: http://www epa gov/wed/pages/staff/lackey/pubs/ llusion.htm

Wildlife: Life Over Water

Birds: Birds are among the species most adaptable to living in the highly urbanized environment of downtown Seattle. For further information, a complete bird species list can be found in the DEIS (wsdot.wa.gov).

Terrestrial wildlife: Terrestrial animal species range from domestic dogs, cats and rabbits to bats, ermine and mink. The highly urbanized environment only allows for species that are highly adaptable to the intense urban setting.

Vegetation: The only notable vegetation along the waterfront are mature street trees planted along the length of the project area.

Special Status Species: Bald eagle (Haliaeetus leucocephalus) – protected under the Bald and Golden Eagle Protection Act of 1940 (16 USC 668-668c). Southern resident killer whale (Orcinus orca): Federally and State listed as endangered. Marbled murrelet (Brachyramphus marmoratus): Federally and State listed as threatened. Puget Sound Steelhead (Oncorhynchus mykiss)Distinct Population Segment: Proposed for Federal listing as threatened.

Puget Sound/Outer Elliott Bay - Pelagic Waters: Orcas, gray whales, and Dall's porpoise occasionally pass through this area. Seals and sea lions are more frequently seen here.

Salmon: Life Under Water

Nearshore Marine Environment

While shady areas are critical for salmon spawning habitat, it is believed to be a less desirable condition during the juvenile and adult life stages.

> "Like the habitat use patterns observed in Lake Washington, juvenile Chinook salmon in the marine nearshore and estuary areas of central Puget Sound tend to be closely associated with shallow habitats located close to shore (KCDNR 2001)."
>
> "Because Puget Sound Chinook out migrate as younger and smaller juveniles, they are more dependent on forage in the estuaries and near- shore systems to increase their body weight and condition before moving into more pelagic environments (i.e., deeper Puget Sound waters or the Pacific Ocean) (Levy and Northcote, 1982; Pearce et al., 1982)."
>
> "Marine nearshore areas and estuaries may be particularly important for juvenile Chinook salmon for migration, feeding, and rearing within the central Puget Sound (KCDNR 2001). Moreover, some of these areas are used by juveniles for the physiological transition from freshwater to saltwater (especially mouths of creeks and Duwamish River). "

Essential Fish Habitat

Essential Fish Habitat (EFH) is "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 U.S.C. 1802(10).

Waterfront Framework Connections

Ecological Networks

The North Pacific to Central Waterfront

The Central Waterfront belongs to a larger geographical and ecological region, one that can be defined by the range of salmon spawning habitats across the North Pacific.

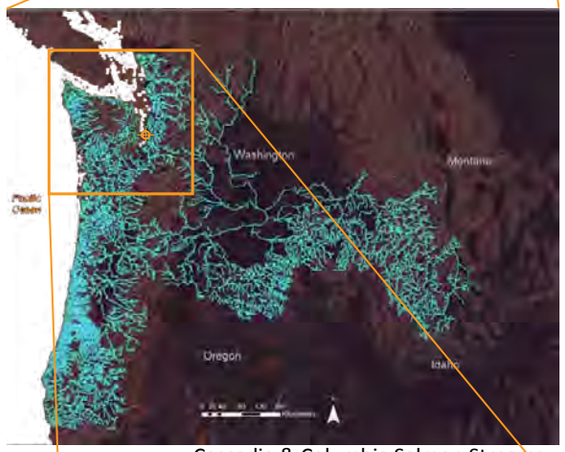
Ecological & Recreational Networks: Central Puget Sound to Elliott Bay

Sources: Google Earth; NOAA; EPA; Washington DOE; Shared Salmon Strategy; Puget Sound Partnership; The Nature Conservancy; WA Watertrails Assoc.

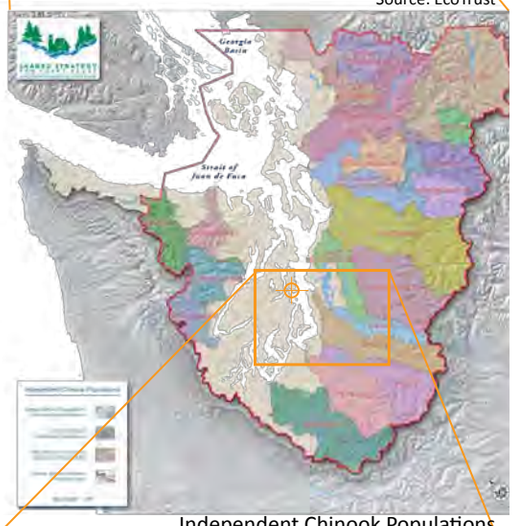
Ecological & Recreational Networks:Elliott Bay to Central Waterfront

Sources: Google Earth; NOAA; EPA; Washington DOE; Shared Salmon Strategy; Puget Sound Partnership; The Nature Conservancy; WA Watertrails Assoc.

Pacific Rim Salmon Streams
Source: EcoTrust

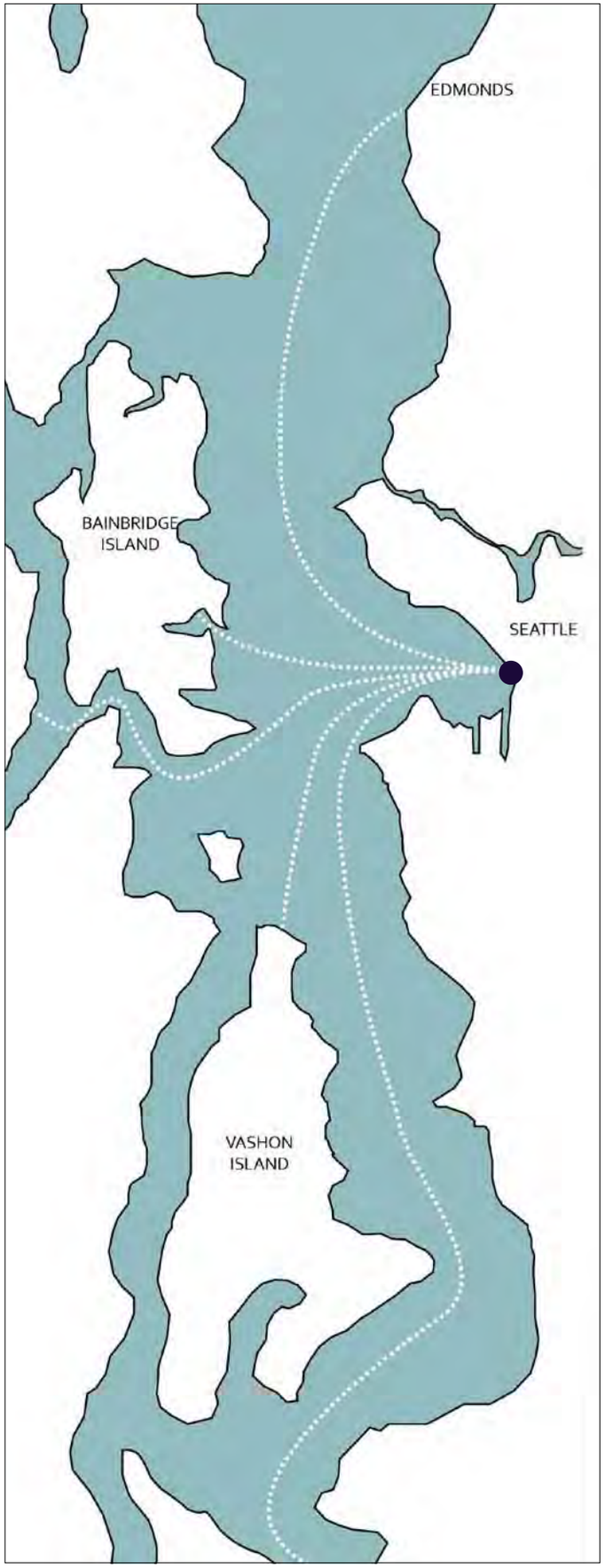


Cascadia & Columbia Salmon Streams
Source: EcoTrust



Independent Chinook Populations
Source: Shared Salmon Strategy for Puget Sound

WRIA 9: Duwamish-Green Rivers
Source: WA DOE



Existing and potential boat connections to Puget Sound

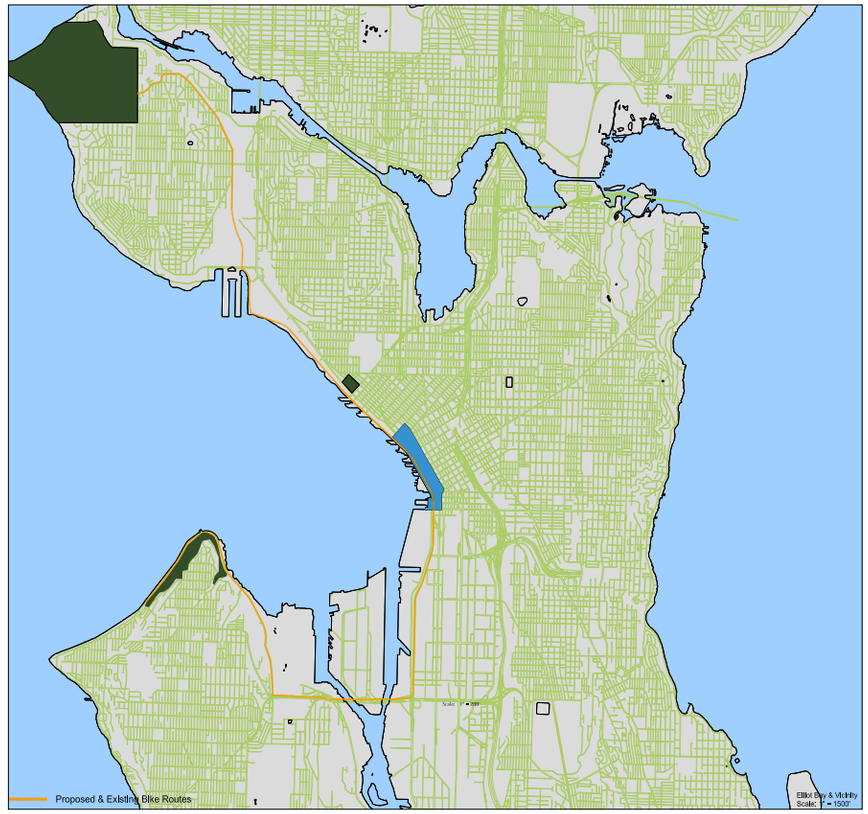
Regional Networks

Open Space Systems

Seattle's Blue Ring project proposes an addition to the historic Green Ring plan developed by the Olmsteds in 1903. The Blue Ring strategy aims to implement a similar network of open spaces within the city center. The Elliott Bay Bicycle Trail system is one thread that connects the Blue Ring with the Green Ring. Central Waterfront Park is a crucial element in all of these networks.

Existing Green Ring and Proposed Blue Ring Networks

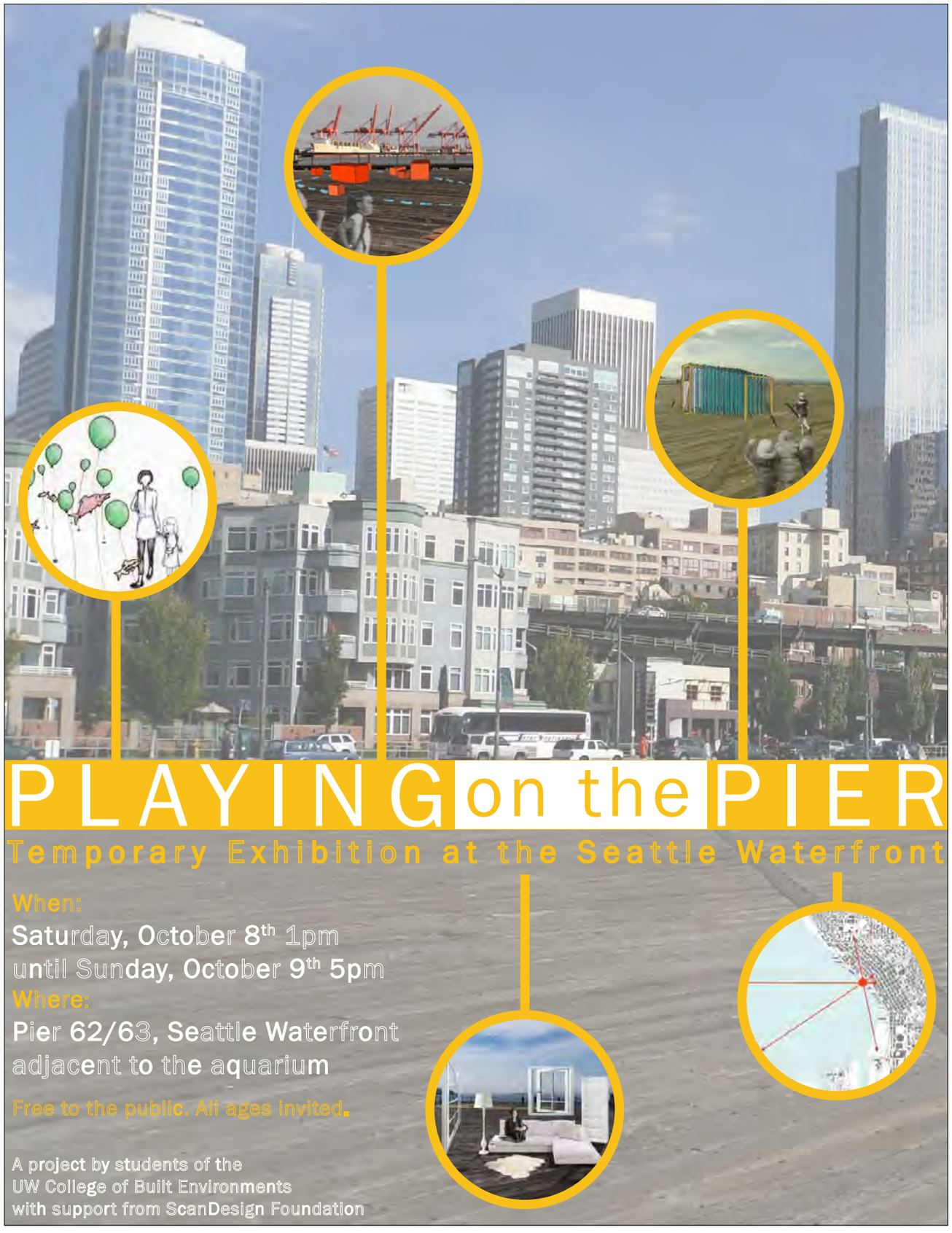
Source: City of Seattle



Elliott Bay Bicycle Trail System

Data Source: WAGDA, accessed Dec. 2010

Site Expressions: Playing on the Pier



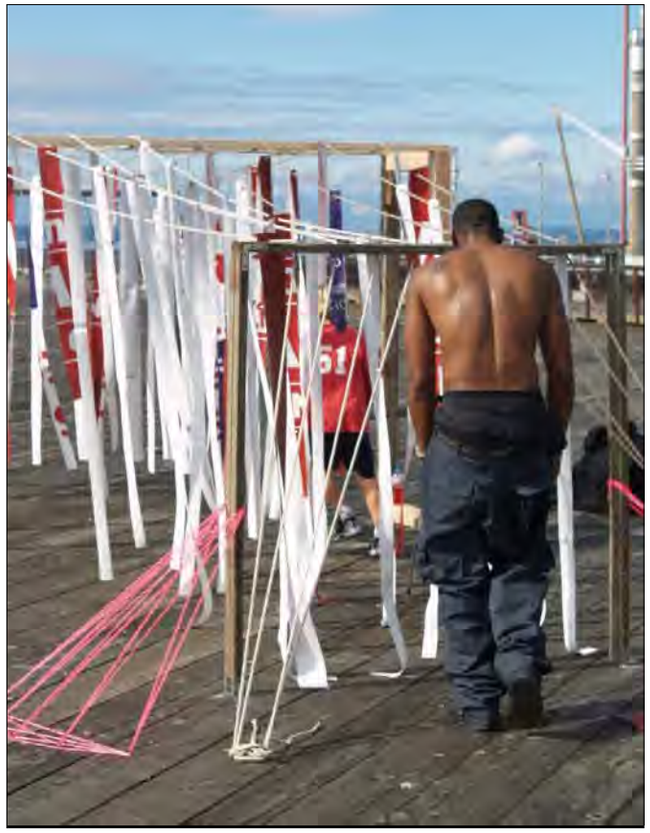
For the first studio design exercise students were asked to construct an exhibit or piece for Pier 62/63 that would engage the public in some way. Five teams each created a pop-up art installation and executed their designs in less than one week, proving that simple and inexpensive designs can activate and enliven the waterfront. The results were an outdoor living room, a seaweed forest with facts about the waterfront, shipping container boxes, mirrors that juxtaposed city and sound views, and an interactive sound sculpture. Tourists, city officials, and students alike came to the pier to play, interact, and enjoy the waterfront.

Submerge

Erika Harris, Hilary McDonald, Laura Poulin, Karin Strelioff, Yingju Yeh

Home Sweet Waterfront

Ximena Bustamante, Jenny Ngo, Manami Iwamiya, Erin Feeney, Orona Hai



Caught in the Current

Peter Cromwell, Andreas Piller, Roma Shah, Andrew Williamson

rePORT

Taj Hanson, Katie Hunt, Audrey Maloney, Haruna Nemoto, Michael Ward

re:connect

Susan Costa Paschke, Davis Hammer, Jessica Michalak, Lauren Rock, Virginia Werner

1 INTRODUCTION

10 ANALYSIS + FRAMEWORK

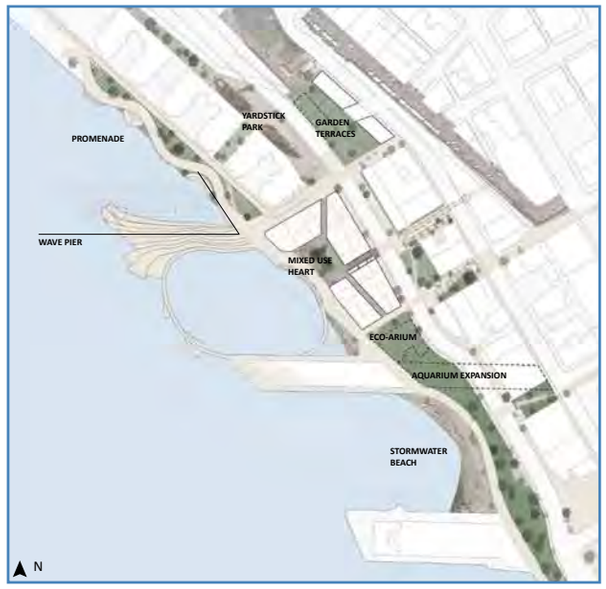
18 DESIGN

City Quilt:
Weave, Discover, Connect, Adapt

Tides and Pools:
Enhancing Activity Flows and Concentrations

POD:
People-Oriented Design

Seaweed:
Where the City Takes Root



XIMENA BUSTAMANTE	MLA
DAVIS HAMMER	MArch
TAJ HANSON	MLA
LAUREN ROCK	MArch
KARIN STRELIOFF	MLA
VIRGINIA WERNER	MLA

city quilt

Yardstick Park

Split Connections

Eco-arium

Eco[logical] Infrastructure

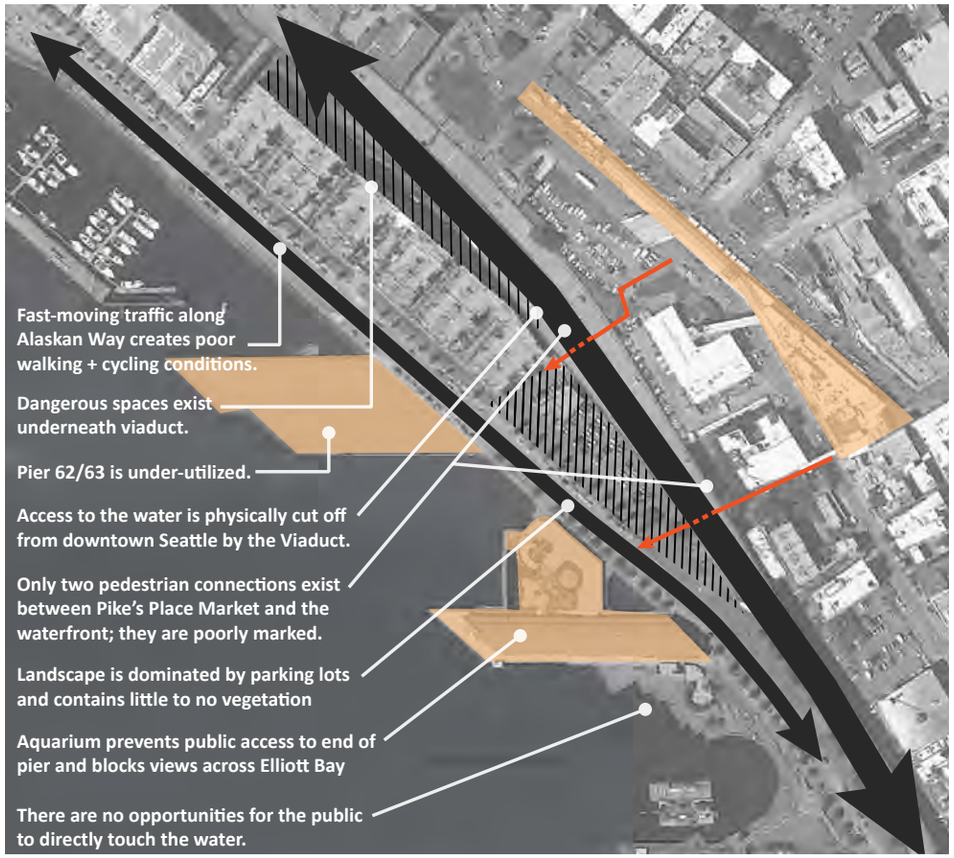
Strolling Seattle's Edge

Wave Pier

City Quilt

WEAVE DISCOVER CONNECT ADAPT

CHALLENGES & OPPORTUNITIES



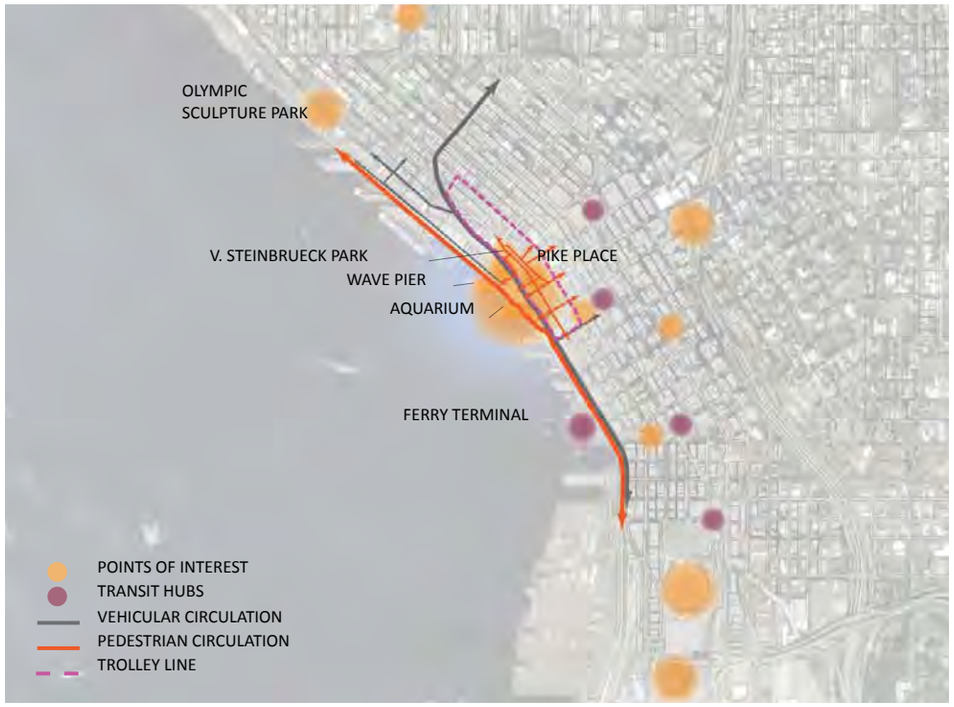
VISION

- Create a diverse system of public spaces, human scale buildings, pedestrian corridors, and ecological infrastructure that reconnects the waterfront to the city center
- Focus on pedestrian prioritization and human scale design strategies
- Allow Elliot Bay's edge to become part of the public space experience
- Respond to the Seattle Aquarium's expansion goals without creating additional over-water coverage
- Generate a district system of ecological infrastructure to improve ecological performance of the waterfront
- Weave together a diverse palette of public spaces to form a fluid, dynamic, and adaptable water-front district

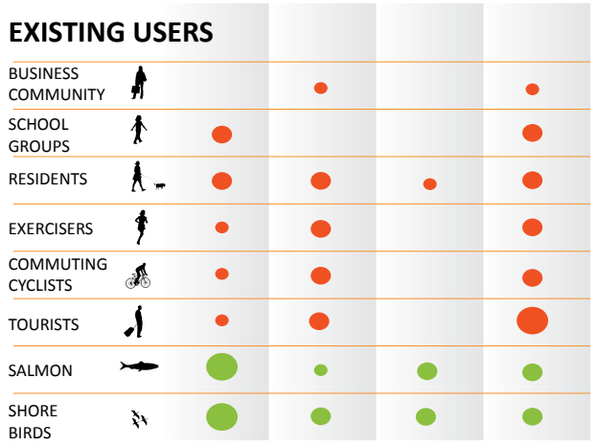
DESIGN INTERVENTIONS

- Move Alaskan Way Boulevard from the water's edge into the former Viaduct path, creating a green street with commuter bike lanes, stormwater swales and active shop fronts.
- Provide a hierarchy of pedestrian connections to the waterfront, including a funicular and public transit (with additional bus stops and a new street car route along Alaskan Way Blvd.)
- Establish a mix of shops and residential units near the waterfront to activate the site night and day.
- Create a promenade that connects users to lively new public spaces
- Establish a community garden to support the local food bank while providing a critical pedestrian connection between Victor Stein-brueck Park and the waterfront

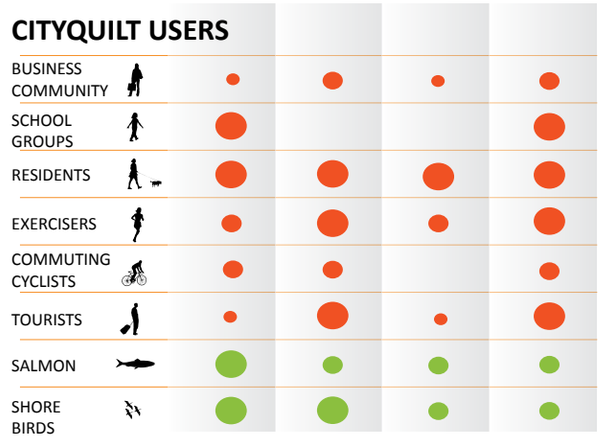
CITY CONNECTIONS

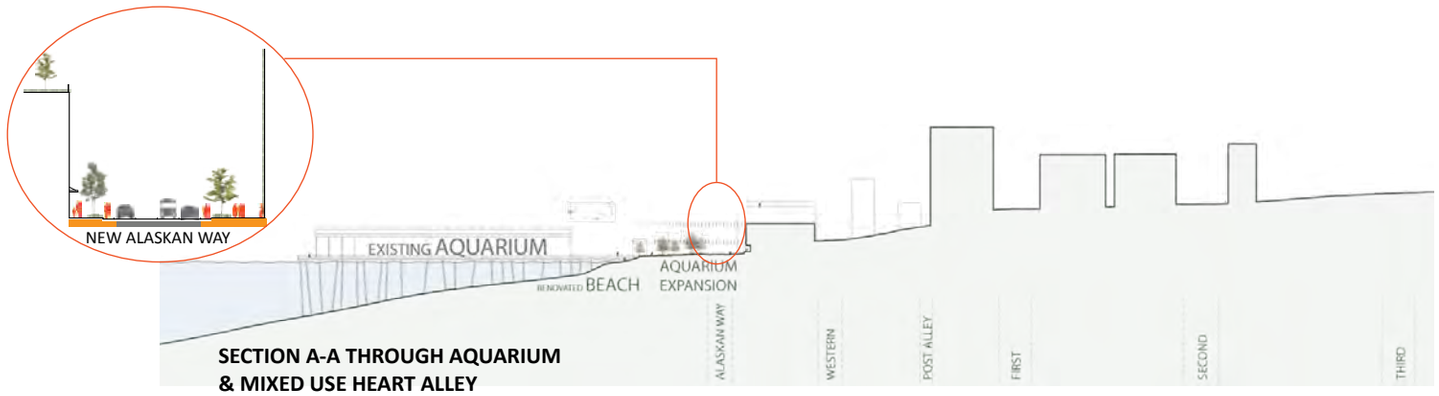


EXISTING USERS

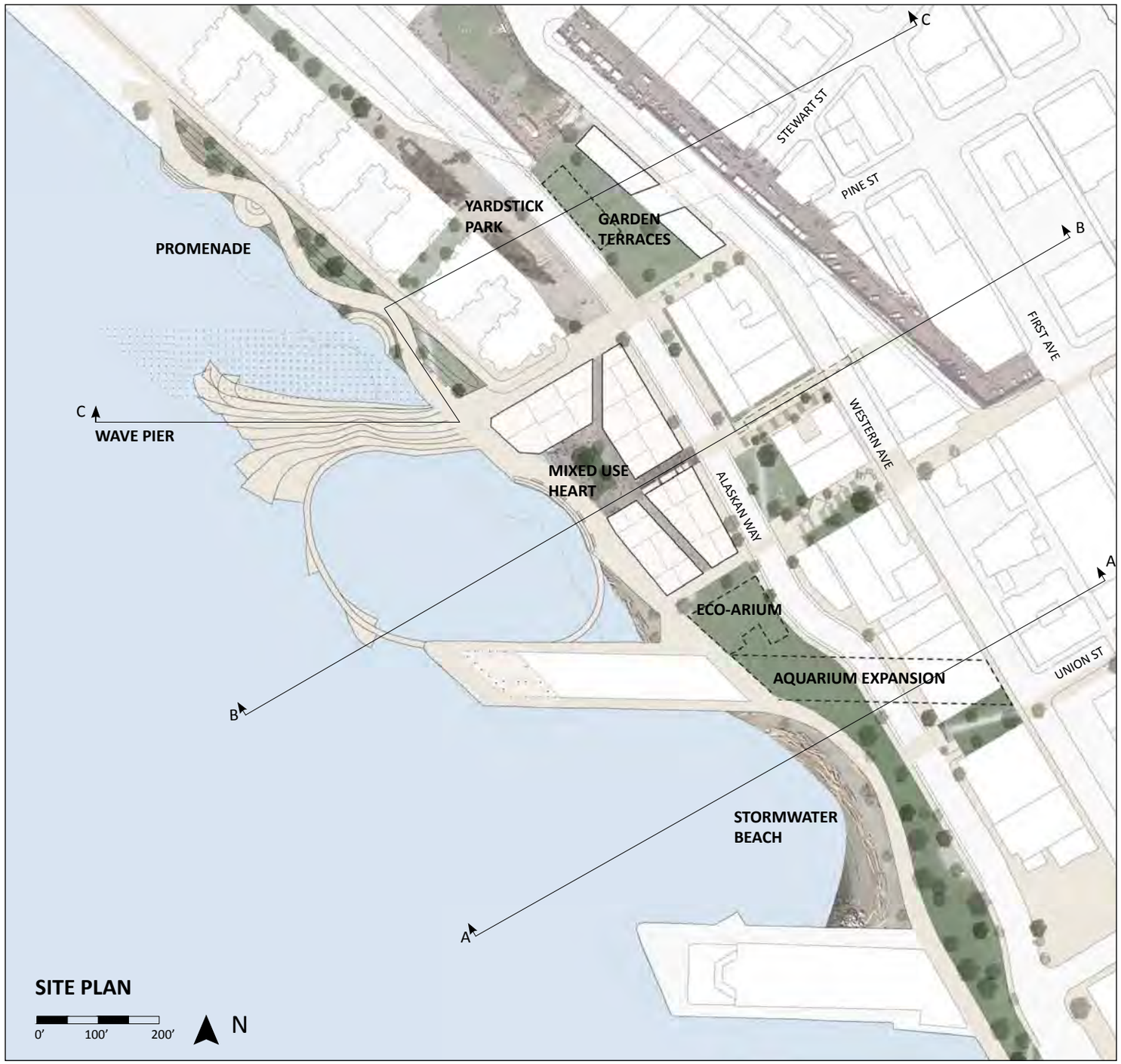


CITYQUILT USERS





SECTION A-A THROUGH AQUARIUM & MIXED USE HEART ALLEY



SITE PLAN

0′ 100′ 200′ N

PROMENADE

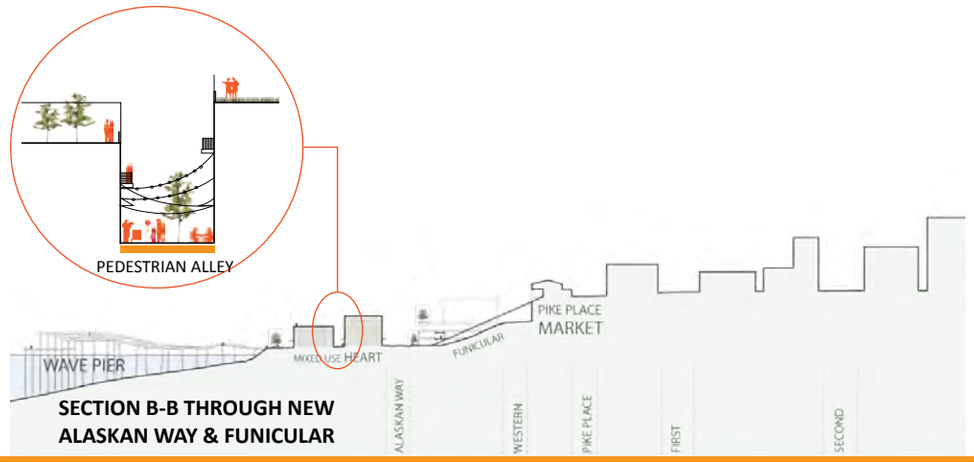
WAVE PIER

YARDSTICK PARK

ECO-ARIUM

AQUARIUM EXPANSION

STORMWATER BEACH



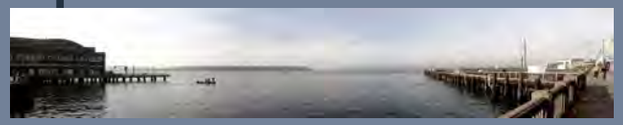
SECTION B-B THROUGH NEW ALASKAN WAY & FUNICULAR

SECTION C-C THROUGH PIER 62/63, & THE PROMENADE

City Quilt

Ximena Bustamante, Davis Hammer, Taj Hanson, Lauren Rock, Karin Strelioff, Virginia Werner

Split Connections



The Seattle Aquarium is an essential component of the waterfront. Yet it turns its back on the water. My proposal redefines the image of the aquarium, maintaining its waterfront presence but pushing the program, both formally and programmatically, into the city. The aquarium is a new public connection to the waterfront.

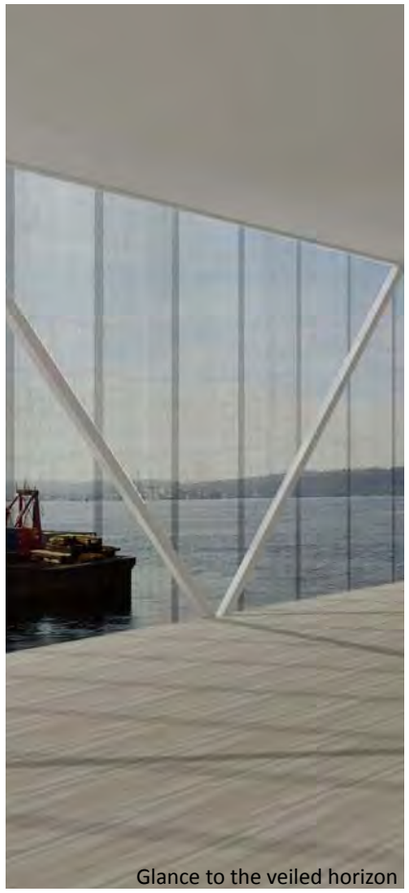
Plan parti

Descent from First

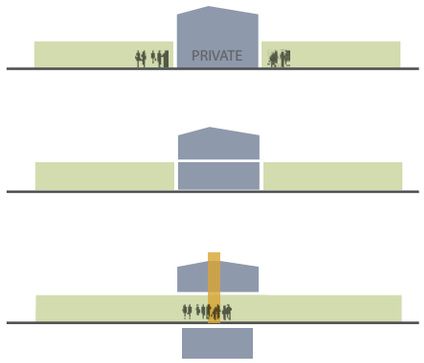
The visitors move along an elevated path from the dead end of Union St. onto the roof of the aquarium addition. They are presented with the view over the rooftop of the existing aquarium.

They then slip through the volume and descend to the plaza below, underneath the hovering fish tank.

The experience of the tank changes from every perspective. It is seen from above, straight on, and from below. The diamond plan causes the tank to almost disappear from a certain perspective.



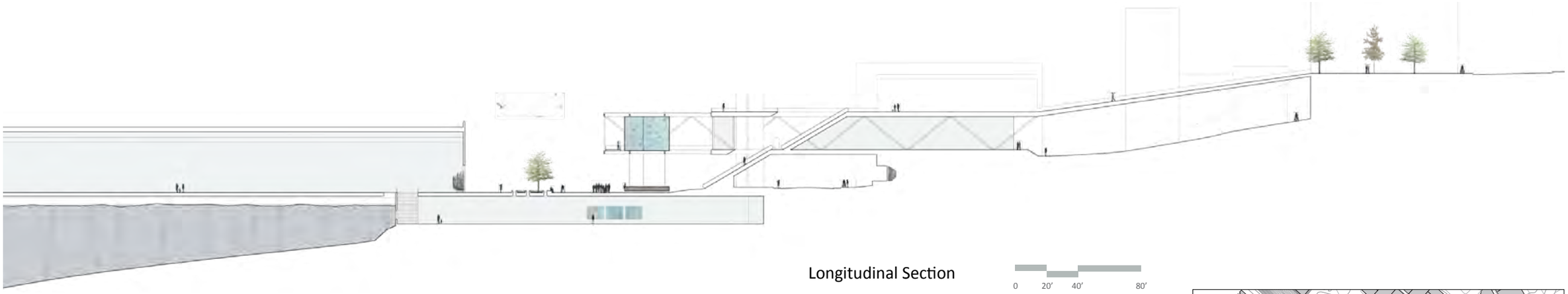
Glance to the veiled horizon



Section Dilemma

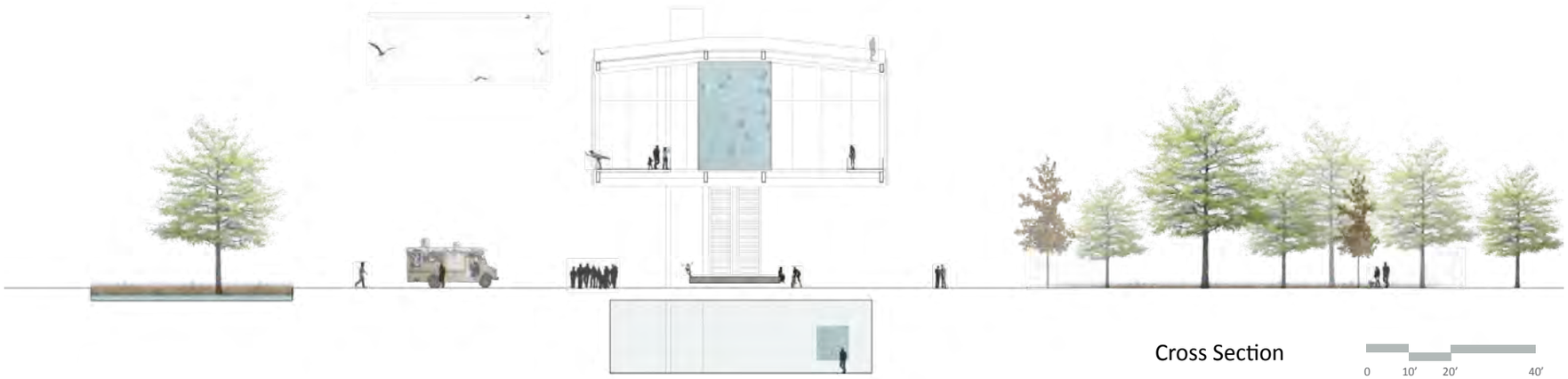
The problem of section with the site was the fragmentation of public space that resulted from an addition. As a response, I chose to split the volume and push half of the aquarium underneath the public realm. This provides a continuous open space framed by the exposed structure at the end of the aquarium cantilever.

Approach from the Mixed Use Heart



Longitudinal Section

0 20′ 40′ 80′

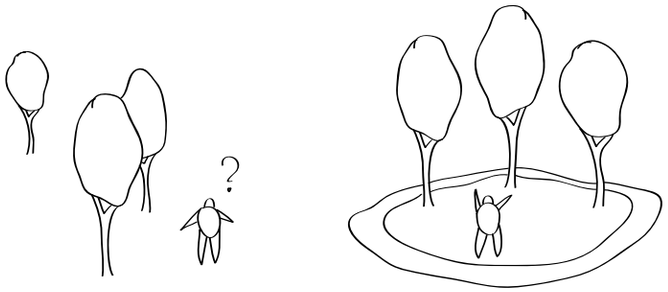


Cross Section

0 10′ 20′ 40′

Public Spaces | Public Life for Seattle's Central Waterfront

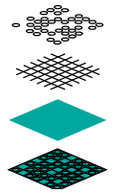
Eco[logical] Infrastructure: Reinterpreting ecological design at the Seattle Central Waterfront



Aesthetics and ecological infrastructure...

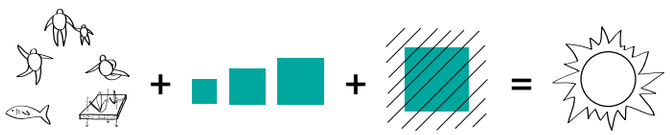
"Aesthetic appearance can awaken a sense of values and needs in people, a willingness to care and to adopt a feature or a public space as their own. Thus the synthesis between the restoration of environmentally sensitive functions and the highest possible level of design and appealing aesthetics is crucial." - Herbert Dreiseitl

District System of Ecological Infrastructure



Multiple Functions of Ecological Infrastructure

Increasing Functions + Generating Connections

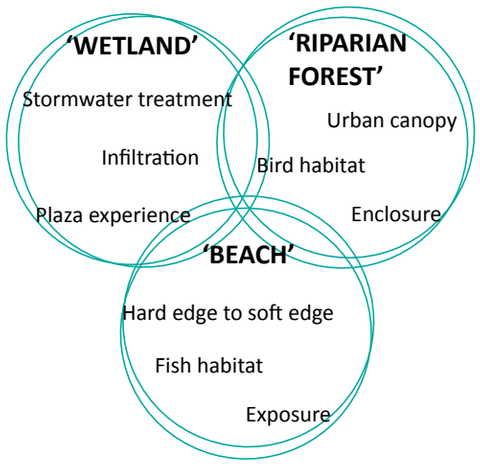


Life + Functions [Program]

Ecological Infrastructure Typology

Site Character

Aesthetic Response

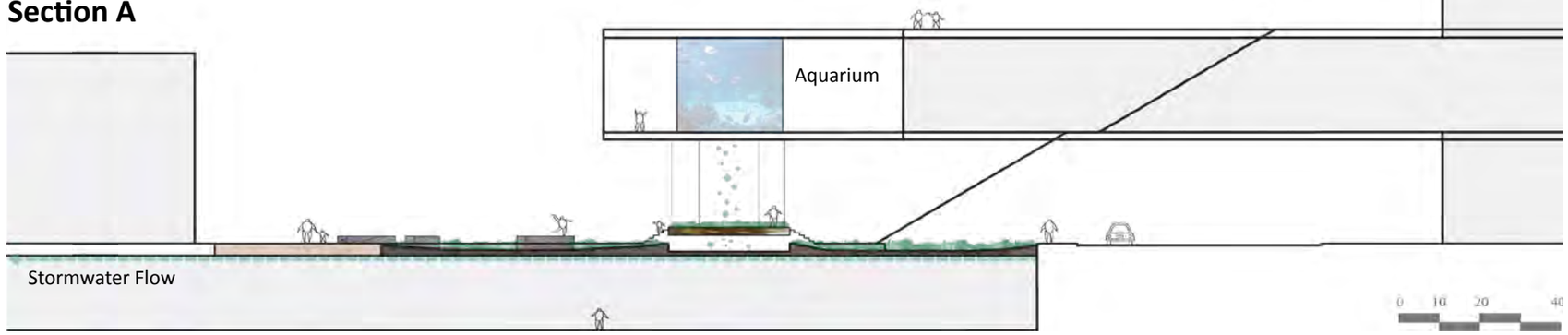


Restore ecological function and highlight native landscapes

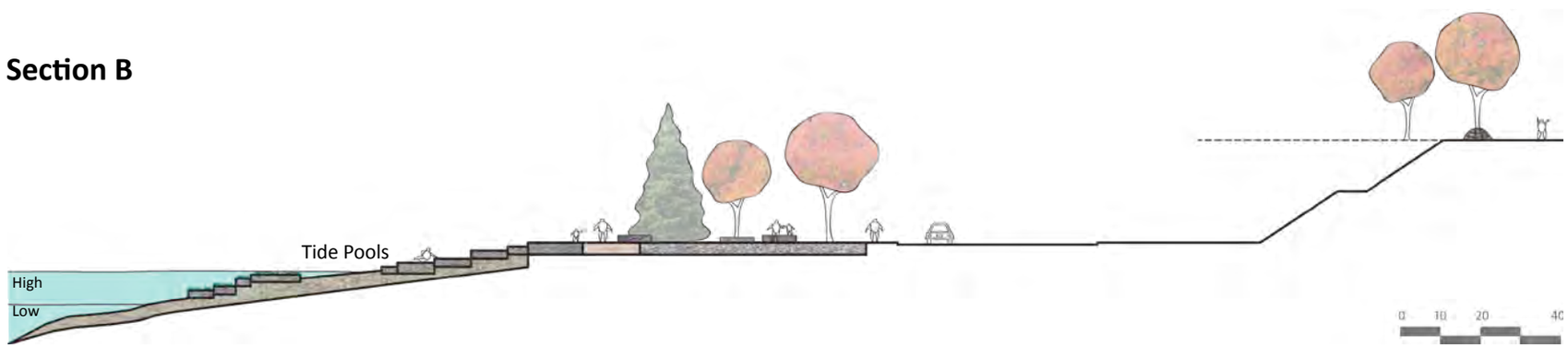
Introduce aesthetic interventions that reveal the sites' ecological processes and engage the public

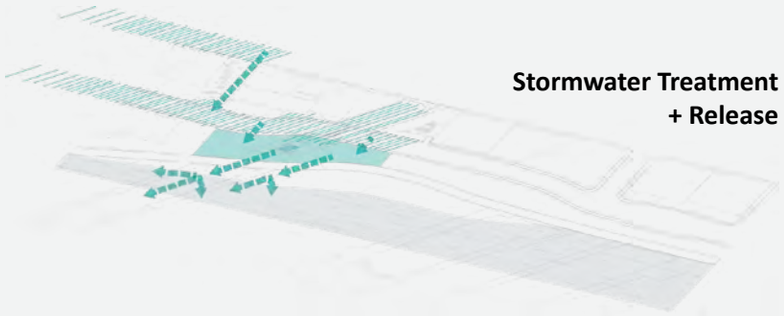
Reuse viaduct materials for waste reduction, historical reference, and embrace of the urban experience

Section A

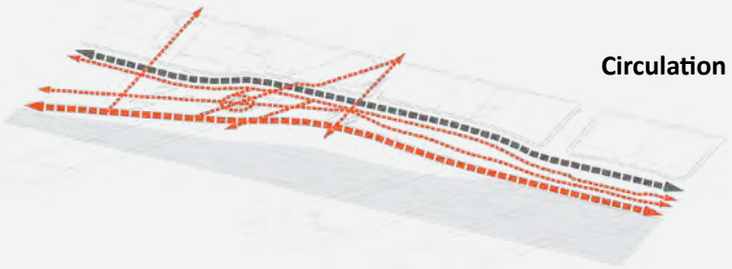


Section B

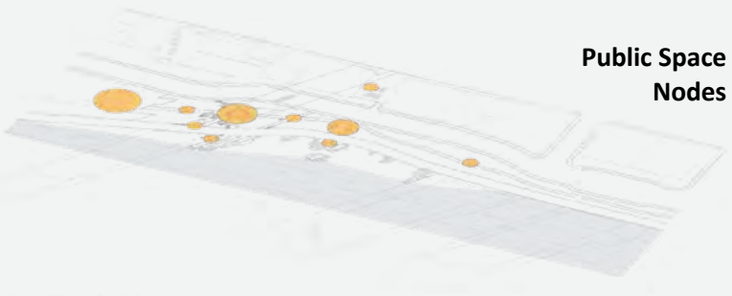




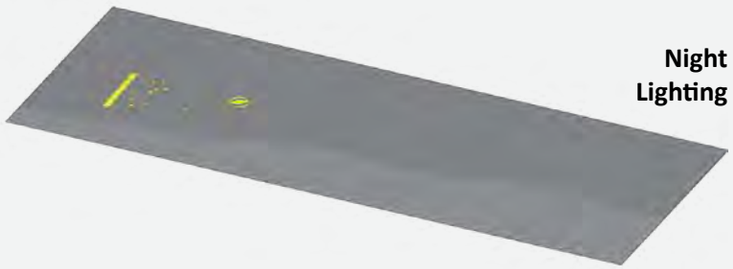
Stormwater Treatment + Release



Circulation

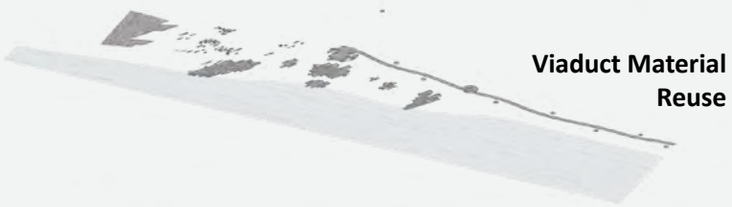


Public Space Nodes



Night Lighting

Aesthetic Interventions

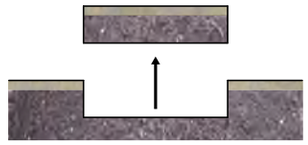


Viaduct Material Reuse

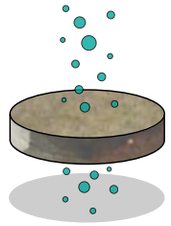
Ecotypes

This is a *constructed wetland*...

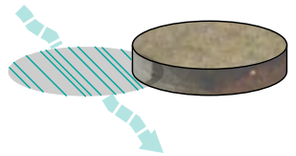
Stormwater is infiltrated and cleansed before release to Elliot Bay



'Core samples' are pulled from the ground to elucidate this dynamic system

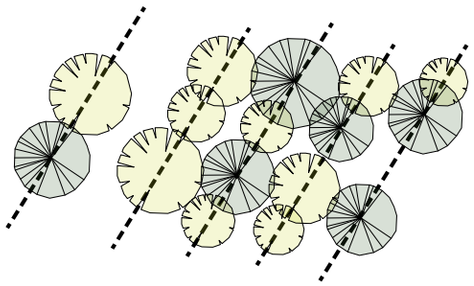


Water from the elevated aquarium is filtered through the 'core sample' and released below

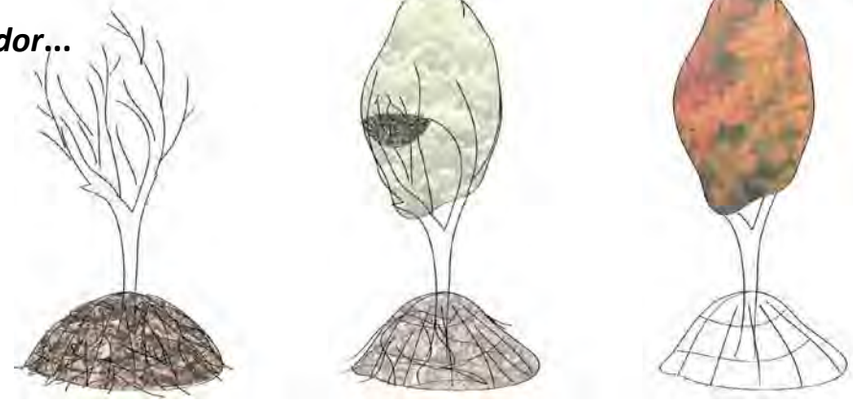


Sub-surface drainage is exposed

This is an *introduced forest corridor*...

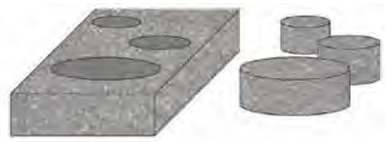


Trees are planted on the distinct angular plane of the waterfront piers

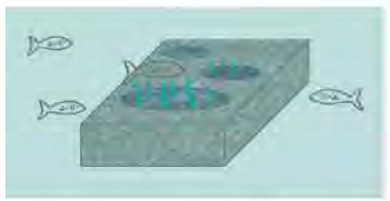


Woven rebar and wire mesh become extensions of the trees, providing a scaffold for canopy litter to adhere. As birds inhabit the trees and nesting materials are removed from these structures, a seasonal fluctuation in their form is exhibited.

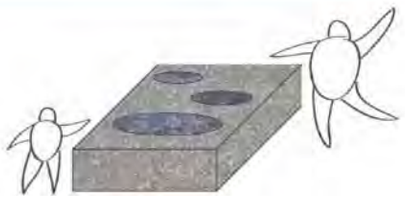
This is a *restored shoreline*...



Hollow cores are created in salvaged concrete blocks from the viaduct



The blocks collect substrate, enhancing juvenile salmon habitat over time



Beach visitors are able to interact with tide pools during low tide periods

The Seattle Eco-arium

The Seattle Eco-arium incorporates the theme of discovery to create an interactive educational experience for people to learn about Seattle's ecological processes, waterfront logging history, and stormwater management. Two curvilinear paths, reminiscent of the natural shape of a river, weave through the landscape connecting nodes of discovery and exploration where people can learn about ecological processes through experiential learning and observation.

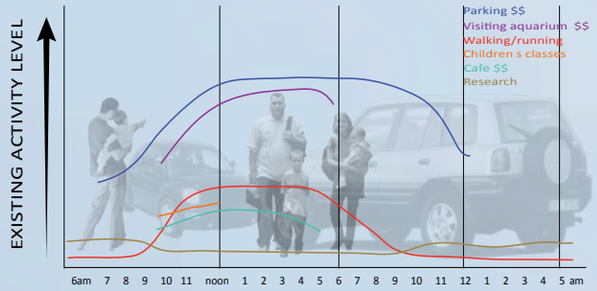

Seattle Aquarium


Brooklyn Bridge Park


Tanner Springs

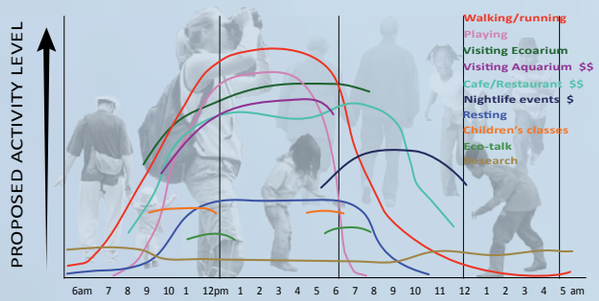
Site Connectivity
The Eco-arium Park acts as an important connection between the existing aquarium, promenade, water's edge, new Alaskan Way and the mixed use heat.

Stormwater Management
The Eco-arium Park educates the public about stormwater management by exposing the entire cycle. The bioswale collects stormwater runoff from the roads and buildings and treats it before returning it to Elliott Bay.



Existing Site Challenges:

- Car-dominated space
- Little interior/exterior interaction with Aquarium
- Views to Elliott Bay blocked by mammal exhibit house



New Opportunities Created:

- Pedestrian-focused promenade
- Transparency of Ecoarium facade establishes interior/exterior relationships
- Views establish connection with the ocean and mountains
- Free and available to a diversity of users, park is accessible at all hours of the day

Aerial View of the Eco-arium Park

Eco-arium

Eco-Play

Eco-Play
Experiential playscape and interactive water feature

Bird Habitat

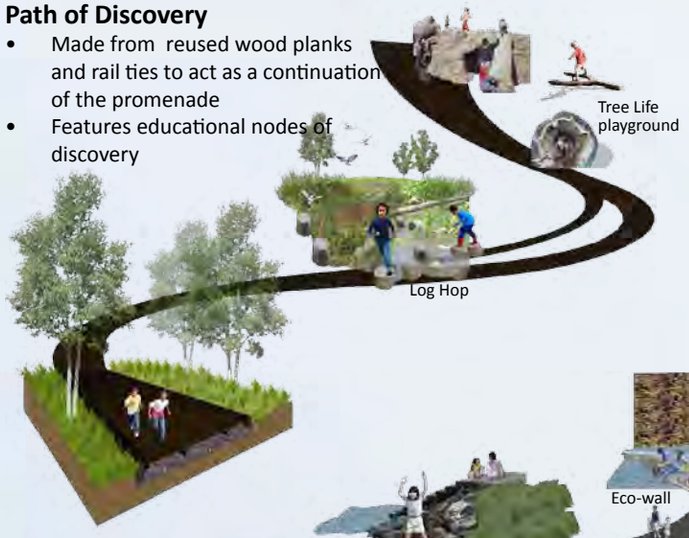
Stormwater Beach

Forest Park

Stormwater Park
Restored beach with treated stormwater returning to Elliott Bay

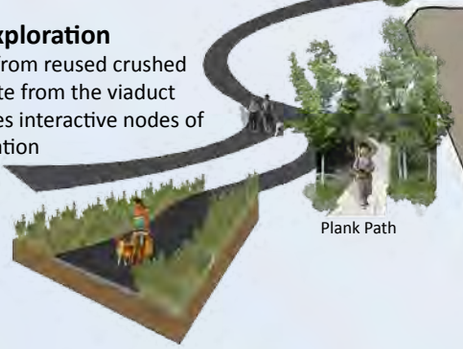
Path of Discovery

- Made from reused wood planks and rail ties to act as a continuation of the promenade
- Features educational nodes of discovery



Path of Exploration

- Made from reused crushed concrete from the viaduct
- Provides interactive nodes of exploration

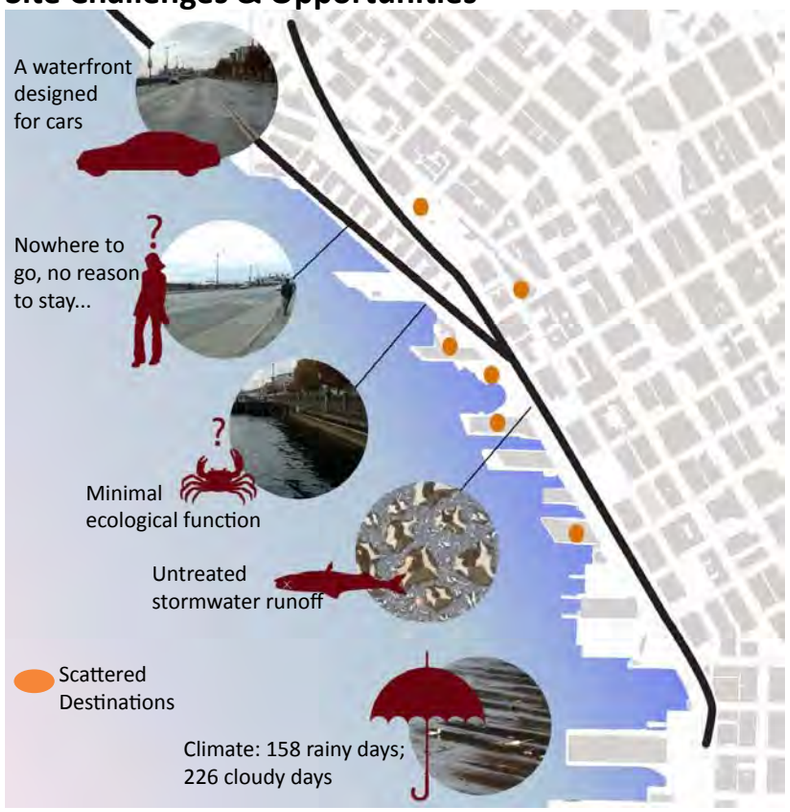


Strolling Seattle's Edge: A New Waterfront

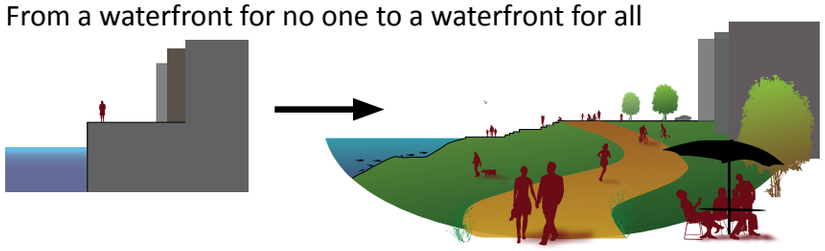
A truly civic waterfront becomes possible when Alaskan Way Boulevard no longer follows the water's edge. In place of a four-lane road, imagine a winding promenade with intimate plazas and benches perfect for people watching. Take in panoramic views of Seattle's working ports and the Olympic Peninsula beyond. Discover playgrounds, grassy hills and steps down to the water's edge that invite visitors to touch the water. At low tide, rocky beaches offer tidepools to explore. Under the water, reconstructed beaches offer new habitat for marine life. Connect with Puget Sound's ecologically rich edge from the center of a densely urban city. Imagine a true Seattle waterfront.

Is this truly a waterfront for Seattle?

Site Challenges & Opportunities

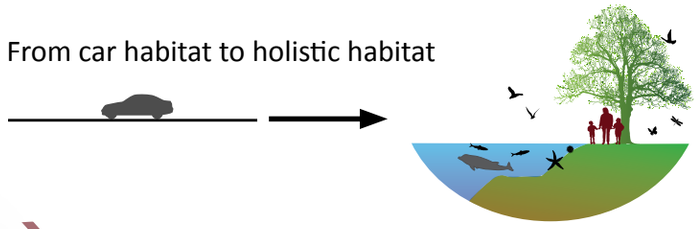


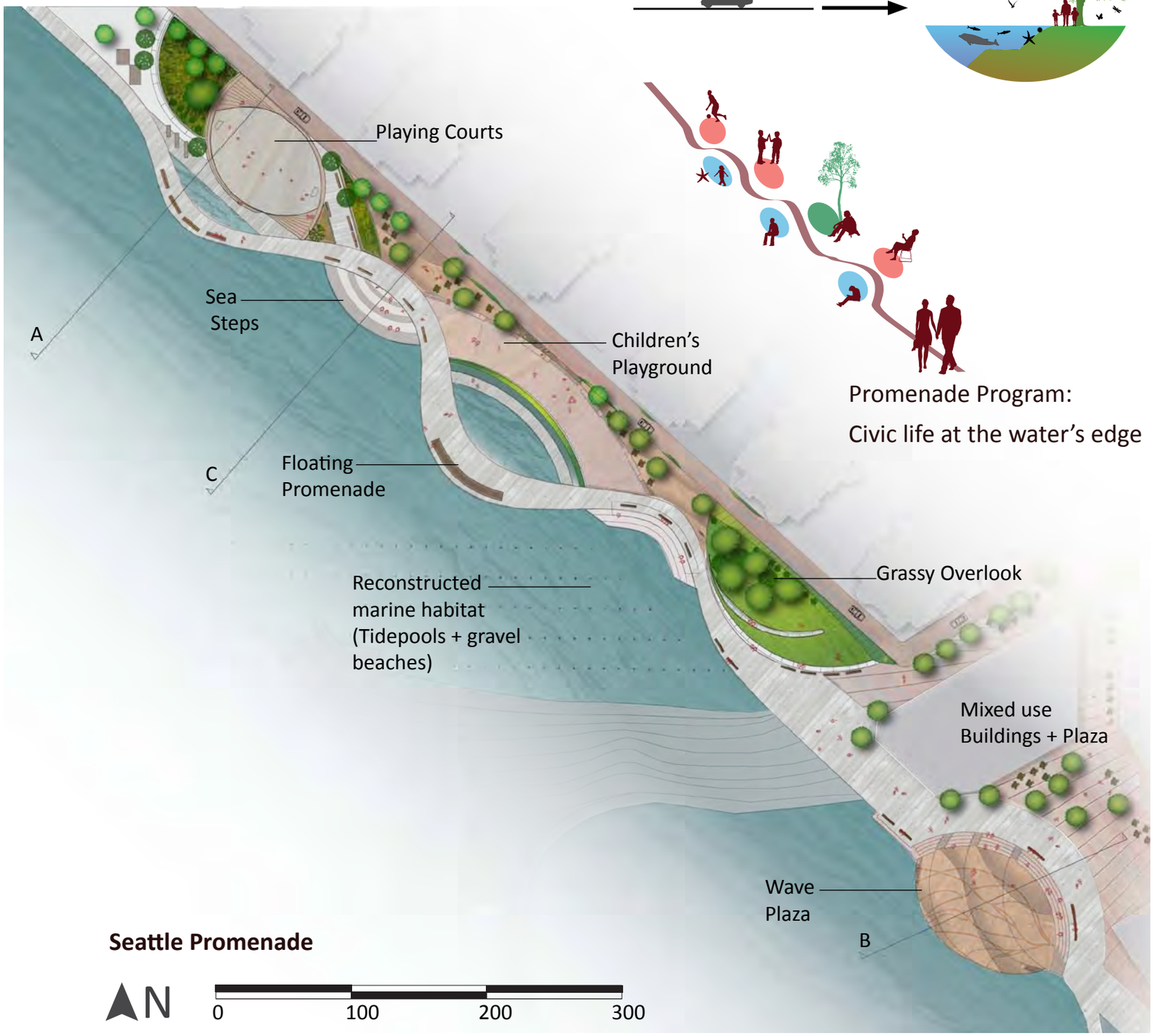
From a waterfront for no one to a waterfront for all



From limited activity to a range of options

From car habitat to holistic habitat





Promenade Program:

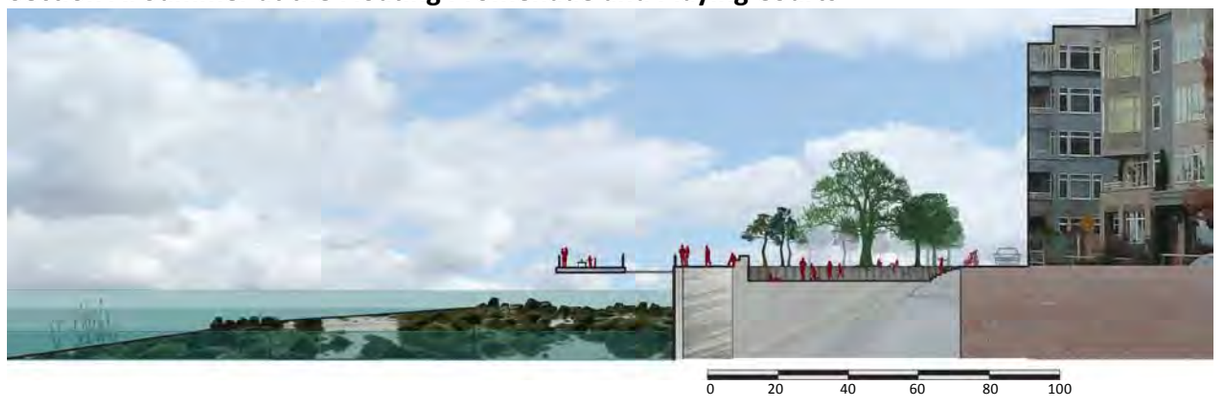
Civic life at the water's edge

Seattle Promenade

N

0 100 200 300

Section A: Summer at the Floating Promenade and Playing Courts

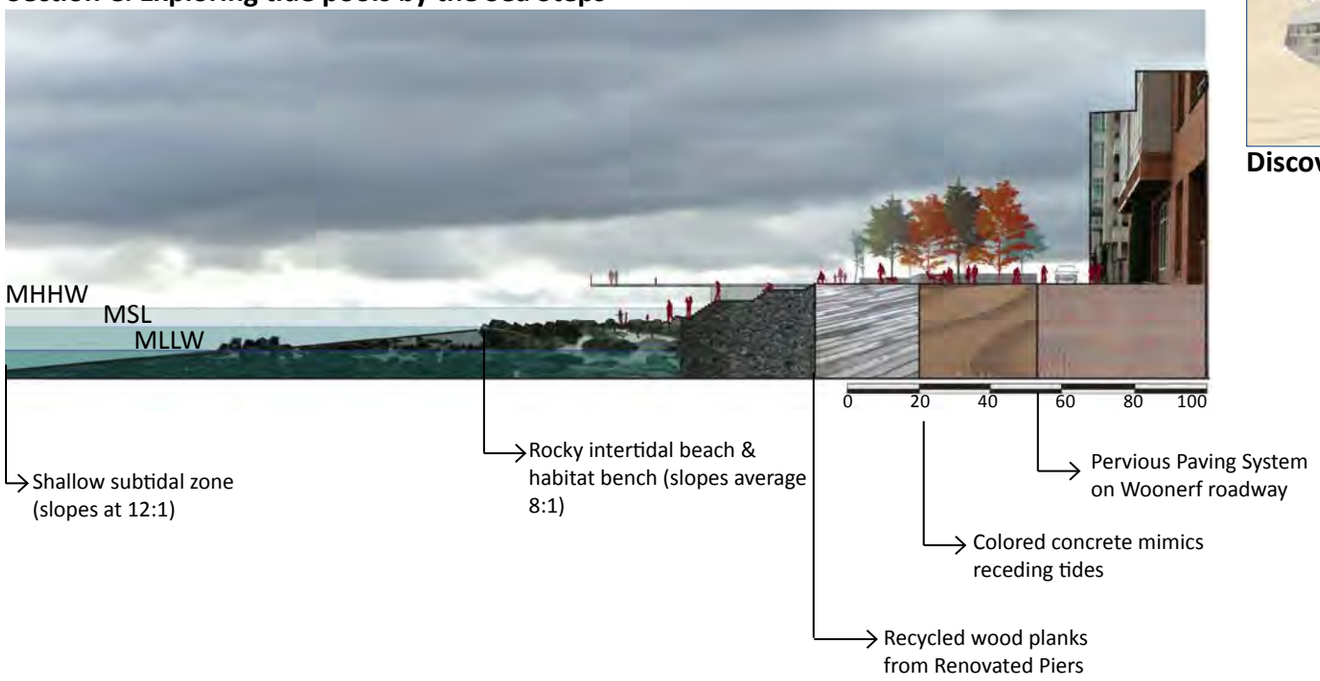


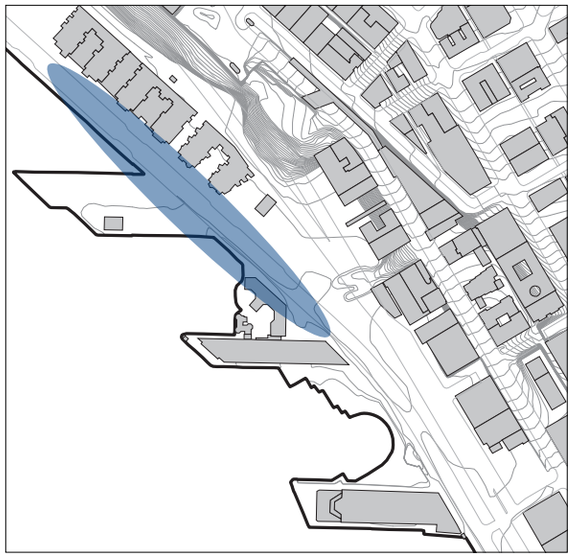
Summer sunset at the Wave Plaza

Section B: Autumn dusk at the Wave Plaza

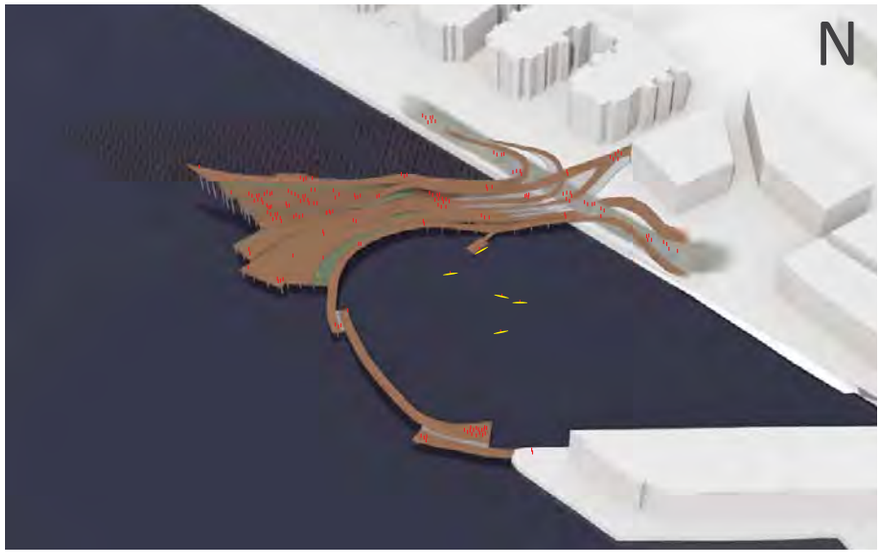
Discovering Puget Sound ecosystems

Section C: Exploring tide pools by the Sea Steps





Wave Pier

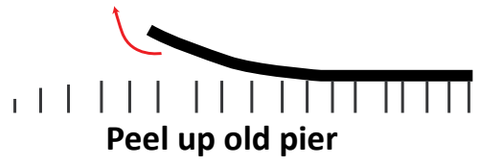


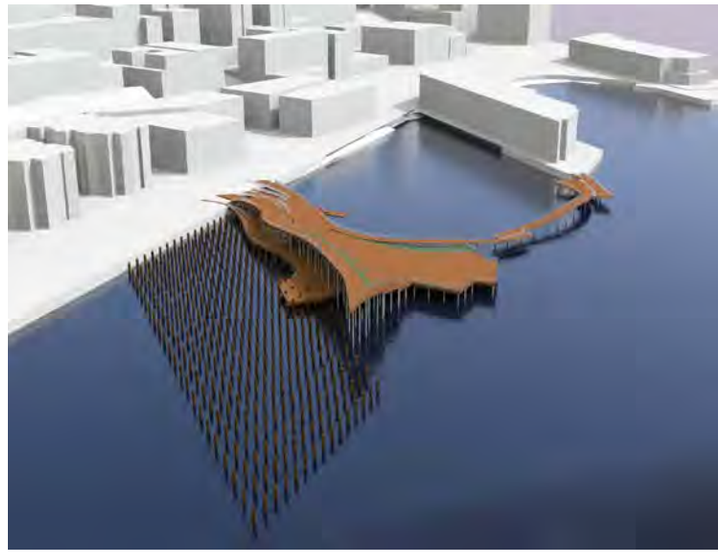
Aerial view of Wave Pier looking North, showing the pier weaving back into the city, and day activity

Reworking Pier 62/63

The existing Pier 62/63 is dilapidated and empty. The space is under-utilized and the decking is rotting away. Once there were concerts on the pier, but no events occur anymore.

The Wave Pier will revitalize the pier, creating new forms and functions while echoing the form and materiality of the old pier. The iconic quality of the pier will help create a new identity for this part of the Seattle waterfront. Event programming and lighting will reactivate the pier night and day, year-round. The new form takes advantage of the ideal location for viewpoints out across Elliott Bay to the Olympic Mountains.



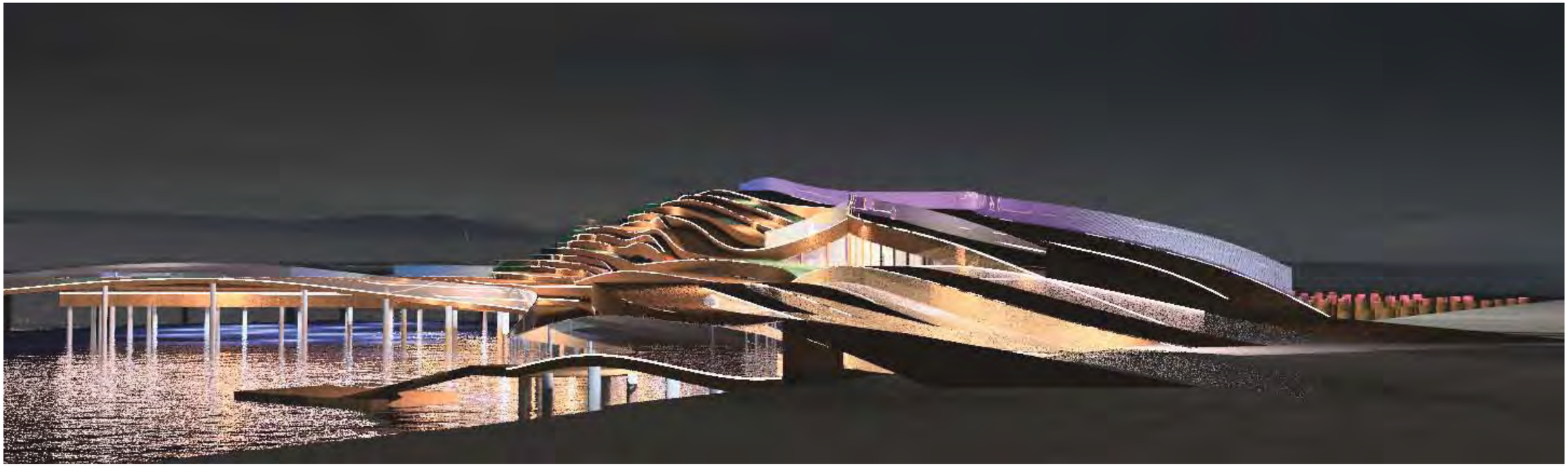


Aerial view of Wave Pier looking South

Wave Pier Elements

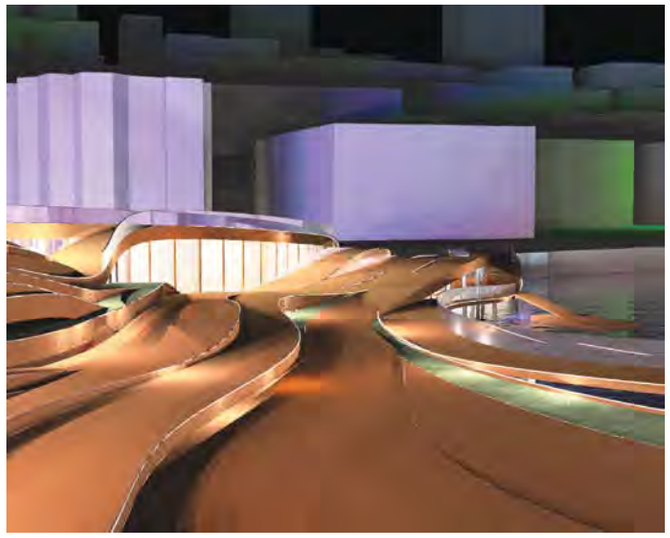
- The cafe tucked under the northeast portion of the Wave Pier invites people onto the pier from the promenade.
- The undulations make natural south-facing sitting places, make the space human scale, and act as seating for performances.
- The southwestern portion of the Wave Pier acts as a performance space for day and night events.
- The wave bridge to the aquarium pier draws people out to walk around both piers, and provides excellent viewpoints.
- Kayak storage is tucked under the south edge of the pier, and a kayak launch drops into the protected space encircled by the pier and wave bridge.
- Light-permeable metal decking enhances the salmon migration corridor.
- The abandoned pilings of the former Pier 62/63 speak to the history and form of the site, and provide an ideal opportunity for thematic night lighting.
- The entire pier is lit at night, acting as an icon for the waterfront re-development, and with event programming, draw people down to the waterfront.
- The use of native plants, such as beach strawberry, speaks to the regional history and reduces plant maintenance.

Wave Pier day activities: kayaking, strolling, lunching



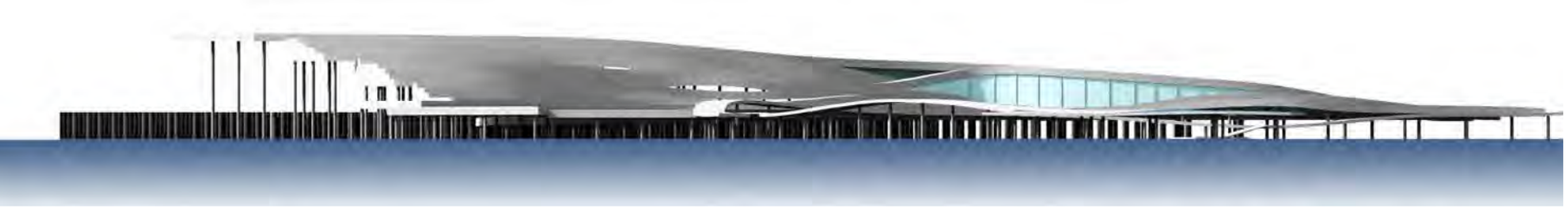
Night view of Wave Pier lighting

North side of the Wave Pier, showing the cafe



Night view of cafe and kayak launch

View of seating and out to Olympics

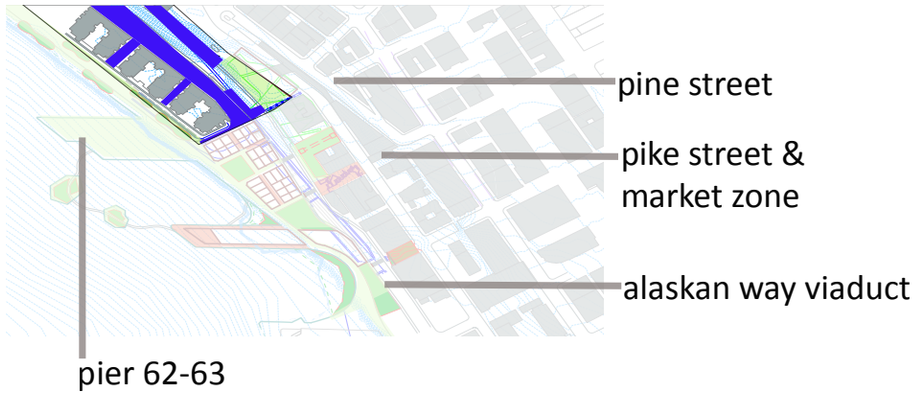


South Elevation of Wave Pier

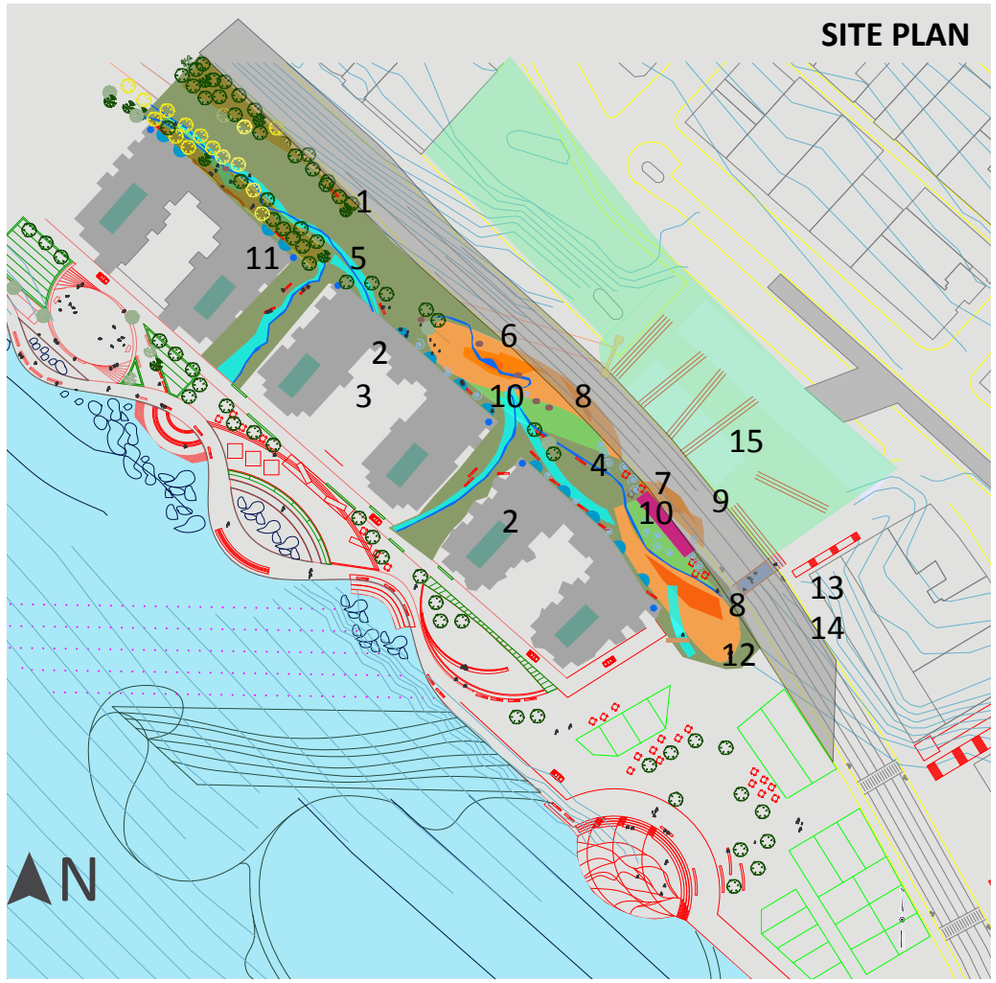
Public Spaces | Public Life for Seattle's Central Waterfront

YARDSTICK PARK: an urban alley space allowing the visitor to activate & create the program

CONTEXT: yardstick park at waterfront's edge



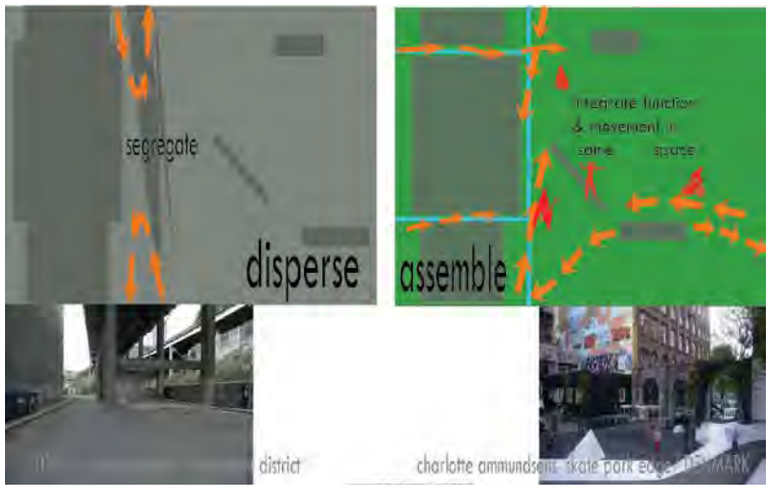
SITE PLAN



site plan legend

1 allee of quaking aspens
2 new access thru condos
3 storm water ribbons along paths
4 staying/seating spaces
5 climbing wall
6 eco habitat post
7 walking paths
8 flexible spaces for skateboarding, roller blading
9 sheltered open space (under new vehicle road)
10 viewing balcony
11 green condo roof
12 archway entry
13 new crosswalk
14 elevated-slow down vehicular surface
15 future urban agricultural terraces

EXPERIENTIAL SITE GATHERING ANALYSIS

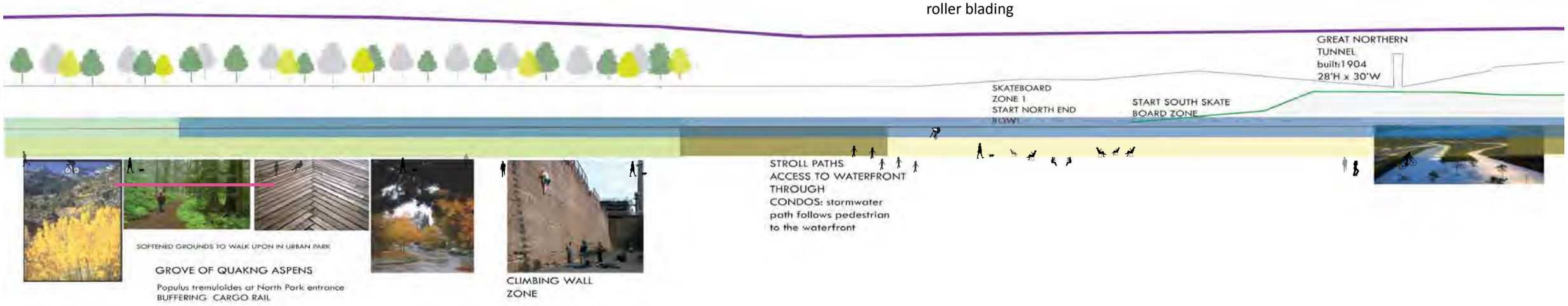


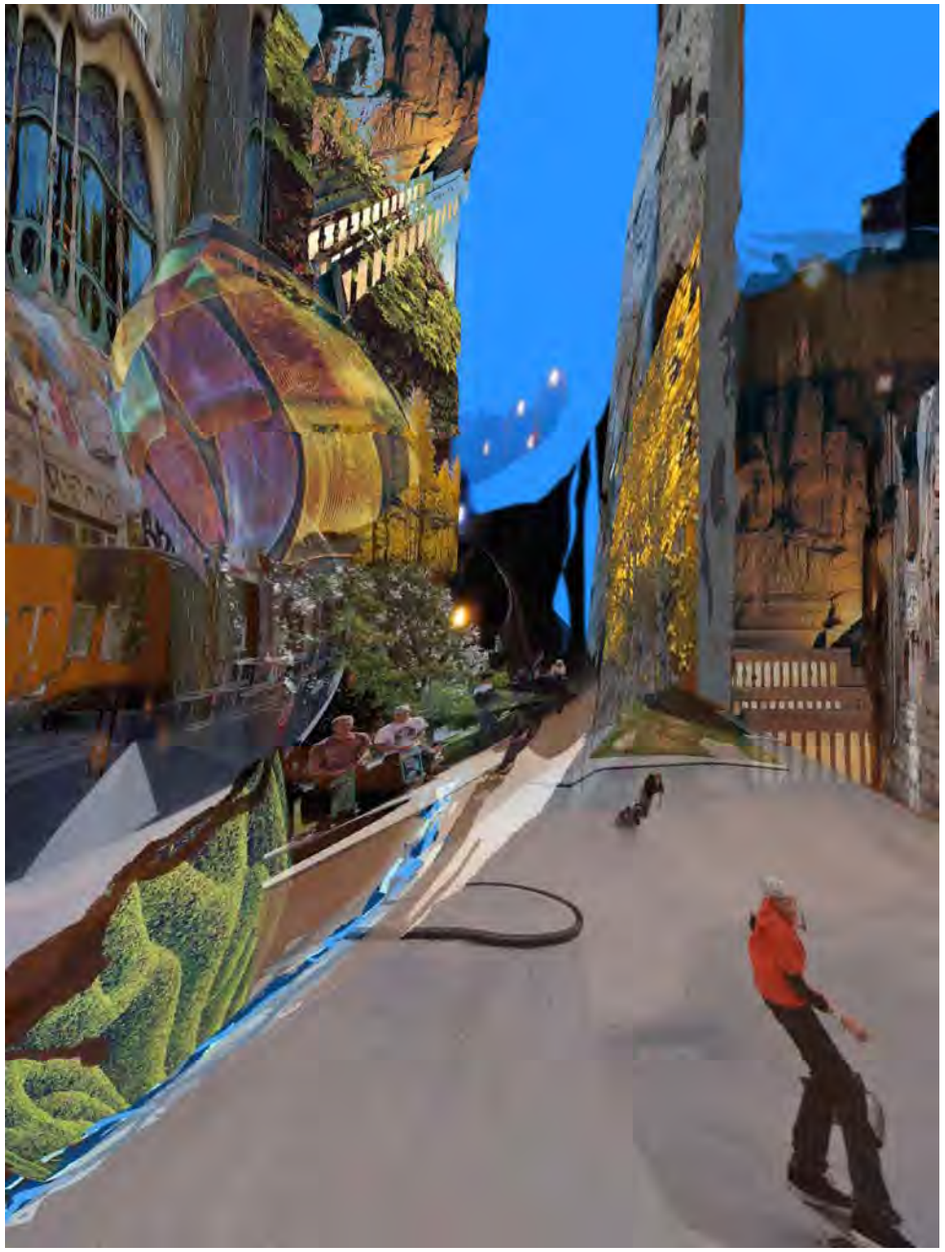
BEFORE AFTER

EXPERIENTIAL WAY-FINDING SITE ANALYSIS

BEFORE AFTER

DIAGRAMATIC LONGITUDINAL SECTION:
looking from West to East along Yardstick Park to the City





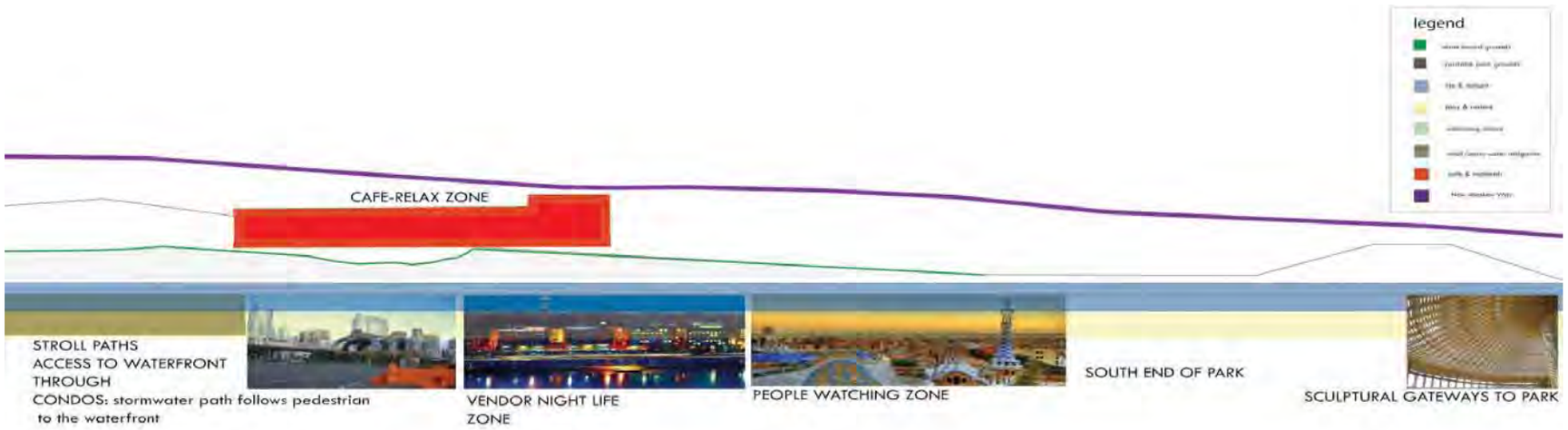
URBAN PLAY

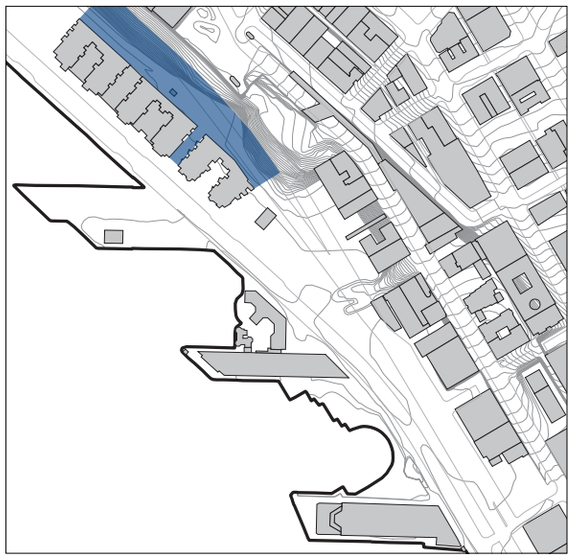
potential play along the urban water's edge

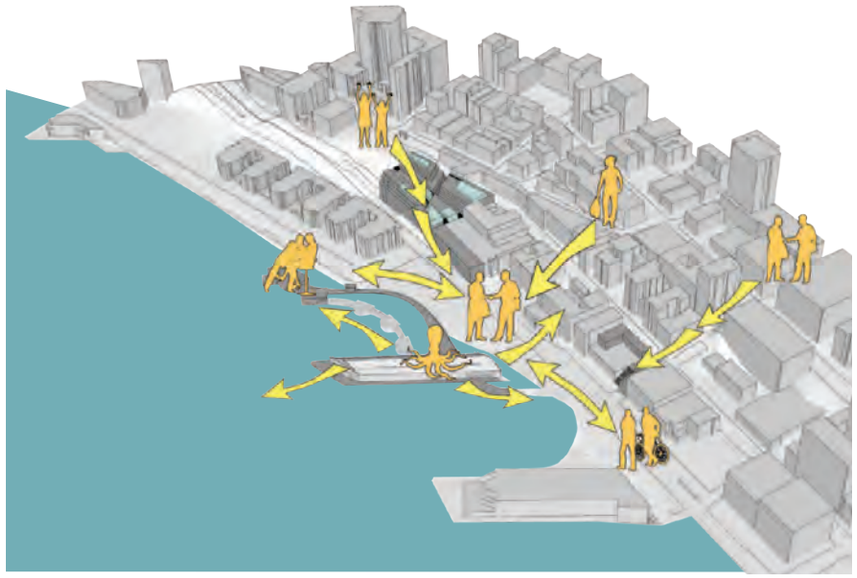
athletic play

creative play

musical play



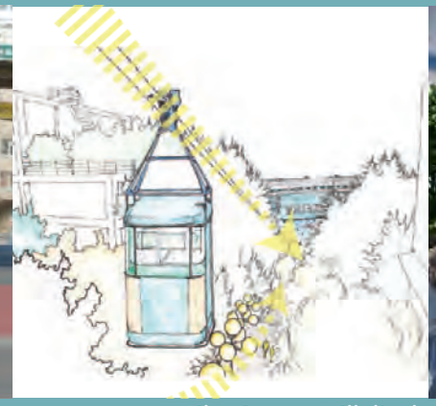




PETER CROMWELL	MLA
ERIN FEENEY	MArch
ERIKA HARRIS	MUP
MICHAEL WARD	MUP
ANDREW WILLIAMSON	MArch
YINGJU YEH	MLA

Tides & Pools

Completing the Connection



Pike Street Hillclimb

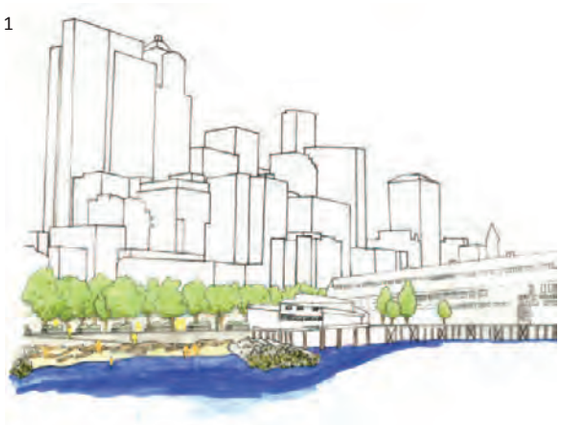
Islands and Tidepools

Hostel Park Connector

Crossing Tides

PC1 Farm and City Living

Tides & Pools



1

CIVIC AQUARIUM

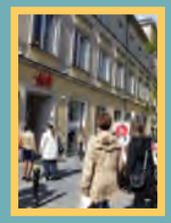
2

SAFE & ACCESSIBLE STREETS

Tides & Pools Concept

Tides and pools describes a human scale approach to enhancing the concentration and flow of life throughout the waterfront's Aquarium/ Pike Place Market District. The overarching goal of the design concept is to increase the social, ecological, and economic vitality in the District though:

- Improving legibility of paths to promote connectivity.
- Increasing mobility of diverse users throughout the district, in particular the steep Pine, Pike, and Union Street corridors.
- Improving the quality and quantity of public, semi-public, and semi-private spaces throughout the district.
- Enhancing ecological function through stormwater management and intertidal and upland habitat creation.
- Identifying opportunities for residential and commercial development to increase density and economic activity.



N

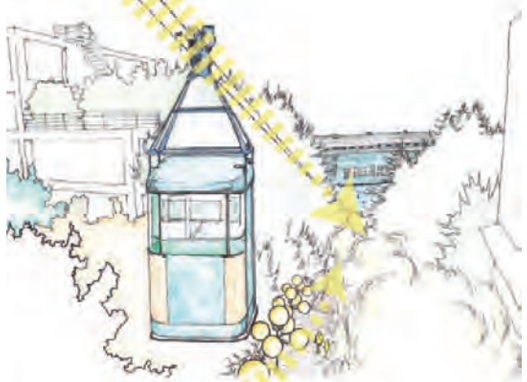
SITE PLAN

Scale: 1" = 400'

3

ECOLOGY & RECREATION

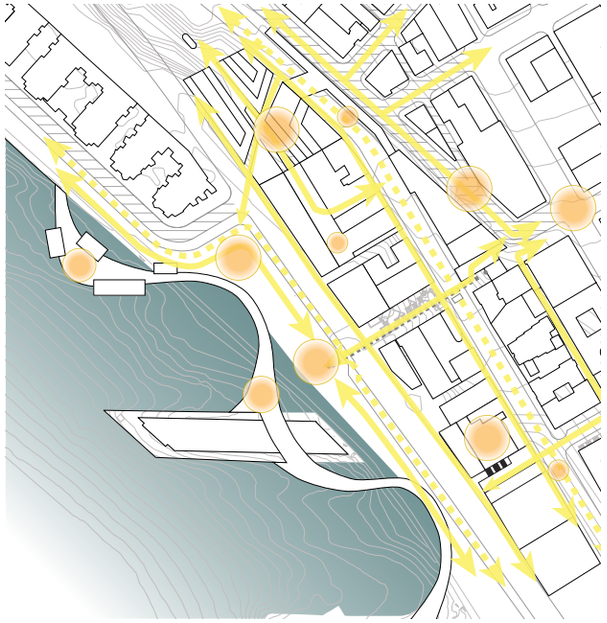
4



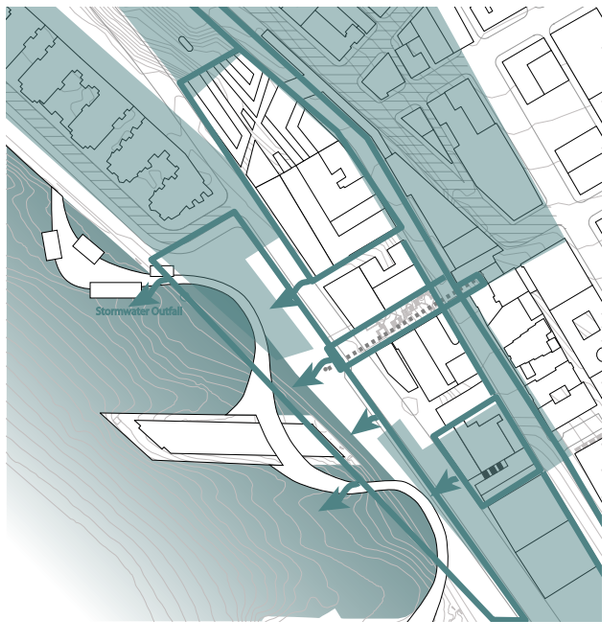
SENSORY PATHWAYS

5

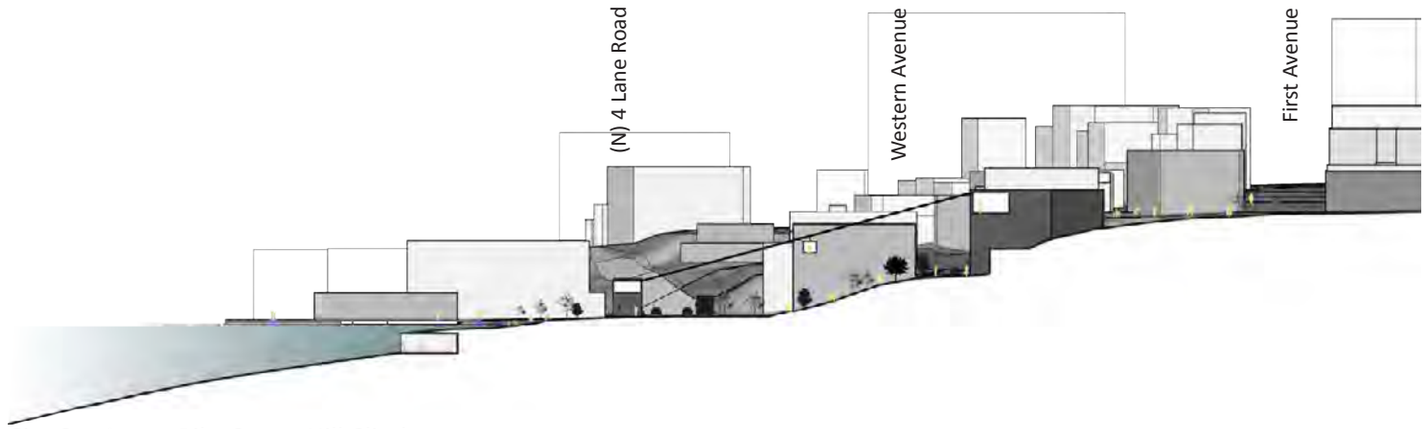
HUMAN SCALE PARKS



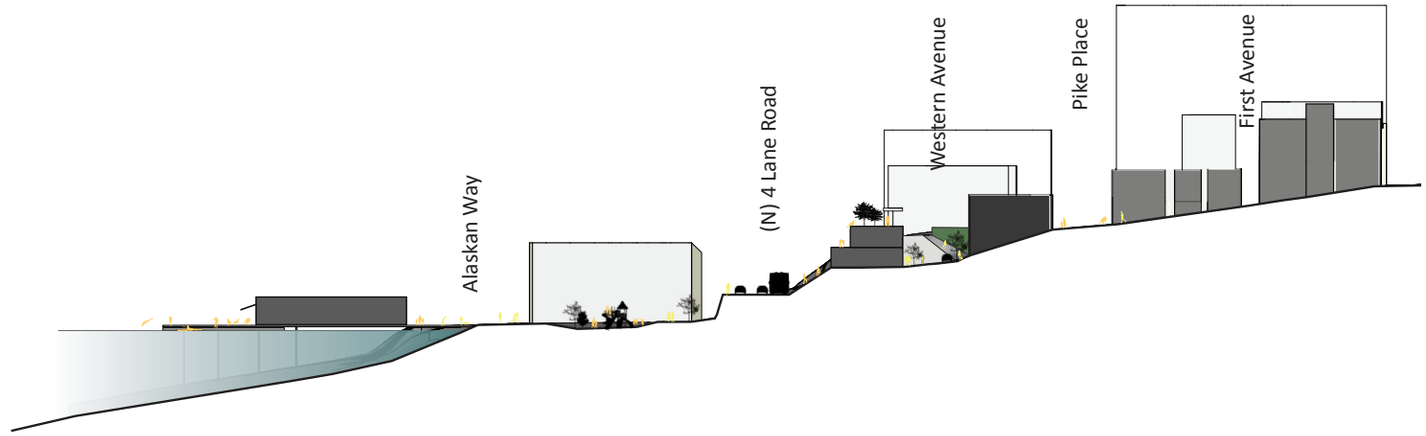
TIDES & POOLS - People



TIDES & POOLS - Stormwater



Site Section at Pike Street Hill Climb



Site Section at PC-1 Site

Site Section at Western “Complete Street”

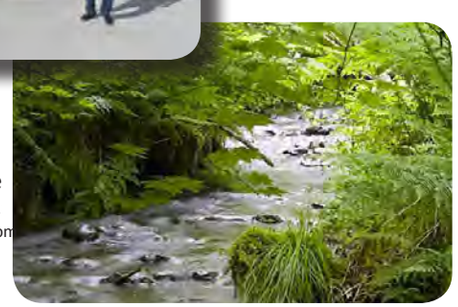
Islands and Tidepools

Design Inspiration

Tide Pools teem with life
Source: naturevalleyeast.com

Beaches attract activity
Source: Flickr com

Nature Breaks through the urban fabric



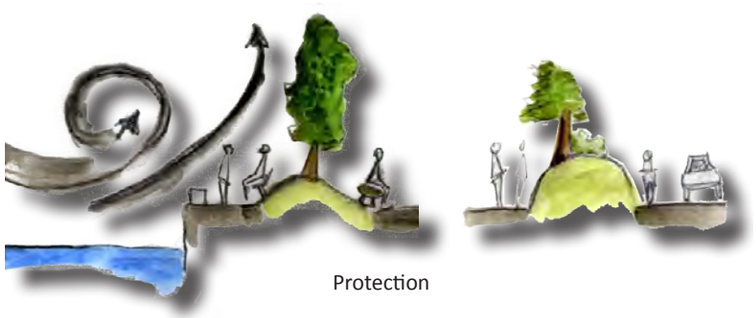
Riparian corridors provide overflow for storm events
Source: nisqually-sequalitchew com

Design Concepts

Opening

Morphing

Forming



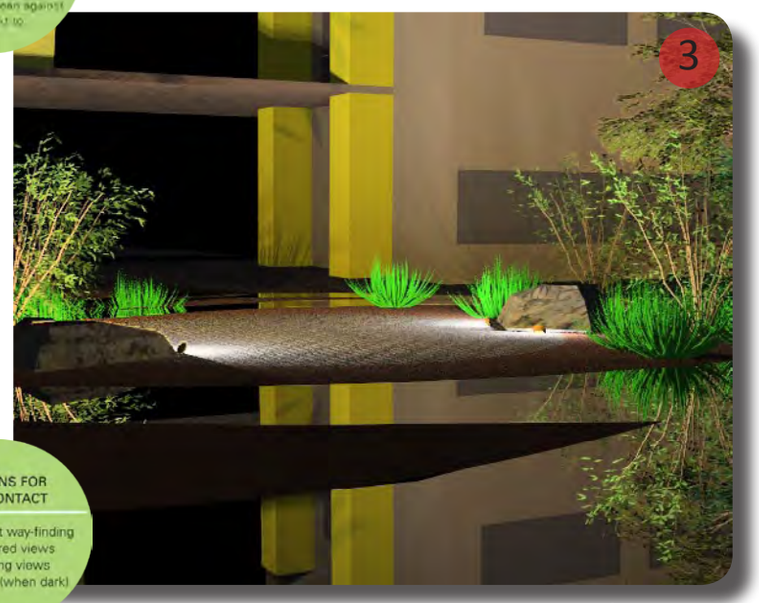
Protection

Wonder

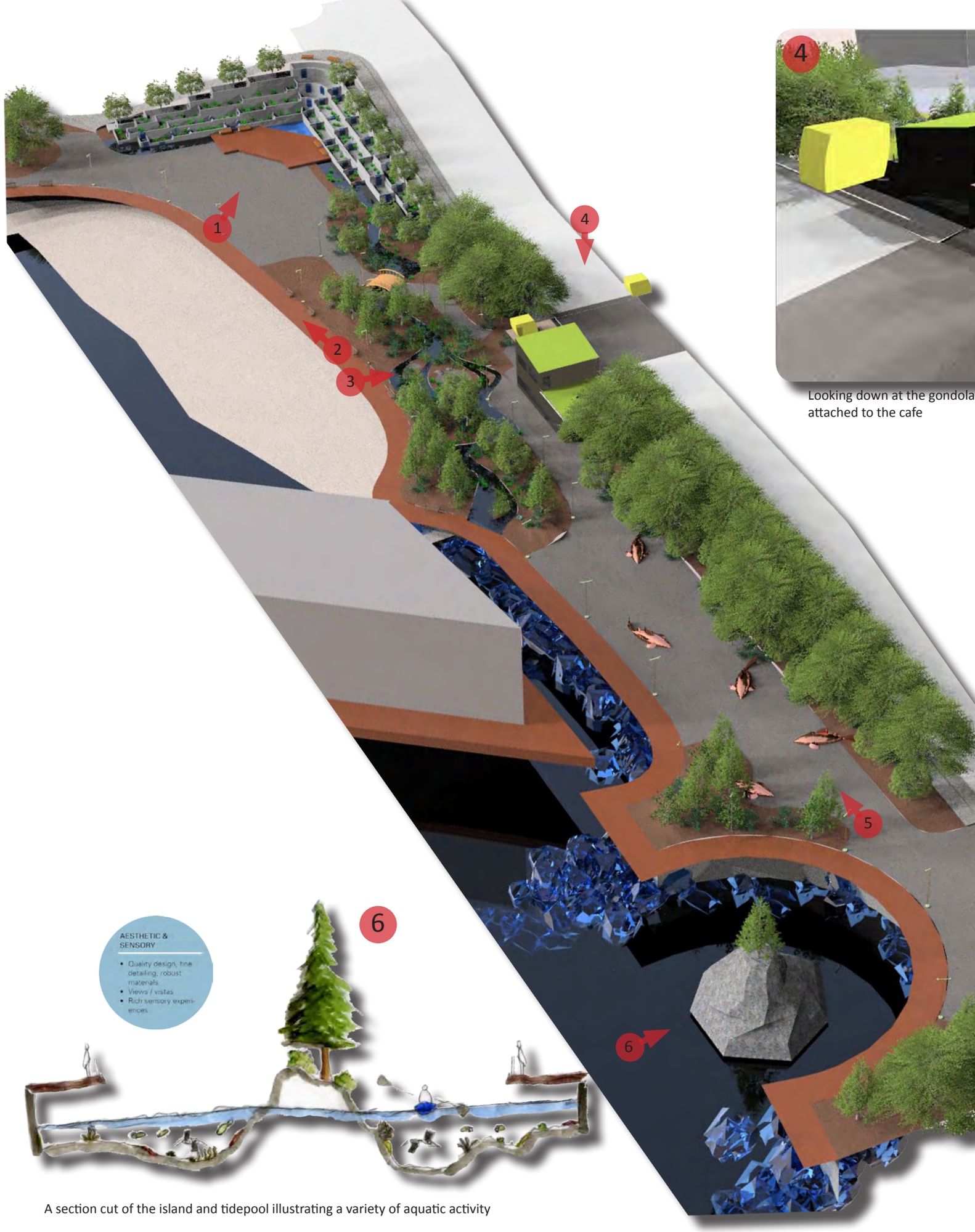
Experiential Qualities

Looking at the fountain

On the boardwalk



Looking over stream toward the cafe at night



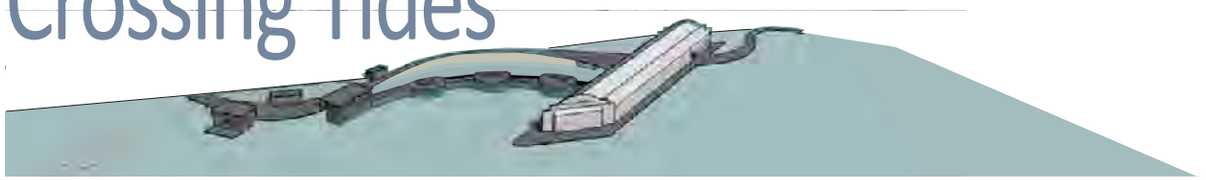
Looking down at the gondola landing house attached to the cafe

Playing with the fishes

A section cut of the island and tidepool illustrating a variety of aquatic activity

Public Spaces | Public Life for Seattle's Central Waterfront

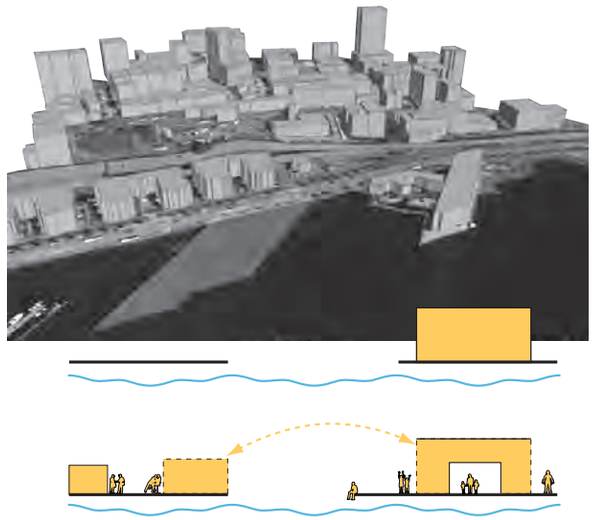
Crossing Tides



A Civic Addition to the Seattle Aquarium

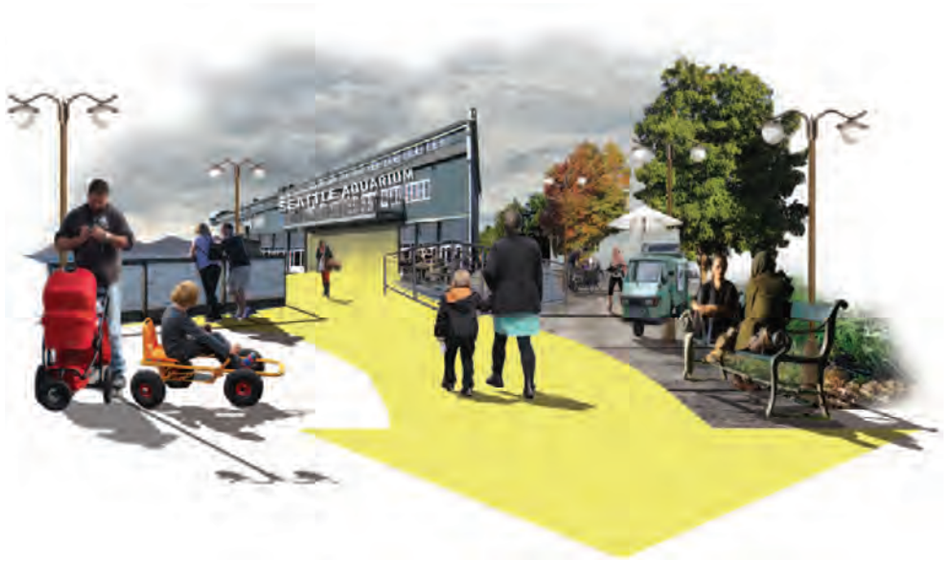
The goal of this project is to enhance the civic presence of the Seattle Aquarium while creating active spaces and clear pathways along the waterfront. Three interventions are proposed along a new boardwalk that weaves along the site: a new public entry to the Aquarium, an underwater addition that creates a shallow water beach for human access and restored habitat, and a commercial boardwalk that replaces the old Pier 62/63. Through these interventions, the Aquarium buildings frame and enhance public spaces.

Breaking the historic grid

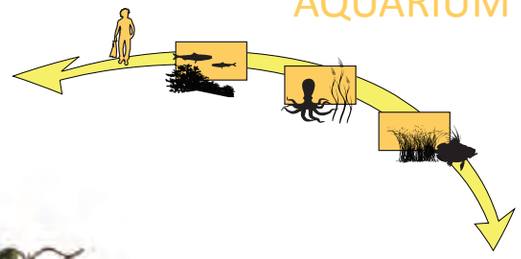


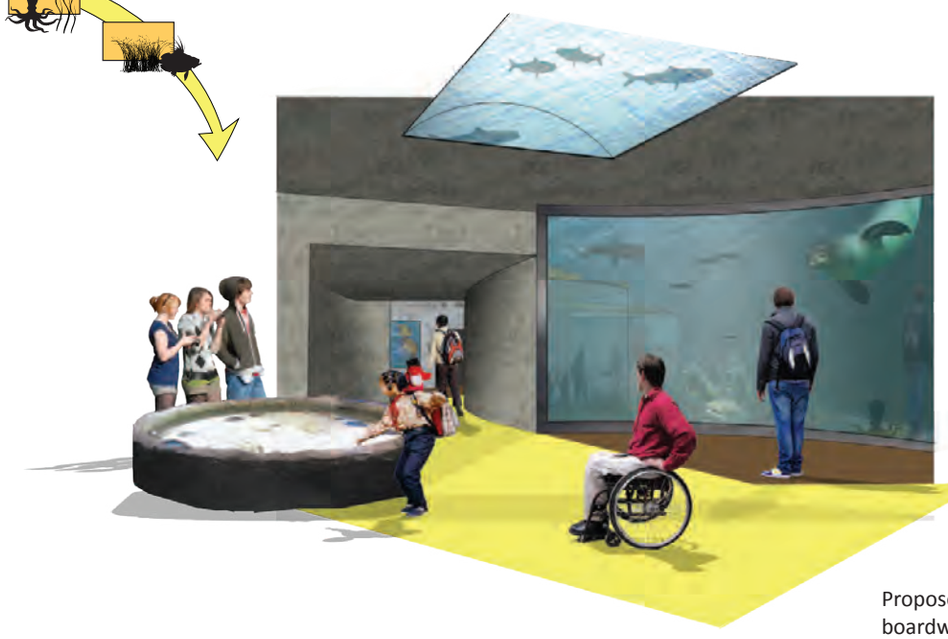
Expanding the public presence of the Aquarium

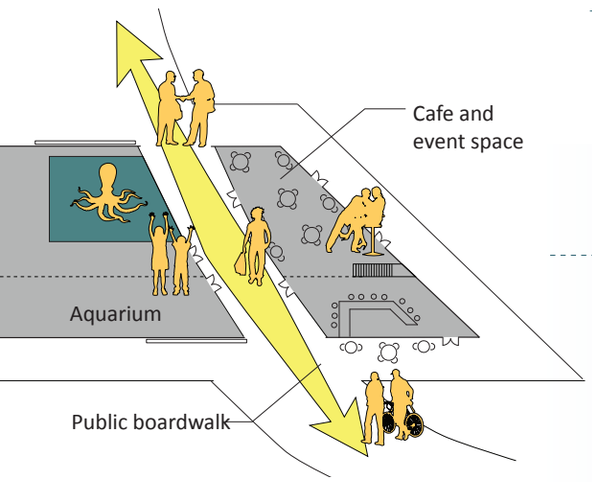
PUBLIC ENTRY

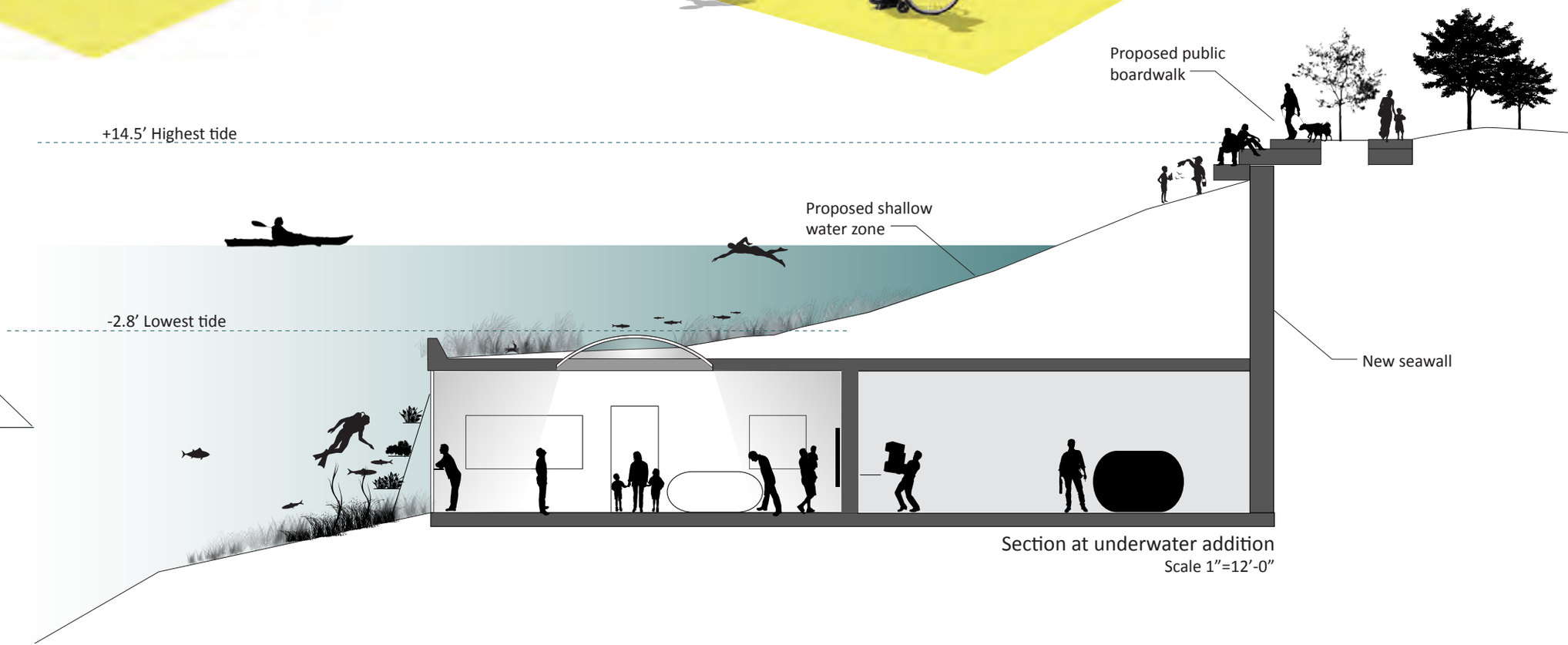


AQUARIUM BEACH





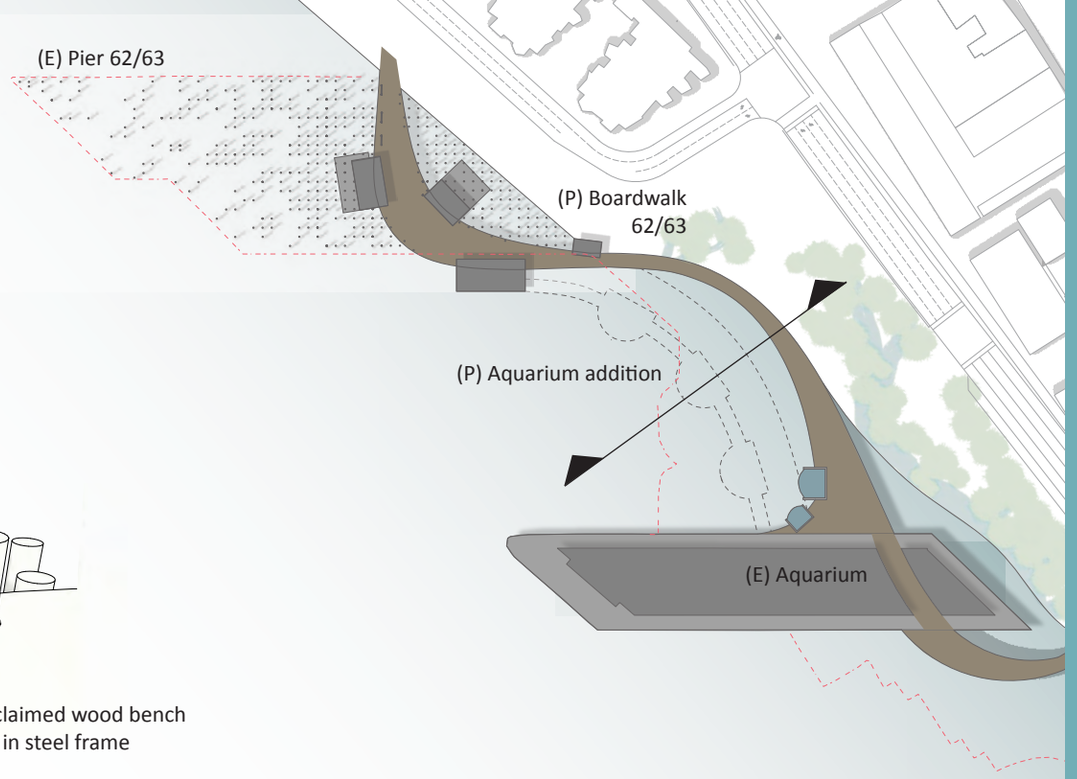




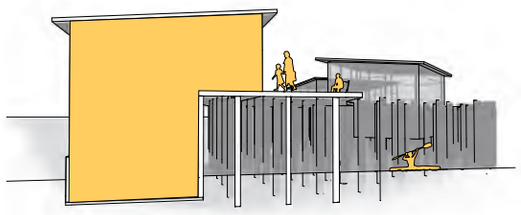
Section at underwater addition
Scale 1"=12'-0"

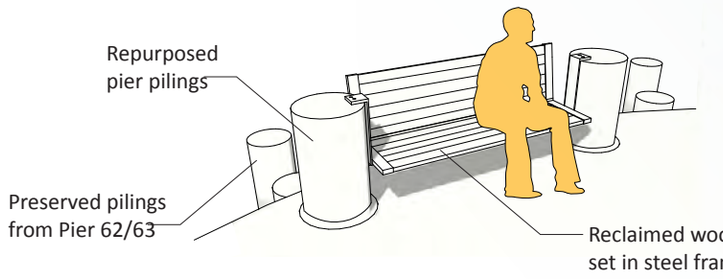
Design for the future
that respects the past

Existing
Aquarium entry

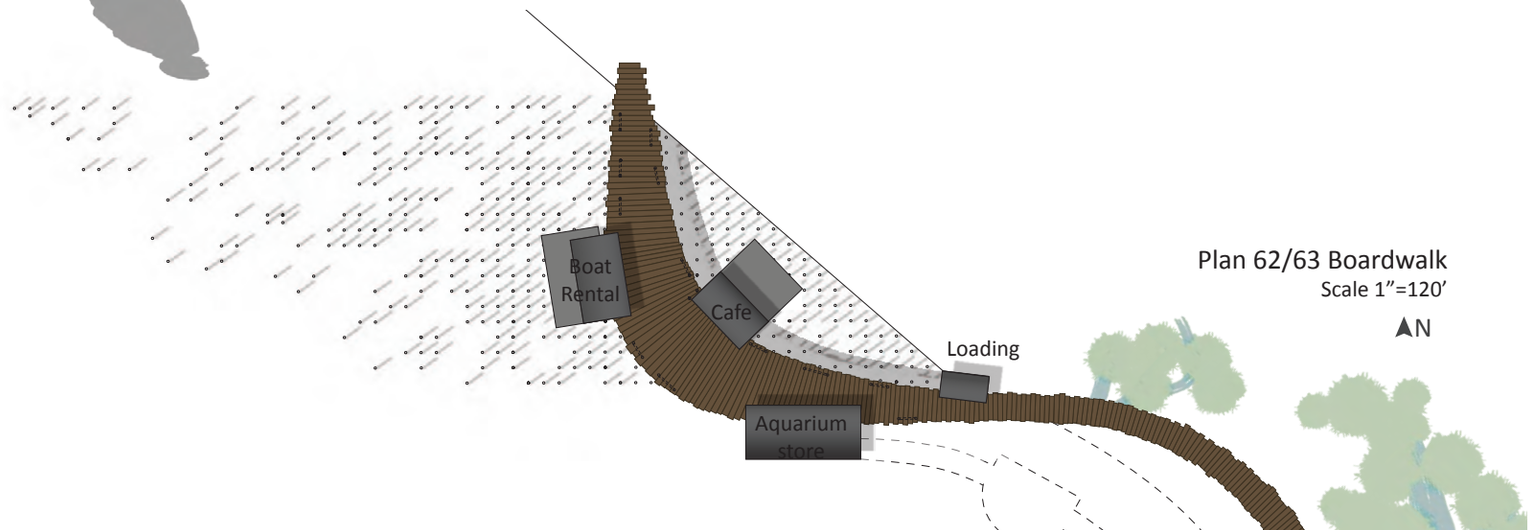


BOARDWALK 62/63





SITE PLAN
Scale 1”=200’
N



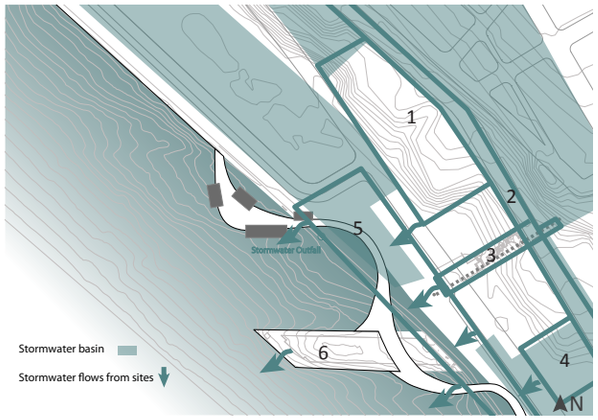
Plan 62/63 Boardwalk
Scale 1”=120’
N

Public Spaces | Public Life for Seattle’s Central Waterfront

Tides & Pools Throughout the Market District

Goals: To improve mobility, ecological function, and public spaces around Seattle's waterfront.

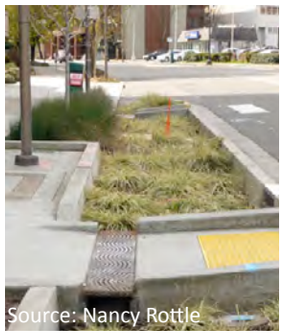
Tides: Stormwater Flows



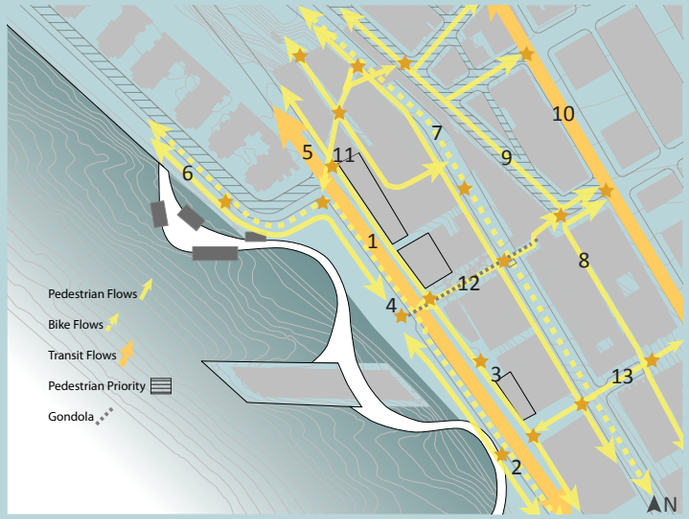
1. PC-1: treat on site, store for future use, drain to beach
2. Western: treat on site, drain to Hill Climb and stormwater basin
3. Hill climb: treat on site, store for future use, drain to beach
4. Overlook: treat on site, drain to beach
5. Beach: treat on site, drain to bay
6. Aquarium: drain to bay, some treatment on site

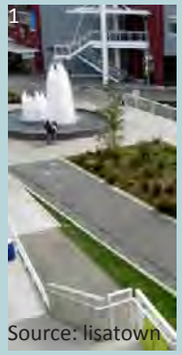
Water Play

Stormwater Treatment



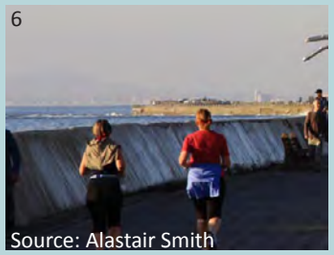
Tides: Mobility Flows





Waterfront Mobility

1. Separated waterfront bike path.
2. Pedicabs as transit.
3. Tour bus loading.
4. Bikesharing.
5. More frequent service for 99 bus (Alaskan Way), improved stops with bus arrival time information.
6. Waterfront promenade.



North-South Mobility

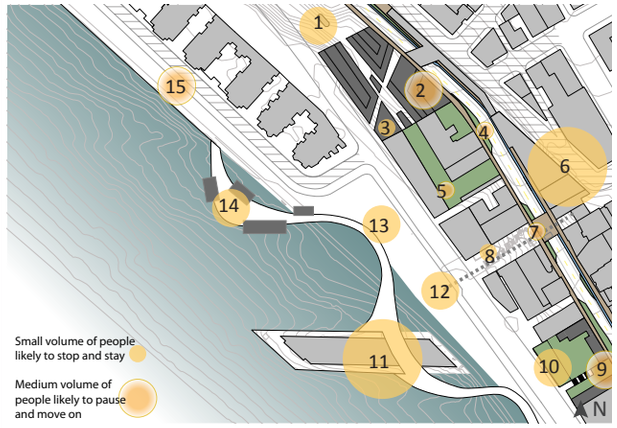
7. Western converted to complete street, including wider sidewalks.
8. Continue alley improvement program on Post Alley.
9. Pike Place converted to pedestrian-only street with delivery windows.
10. Trolley planned for First Avenue.

East-West Mobility

11. Pine: Staircase on PC-1 site connecting Western to Alaskan Way and Waterfront.
12. Pike: Add gondola and raised crosswalks.
13. Union: Staircases replaced.

*Add wayfinding throughout district.

Pools: People Spaces



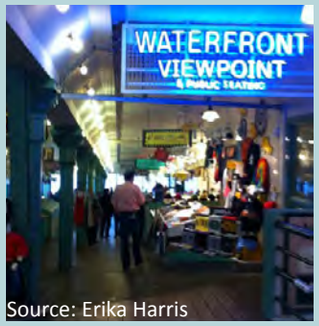
1. Victor Steinbrueck Park
2. New viewpoint (PC-1 site)
3. New bar (PC-1 site)
4. New green space (Western)
5. New viewpoint (green roof)
6. Pike Place Market
7. Hill Climb viewpoint
8. Hill Climb restaurant
9. New Union Street staircase
10. New overlook park cafe
11. Aquarium
12. Gondola/public restrooms/restaurant
13. New beach park
14. New Pier 62/63
15. New waterfront promenade

Stoping & Staying

Pausing & Moving On

Pike Street Hill Climb:
Where the City meets the Water

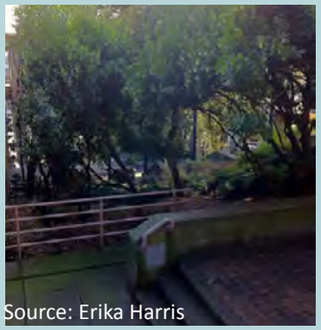
Existing Conditions



Source: Erika Harris

Difficult to find way down from the market to the water-front.

Hill Climb is dark day and night.


Source: Erika Harris


Source: Erika Harris

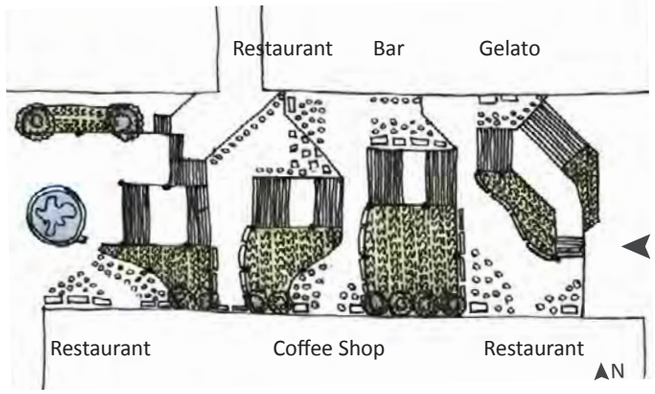
Base of the Hill Climb is not attractive.

Many unattracive Hill Climb facades.

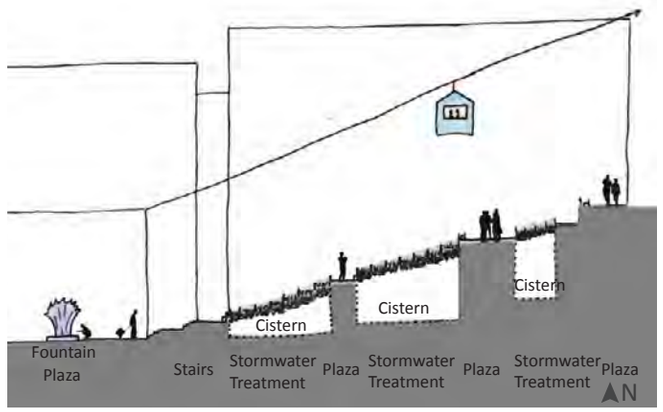

Source: Erika Harris

Hill Climb goals: To improve the experience of traveling between the market and waterfront, add spaces for people to gather, and optimize stormwater management.

Proposed Plan for Hill Climb



Hill Climb Section



Proposed Elements

- Retrofit with stormwater treatment and storage
- Add gondola lift
- Add plazas and seating
- Retrofit lights for efficiency
- Move trees to side to improve safety and visual connection
- Screen/reface parking garage wall
- Add raised crosswalk across Alaskan Way

Stormwater Treatment


Source: Nancy Rottle

Gondola


Source: Signe Karin

Plazas and Seating


Source: zoetnet

Efficient Lighting


Source: Erika Harris

Raised Crosswalk


Source: FHWA

Perspective Looking Up Hill Climb

Hill Climb Alternatives Analysis (5 best, 1 worst)

	Stairs	Gondola	Funicular
User Convenience	1	5	5
Speed	1	5	5
Infrastructure Cost	4	1	1
Operation Cost	5	2	2
Termini compatibility	5	3	2
Space requirement	1	4	1
Visual compatibility	3	3	2
Total	**20**	**23**	**18**

Completing the Connection

Program Proposal for Western Avenue

Complete Streets | Green Streets

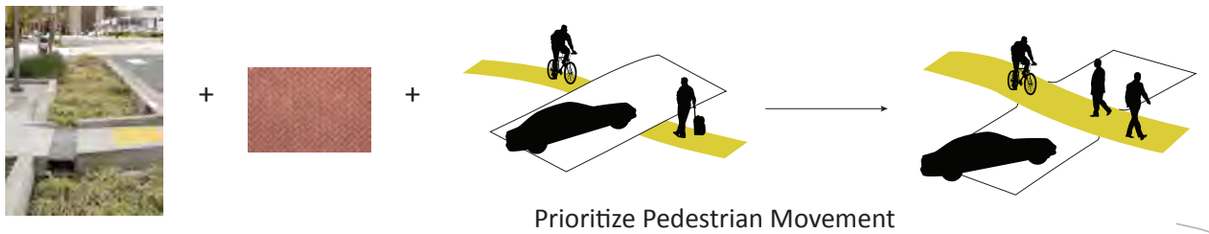
Complete streets are for all people and all modes of movement. Pedestrians, bicyclists, motorists, & public transportation users of all ages & abilities are able to safely move along & across a complete street. When combined with natural systems in mind, a complete street also becomes a green street that serves both society and the natural environment.

at Pike St. Hill Climb

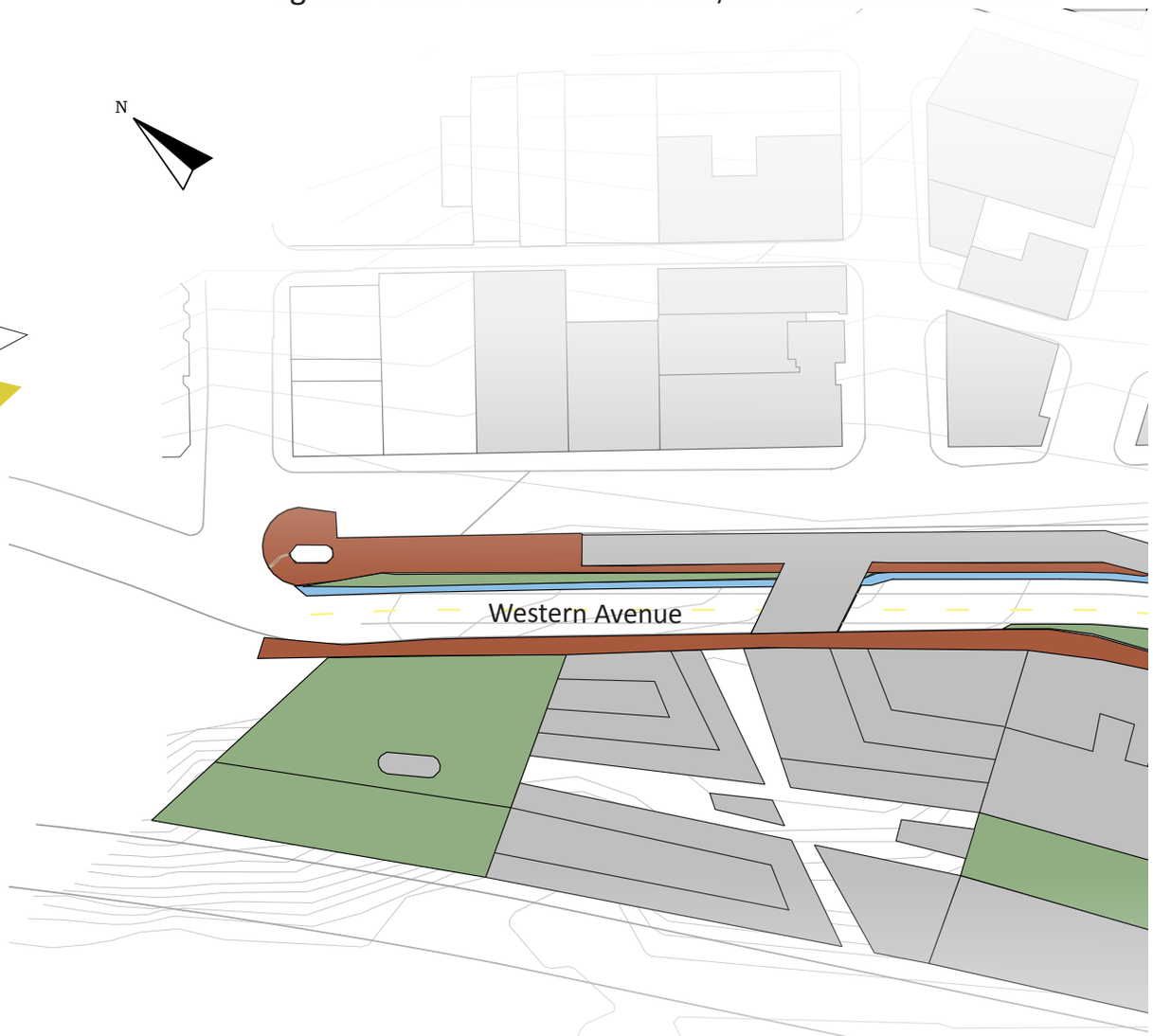
Existing Conditions along Western

at Union St.

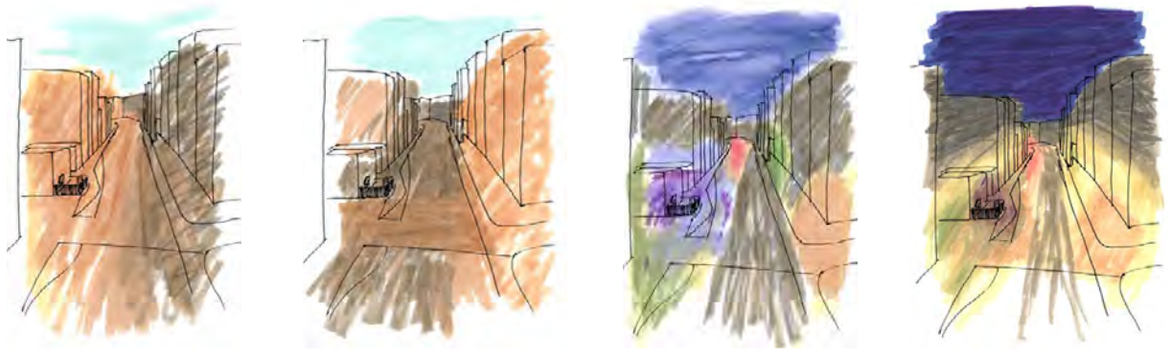
Intervention Strategy



Prioritize Pedestrian Movement



Lighting Study – Union and Western



Mid-Morning Sun | Afternoon Sun | Evening Lighting Pockets | Night Lighting Scene

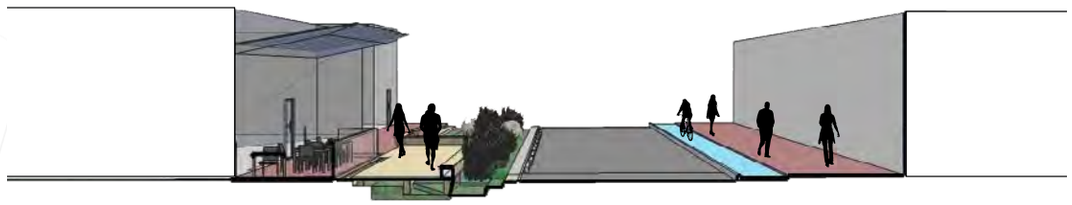
Pike St. Hillclimb – Afternoon

Pike St. Hillclimb – Night Dance Party

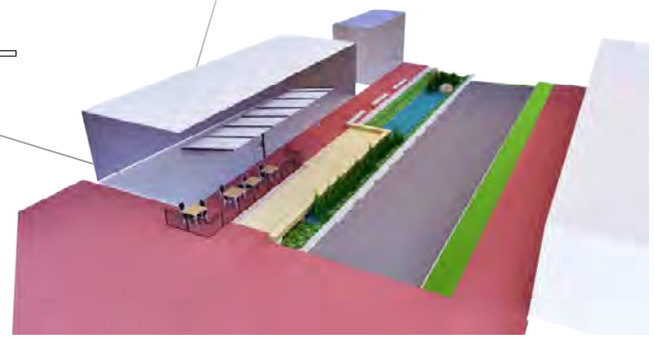
Union St. – Afternoon

Union St. – Night

Union St. Section Perspective

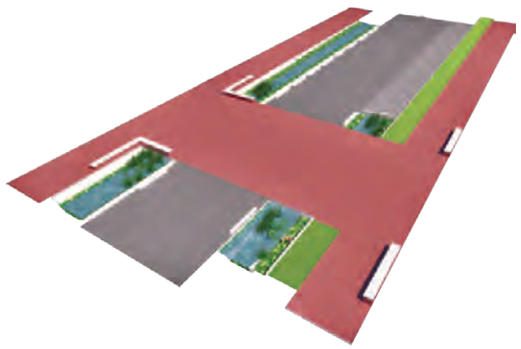


Union St. Bird's Eye View

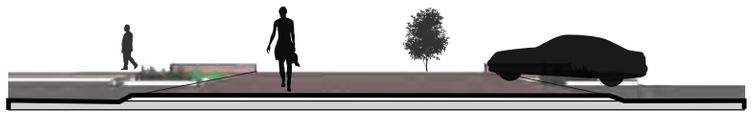


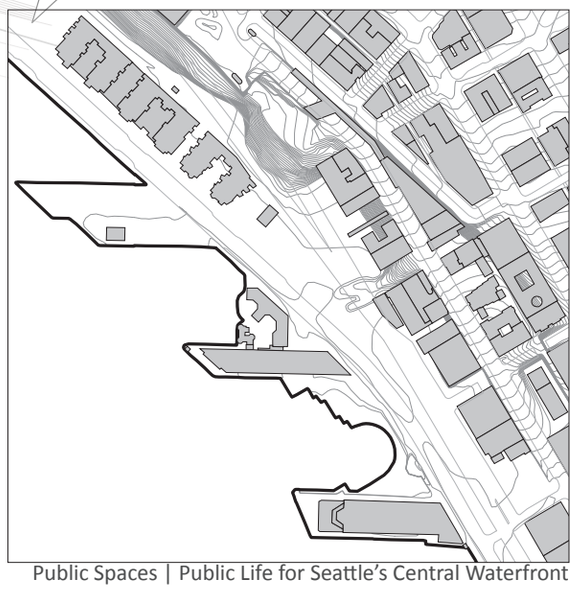
Section AA

Pike St. Hillclimb Bird's Eye View

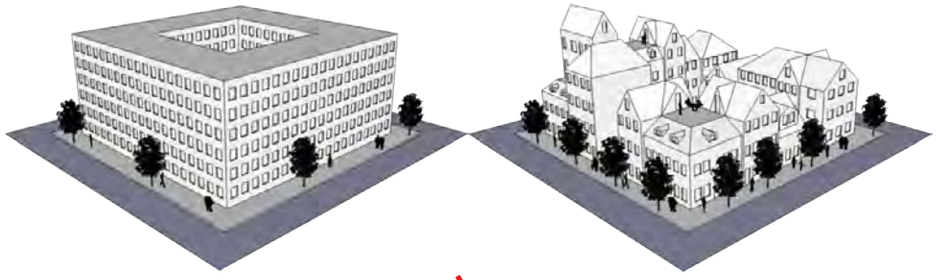


Pike St. Hillclimb Section Perspective



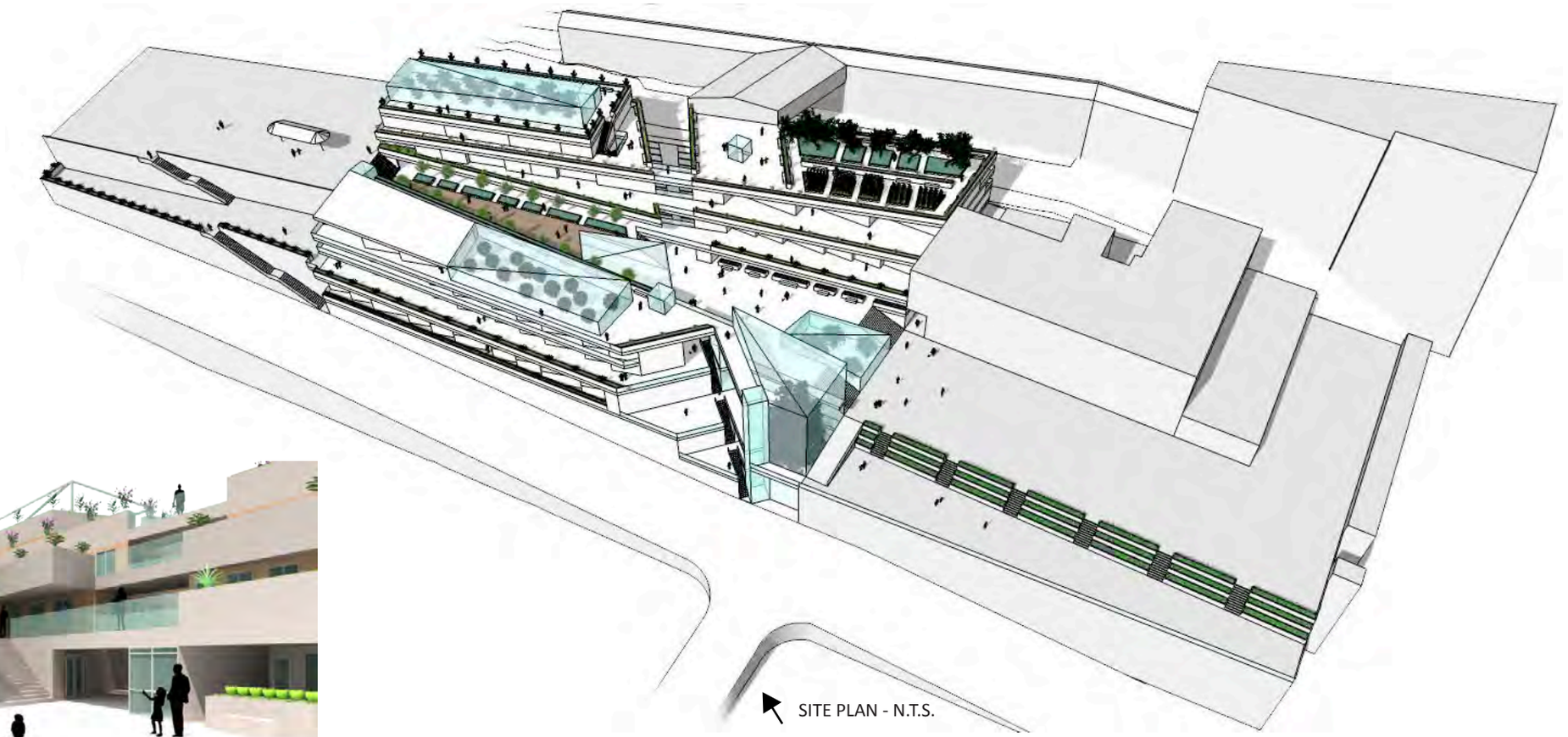


PC1 - FARM MEETS CITY LIVING



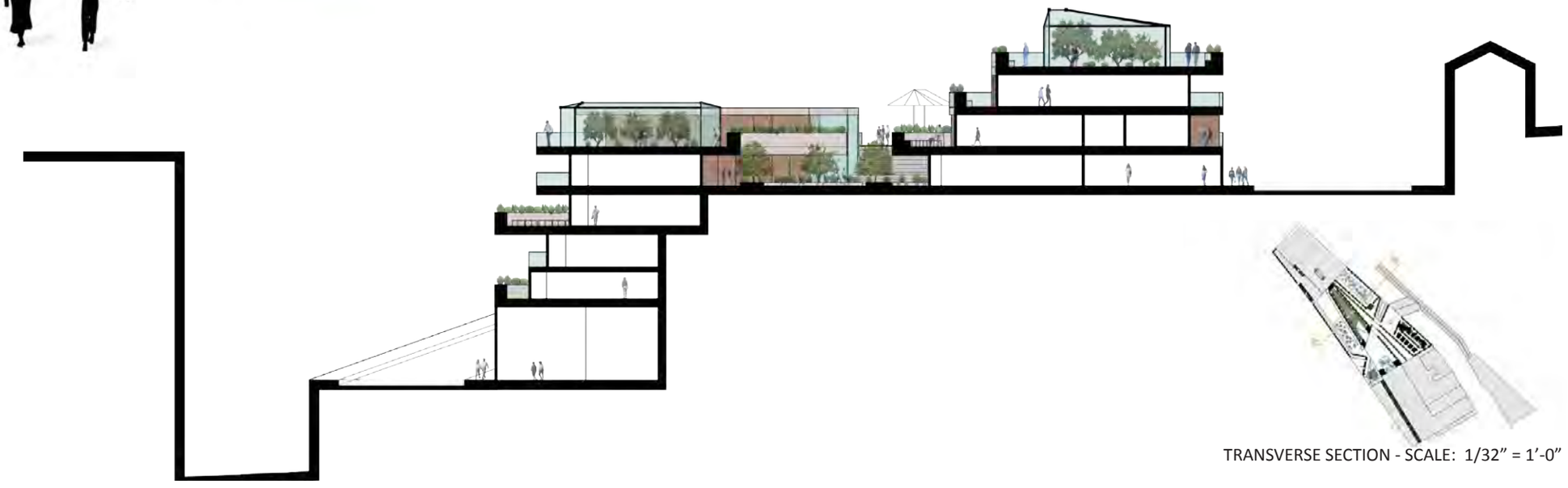
HOUSING BLOCK ≠ HUMAN-SCALED HOUSING

Making connections, both physically as well as visually are important for the new Seattle Waterfront. The PC1 site utilizes connections in order to provide human scaled housing that relates to its urban context as well as provide a passage-way from the Pike Place Market down to the shores of Elliot Bay.

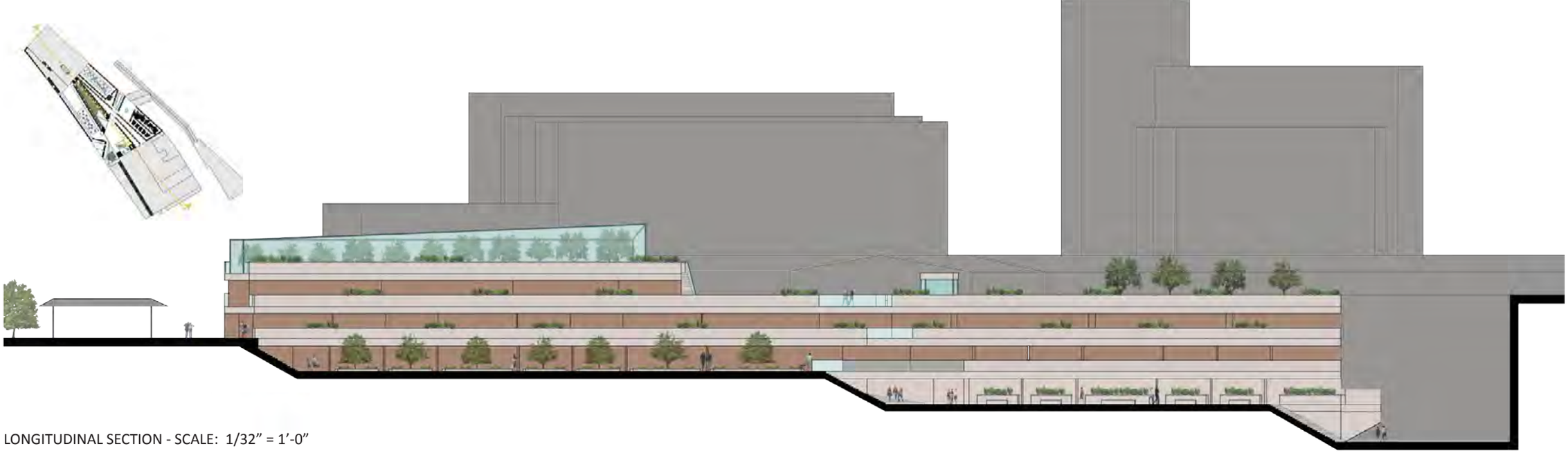


SITE PLAN - N.T.S.

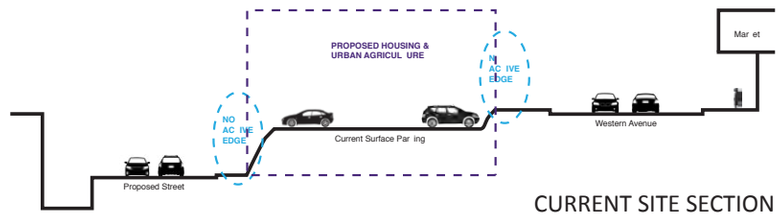
The site also provides space for urban agriculture drawing upon the connection to the adjacent market. This provides the opportunity for an urban housing complex that is continually changing with the seasons and has the activity of residents planting, caring, and harvesting their crops to be consumed at home or sold in the market. There is ample community space to create a lively and welcoming urban development.



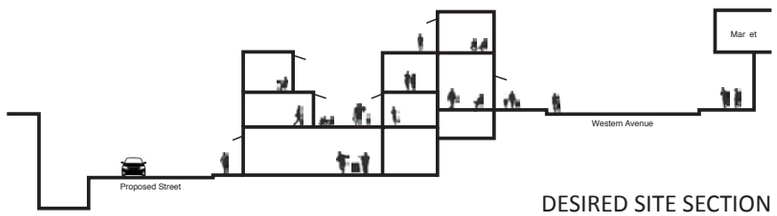
TRANSVERSE SECTION - SCALE: 1/32" = 1'-0"



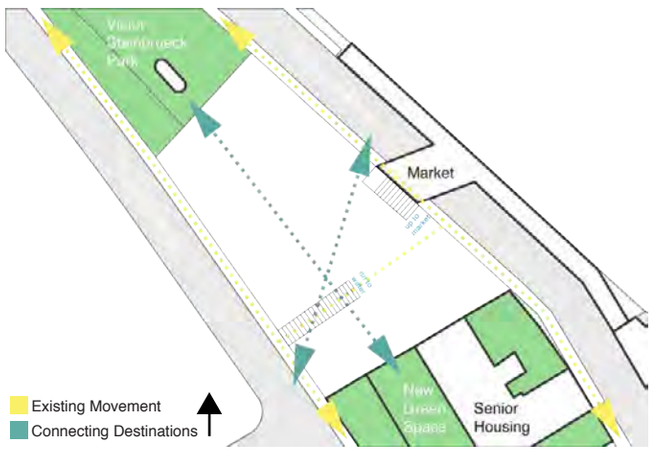
LONGITUDINAL SECTION - SCALE: 1/32” = 1’-0”



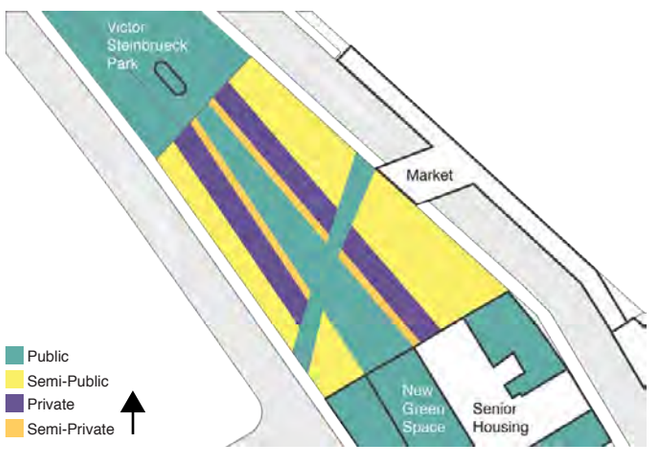
CURRENT SITE SECTION



DESIRED SITE SECTION



MOVEMENT CONSIDERATIONS

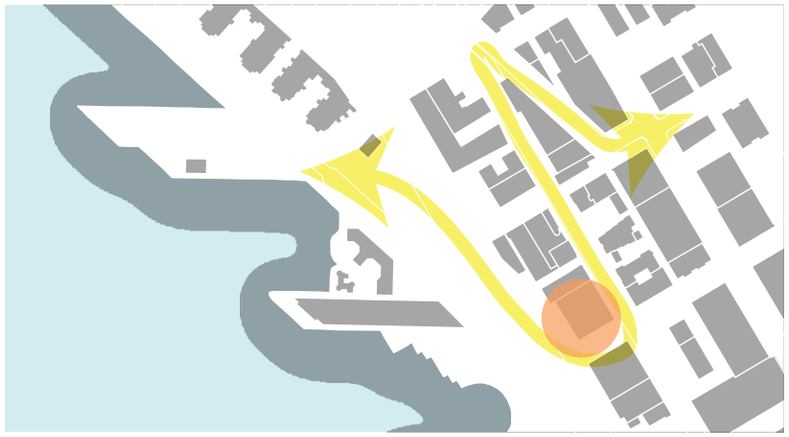


PUBLIC/PRIVATE SPATIAL RELATIONSHIPS

Public Spaces | Public Life for Seattle’s Central Waterfront

Hostel Park Connector

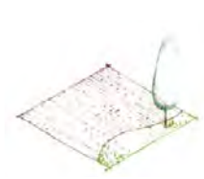
Site Map



Context Plan

Spatial and Program Concepts

A lawn and a hill for people to enjoy the sun in the park



The quality of paving; from edge to edge & façade to façade

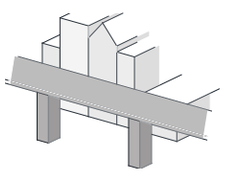
Enrich the interactions between people in the public space

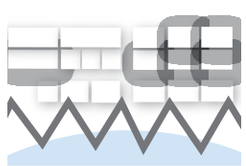
A corridor and several glass boxes create different ways to explore

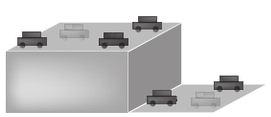
Green walls, to break wind and increasing green façade

The roof park and a stretch of table attrack people to enjoy the great view of Seattle waterfront

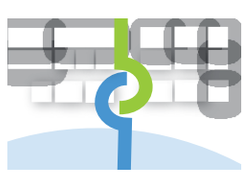
Analysis Diagrams: Before and After







Open view potential

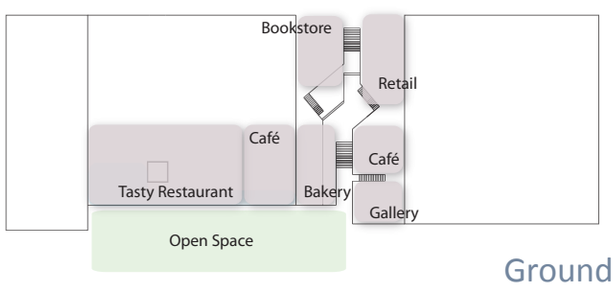


Connecting the city and the waterfront

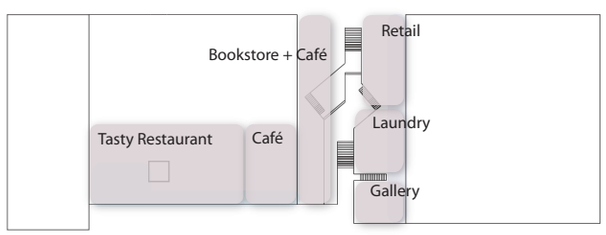
Vacant lots into green spaces

Perspective of Union Street Entrance

Building Diagrams



Ground



2nd Story

Inspiration

Stairs, lights and greens

http://www.lyring.com/outdoor-lighting-design-ideas

Local café + bookstore

http://yuminghui.pixnet.net/blog/post/27829617-%E3%80%90%E5%8F%B0%E5%8C%97%E3%80%91%E4%BA%AC%E9%83%BD%E5%91%B3%E2%80%A7%E7%9C%BC%E9%8F%A1%E5%92%96%E5%95%A1

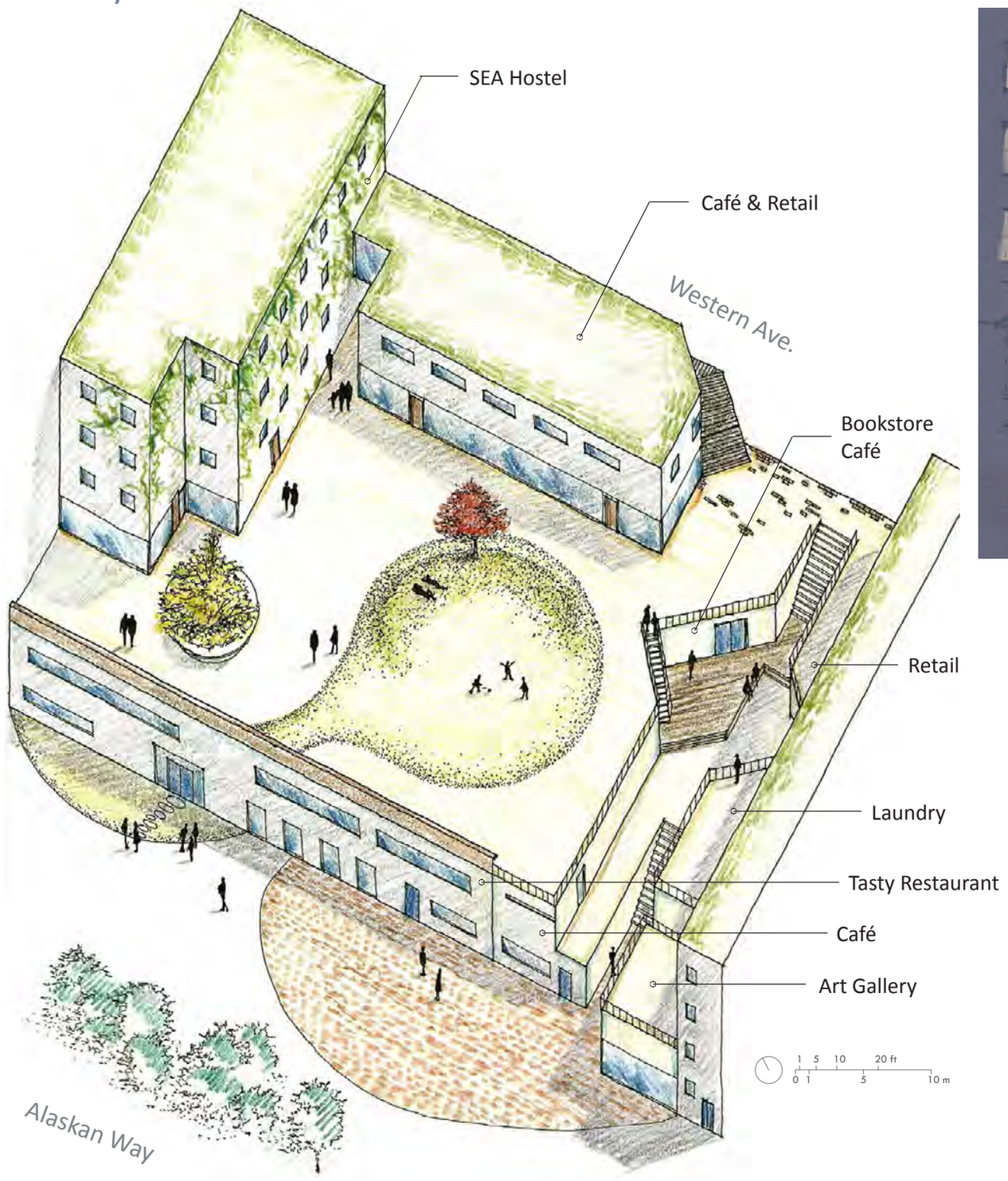
The tree grows from the ground floor of Tasty Restaurant

Freeman Michael. (2004). *Space: Japanese Des gn Solutions for Compact Living.* New York Universe Publishing .

Activate the site during night time

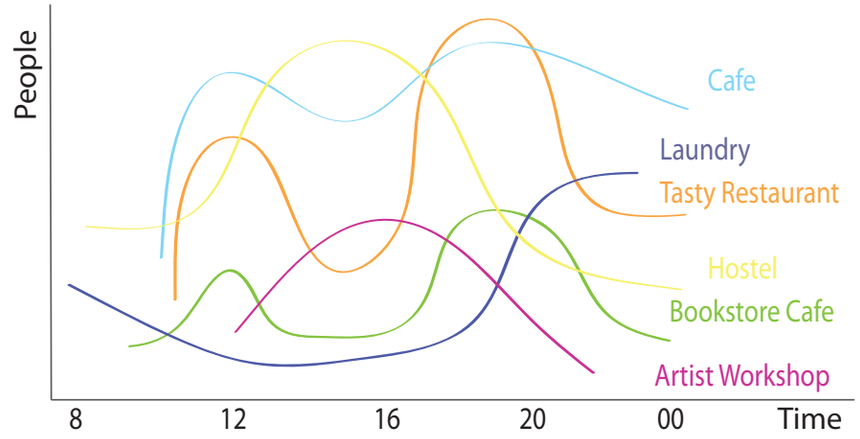
https://picasaweb.google.com/lh/photo/RdYVOaIfyYcnwHIYHHangg?feat=embedwebsite

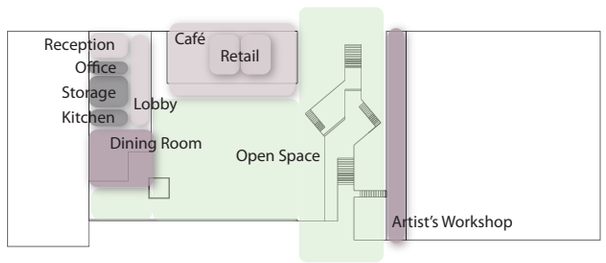
Birdseye of Hostel Park



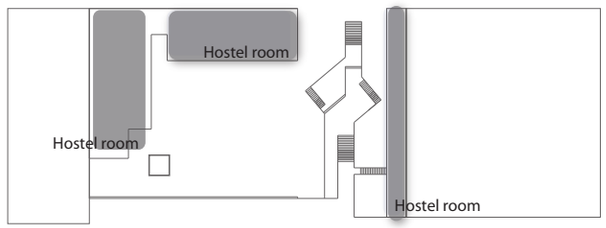
Perspective of Restaurant at Night

Activity Tides





3rd Story

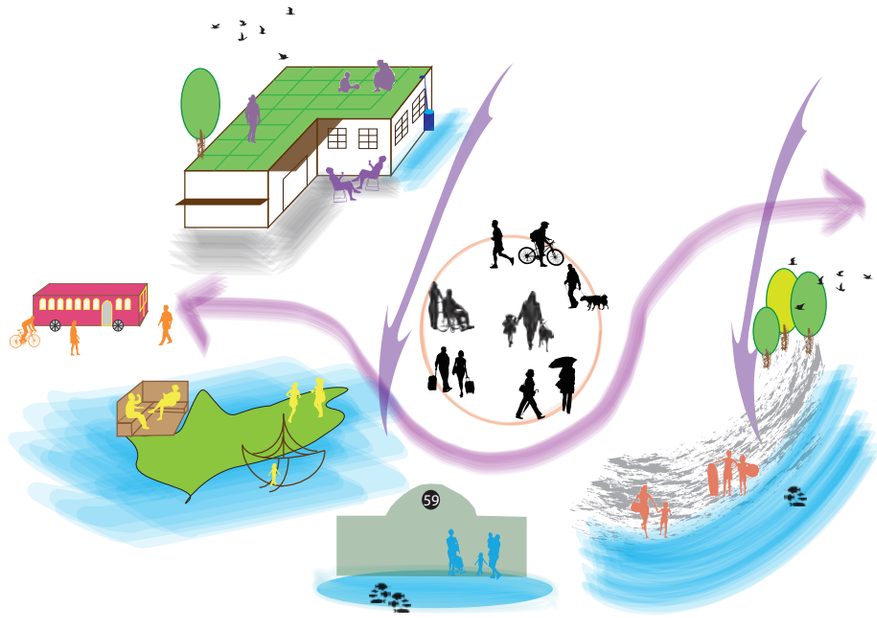


4th, 5th &6th Stories

Key:

- Public
- Semi Public
- Private

Public Spaces | Public Life for Seattle's Central Waterfront



SUE COSTA PASCHKE MLA
CHEN HAI MLA
KATIE HUNT MArch
MANAMI IWAMAYA MLA
ANDREAS PILLER MUP
LAURA POULIN MArch

POD [people-oriented design]

Play Park Pier

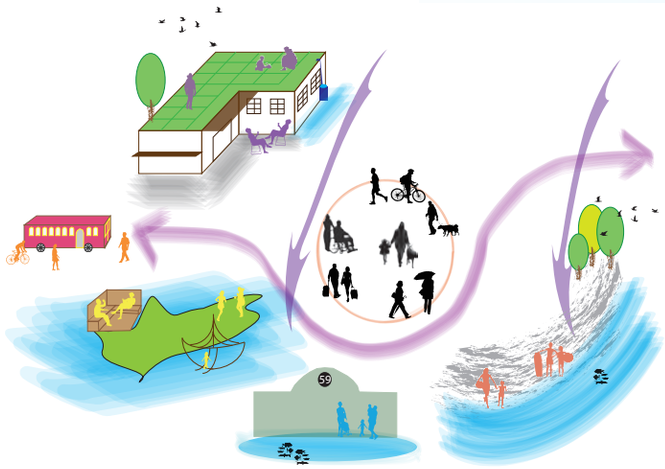
Waterfront Way

Union Street Connections

Aquarium Pier

Farm I City I Fun

POD [people-oriented design]



The POD district is a collection of spaces and activities accessible to all, designed for people, and richly experienced at the human scale. Fluent connections integrate public/private, local/tourist, urban/nature life to support diverse and vibrant public spaces.

Challenge :

Commerce and infrastructure obstruct individual access to Puget Sound from downtown impeding people's activities and personal relationships with the water's edge.

Challenge :

Heavy traffic, unwelcoming edges, and expansive empty space make confusing and unpleasant pedestrian experiences through the topography and public/private space.

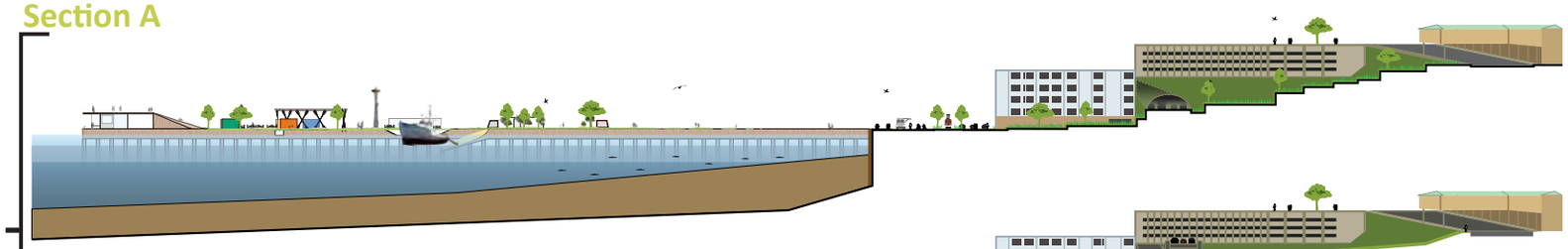
Challenge :

Limited types of waterfront activities restricts lively pedestrian patterns to day-time and weekend hours. People perceive empty public space as off-limits and unsafe.

Challenge :

The coverage of hard surfaces sends polluted stormwater directly into the sound and is visually stagnant, affecting the health of Seattle's citizens, ecology and economy.

Section A

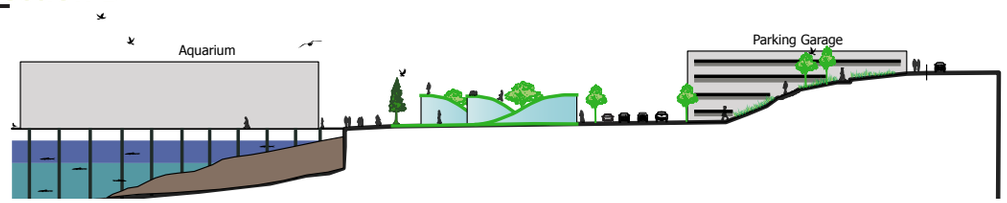


Proposed section at Pine Street, through Waterfront Way, and Play Pier
scale: 1”=120’

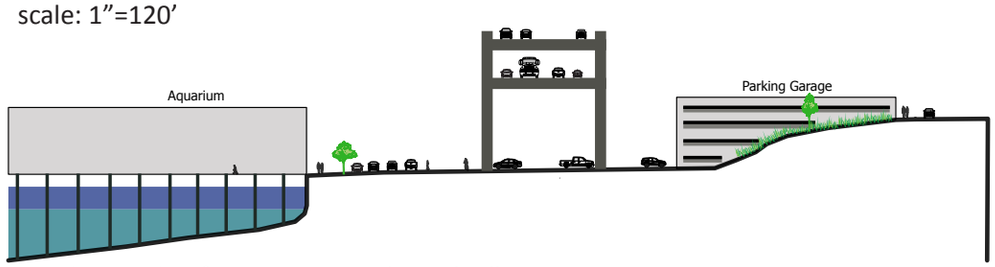
Existing section at Pine Street to Pier 62/63
scale: 1”=120’

Waterfront Way integrates public space and multi-modal transportation

Section B



Proposed section from new aquarium entrance through alley
scale: 1”=120’

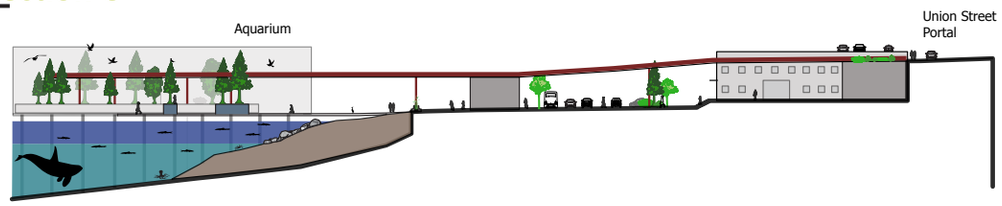


Existing section from aquarium through alley
scale: 1”=120’

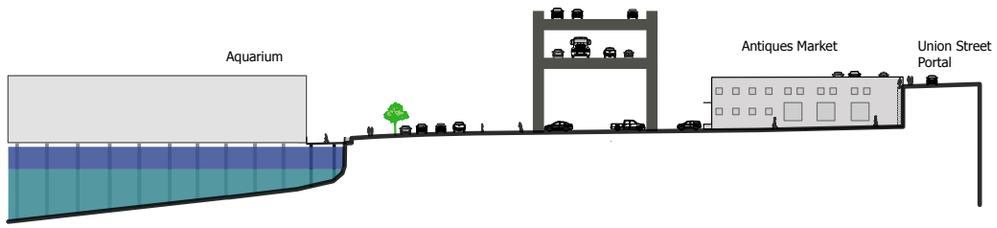
Urban Agriculture cultivates local community at the Pike Street Farmer’s Market

The Play Pier activates space for people of all ages and abilities

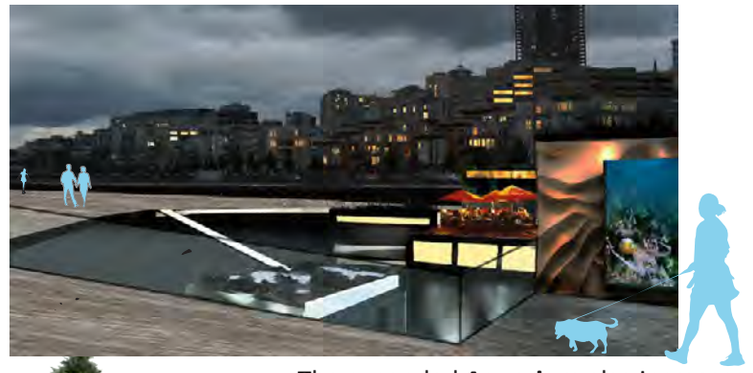
Section C



Proposed section from restored beach to Union Street Entrance
scale: 1”=120’

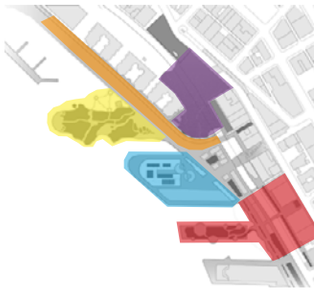


Existing section from seawall to Union Street Entrance
scale: 1”=120’



The expanded **Aquarium** also increases public access to the water

The **Union Street Connection** opens access to the water’s edge with a restored beach.

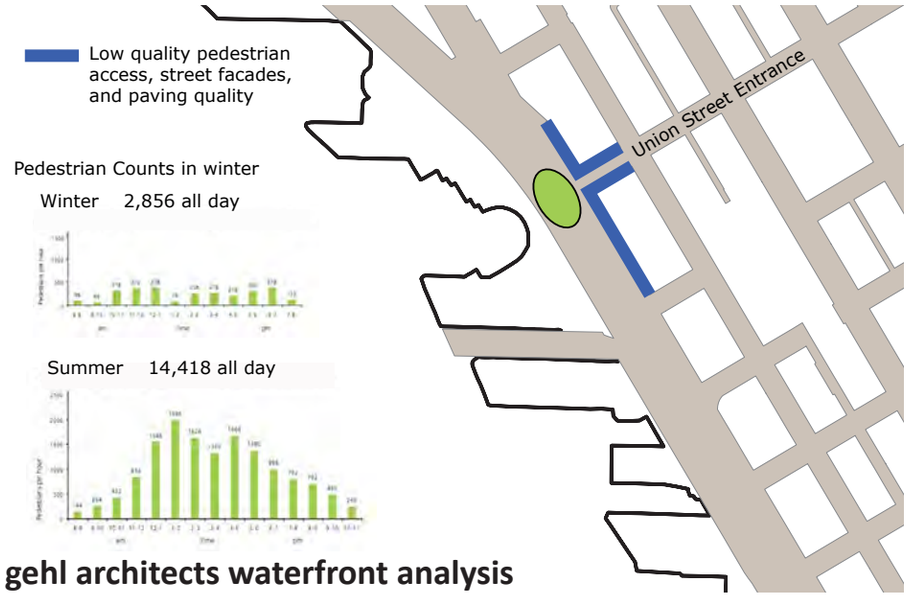


Union Street Connection [stormwater canopy walk]

historical forested bluffs along puget sound

historical waterfront photograph
source: http://pauldorpat.com

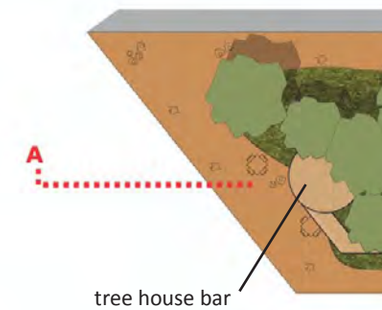
existing site plan
source: google earth



gehl architects waterfront analysis

Pedestrian counts show union street has second highest level of activity for connector streets.
source: gehl architects

The stormwater canopy walk begins at western avenue and union street, connecting pedestrians to the tip of the forested pier. Channeling stormwater along the canopy walk's edge creates an environment and education feature.

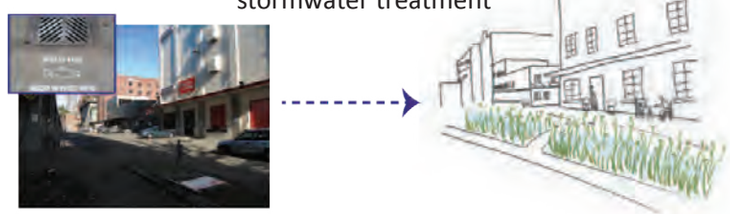


tree house bar

experiencing the water

The current seawall and boardwalk elevate people above the water with limited opportunity for sensory or ecological engagement.

stormwater treatment



Storm water from roads, roofs, and other impermeable surface directly enter Puget Sound and is the prime pollution contributor.

invitation to the waterfront

Existing gateways to the waterfront are indifferent, confusing, unwelcoming afterthoughts.

existing site section

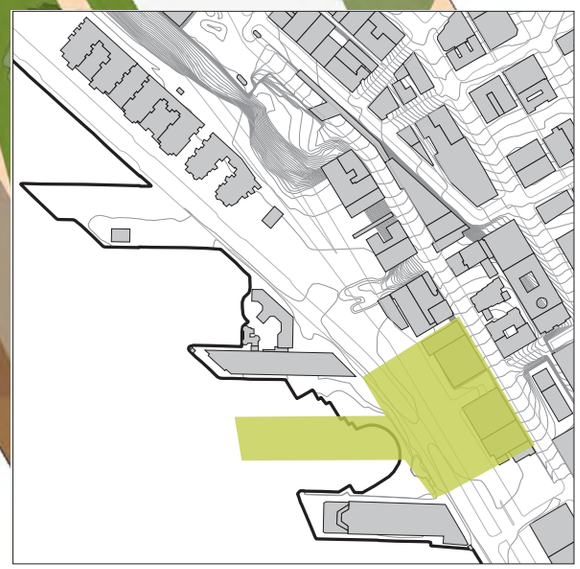
photo collage

The current condition along union street at the waterfront is very poor, yet it has the second highest pedestrian traffic, making it an essential space to rehabilitate so that its character speaks to what the waterfront should be.

kayak storage
skate park
cultural center
beach
bioswale
bioswale
retrofitted antiques shop with cafe
union cascade
stormwater canopy walk
A
B
C
pier event space
sub-pier discovery stair
floating pool
stormwater outlet to pier
constructed wetland
beach
cafe
C
B
N

site plan

scale: 1” = 60’-0”

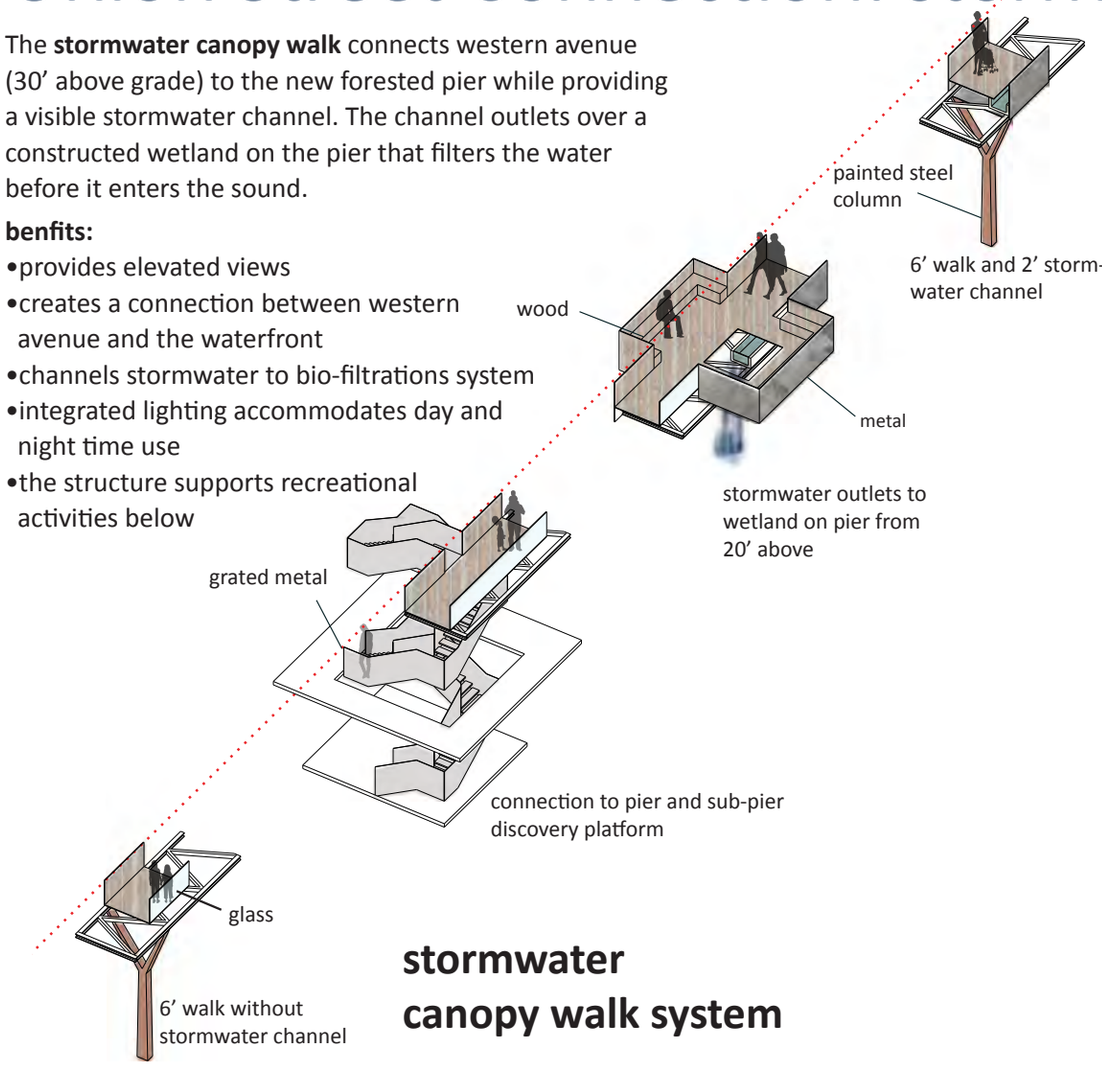


Union Street Connection: stormwater canopy walk

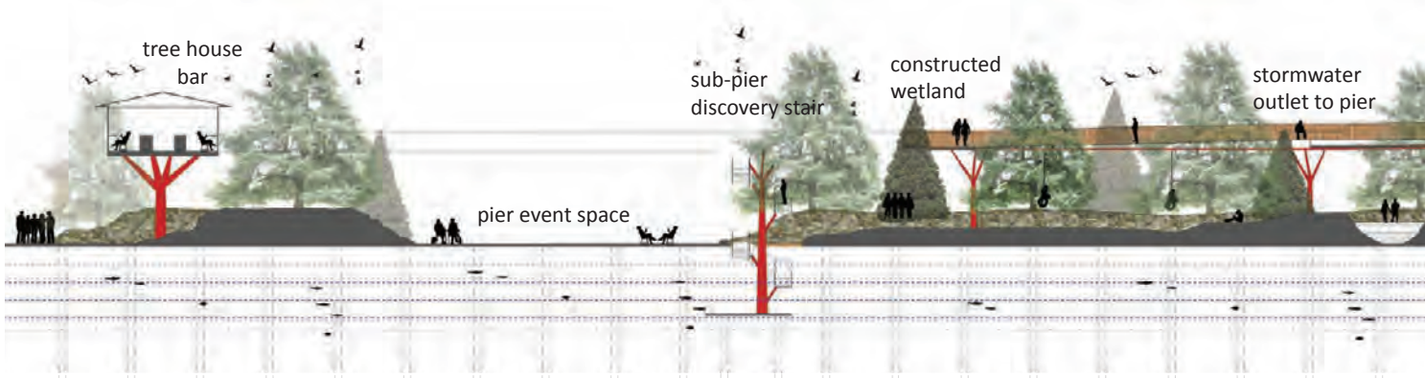
The **stormwater canopy walk** connects western avenue (30’ above grade) to the new forested pier while providing a visible stormwater channel. The channel outlets over a constructed wetland on the pier that filters the water before it enters the sound.

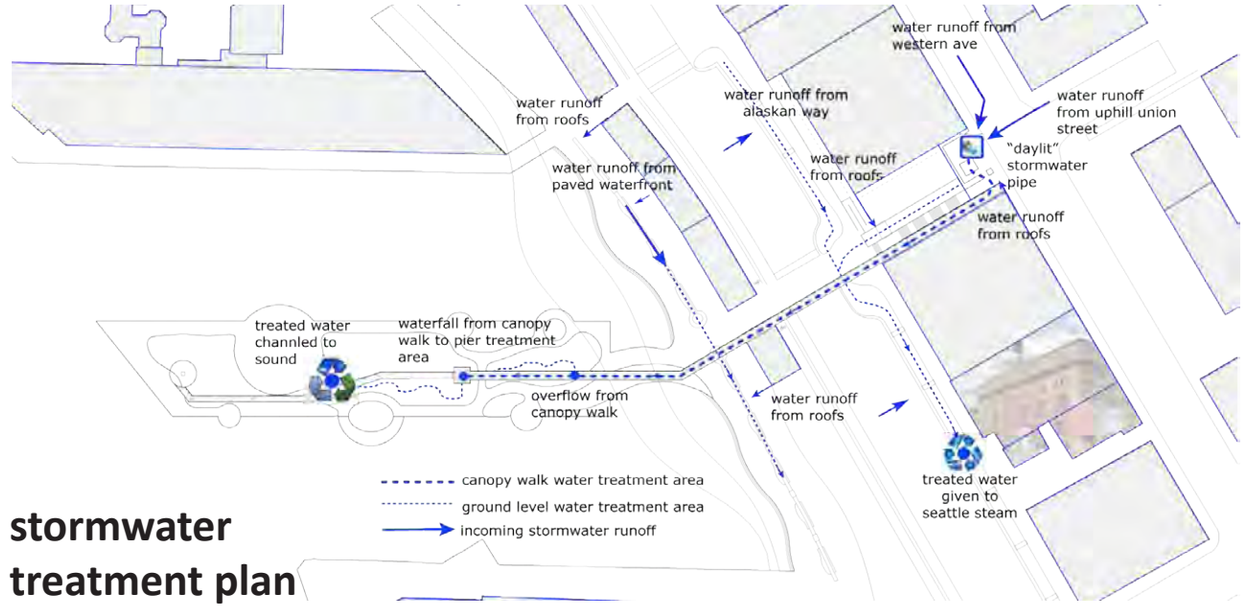
benfits:

- provides elevated views
- creates a connection between western avenue and the waterfront
- channels stormwater to bio-filtrations system
- integrated lighting accommodates day and night time use
- the structure supports recreational activities below



stormwater canopy walk system

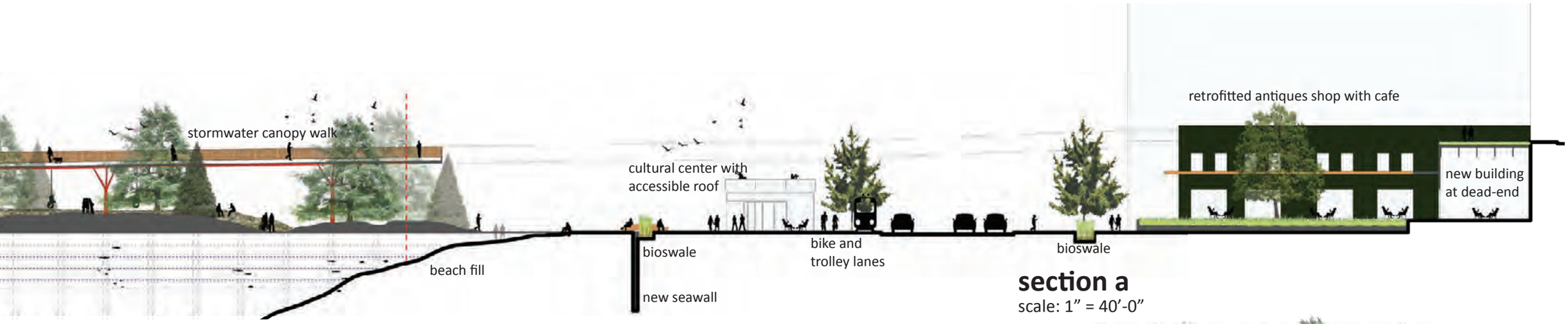




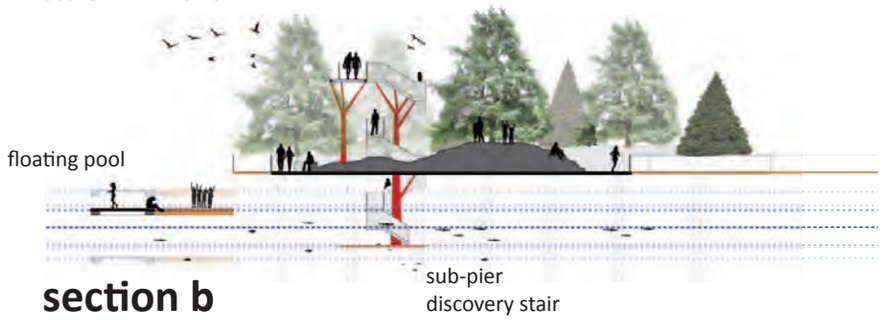
stormwater treatment plan

The canopy walk lights the path above and the space below, illuminating the forest pier and make it safe at all hours.

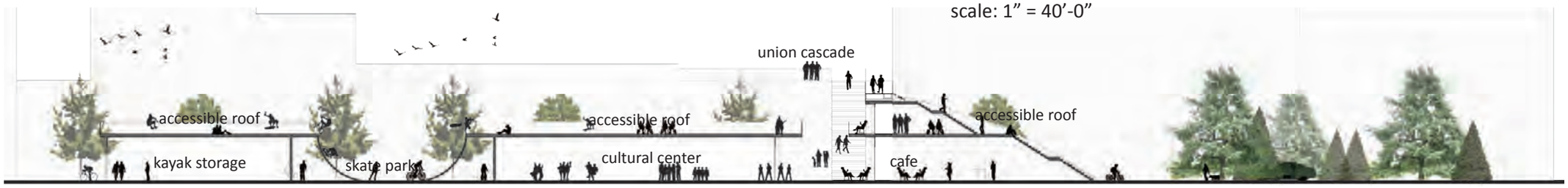
The new forested pier supports animal habitat along the waterfront and provides spaces for social interaction. The canopy walk provides a structure for elevated views, swings and night lighting of the pier.



section a
scale: 1” = 40’-0”

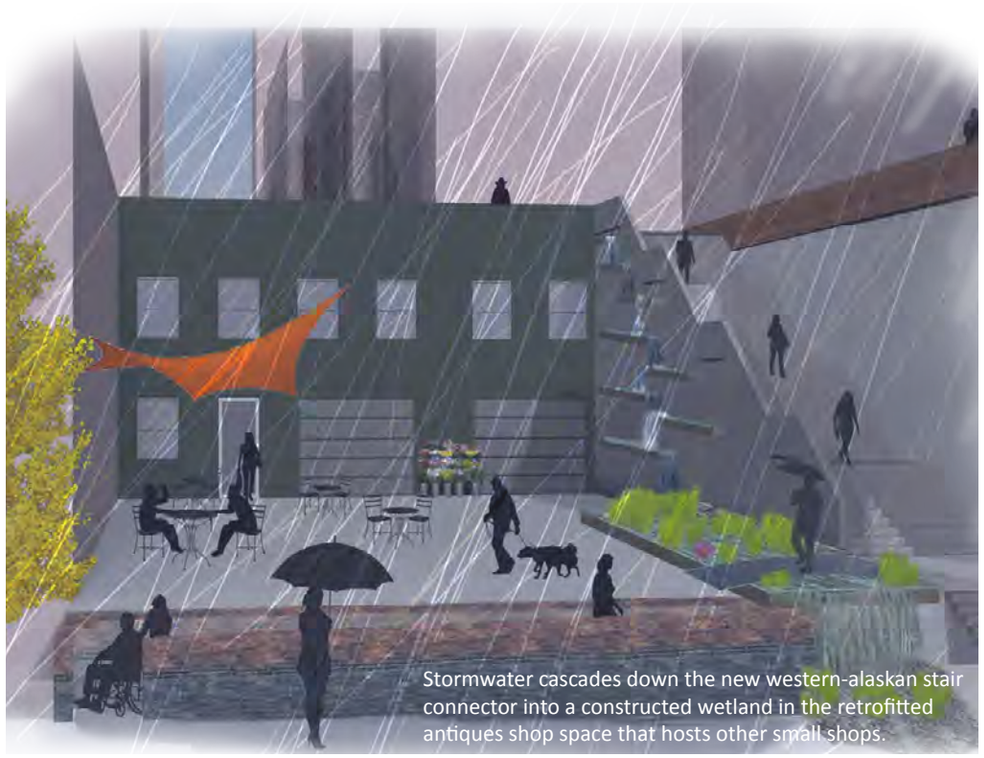


section b
scale: 1” = 40’-0”



section c
scale: 1” = 40’-0”

The new beach area with tide pools provides a habitat channel along the edge. A bioswale divides the boardwalk from the mixed-use buildings, treating runoff from roofs and the pavement.



Stormwater cascades down the new western-alaskan stair connector into a constructed wetland in the retrofitted antiques shop space that hosts other small shops.

FARM | CITY | FUN A city as a meeting and sharing place

Concept

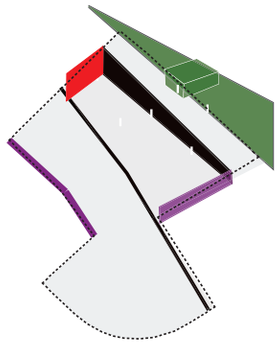
Sharing

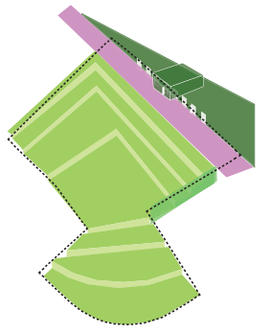
Educating

Mixed use

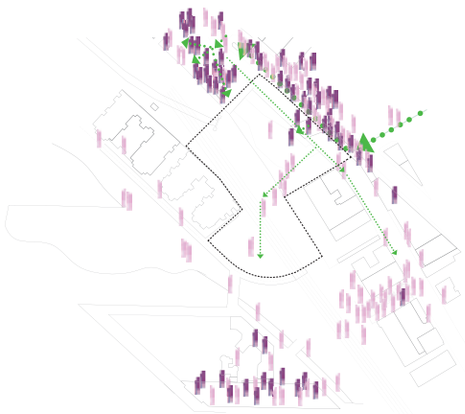
Strategies

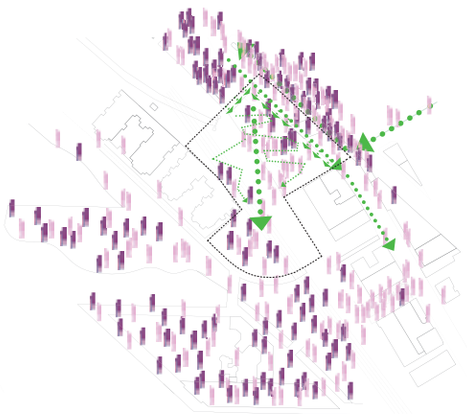
Open the edge: rise the site to the same level with wurrounding park and road.





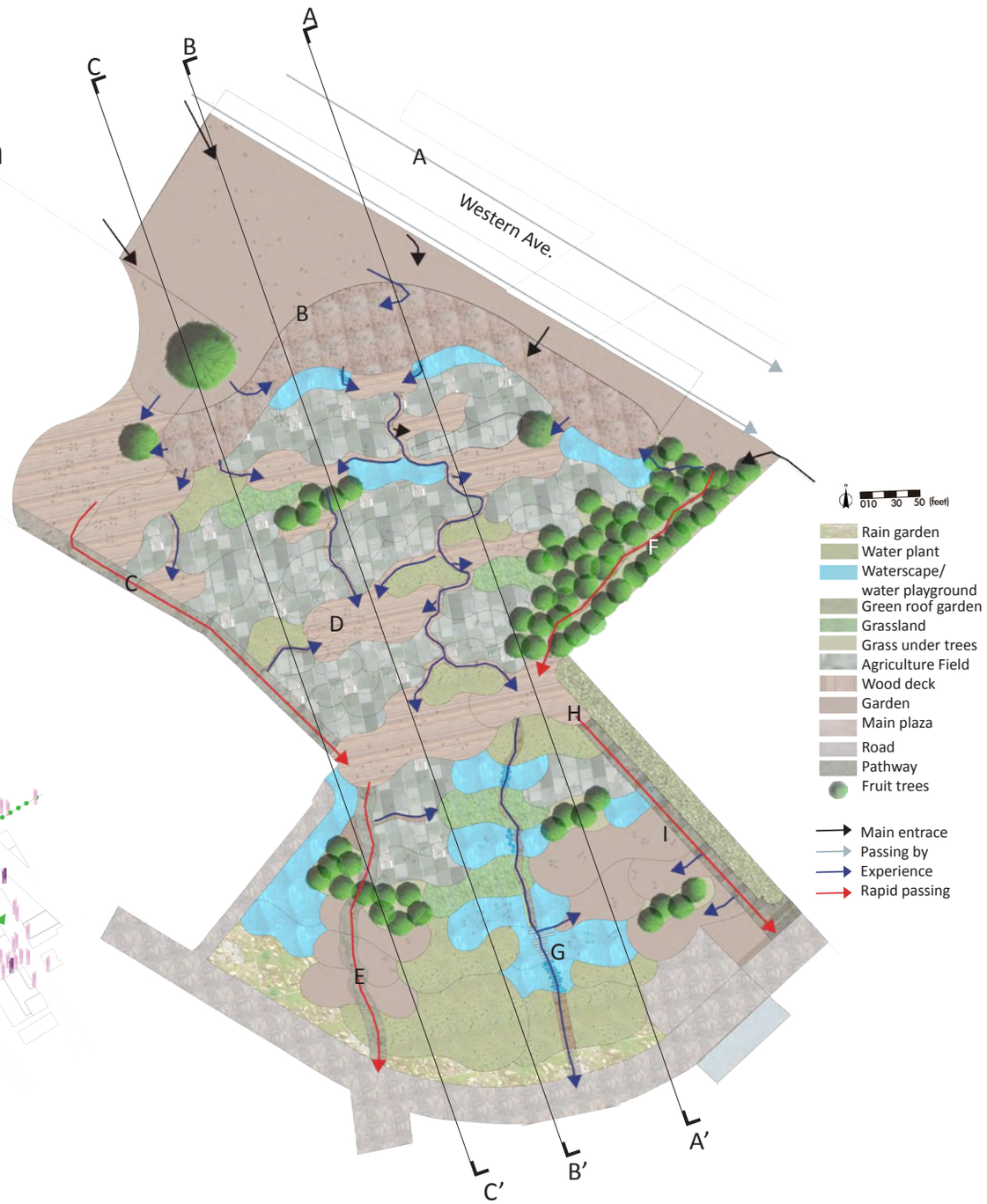
Make agriculture terrece form down to the waterfront with varied activities.





Routes of Automobile
Routes of Pesdestrian
Pedestrian: walking and staying

Design



A. Back side of Pike Place Market

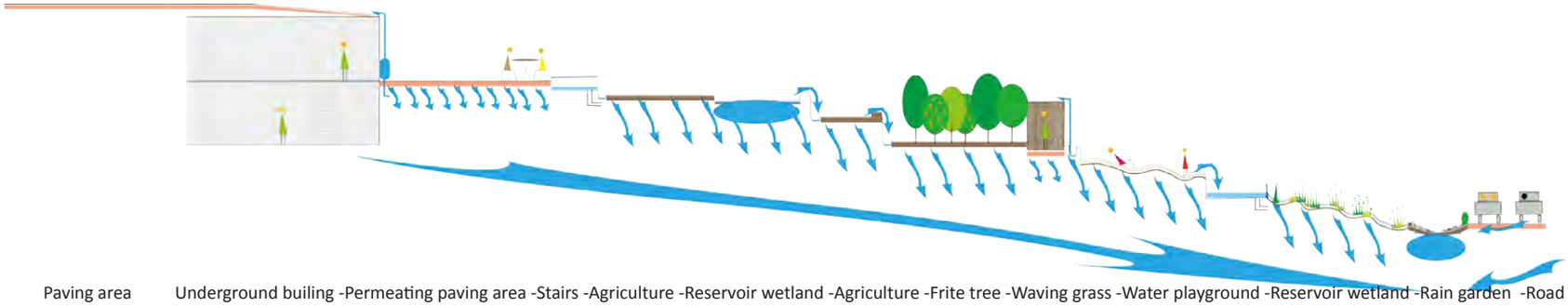
B. Facade of shopping path facing main plaza

C. View from ten feet path along the western site edge

D. On the ground building and front gathering space

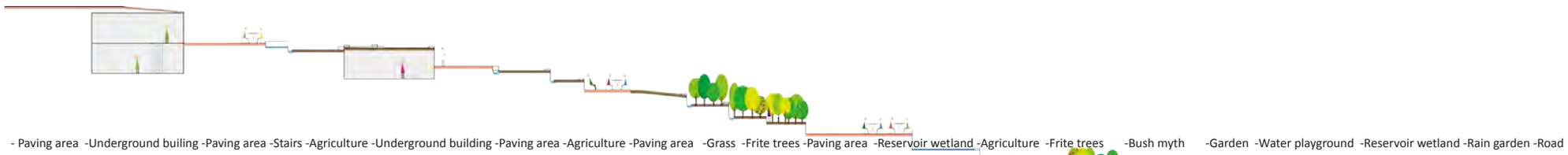
E. Five sense garden

Section



Paving area Underground builing -Permeating paving area -Stairs -Agriculture -Reservoir wetland -Agriculture -Frite tree -Waving grass -Water playground -Reservoir wetland -Rain garden -Road

Section A-A'

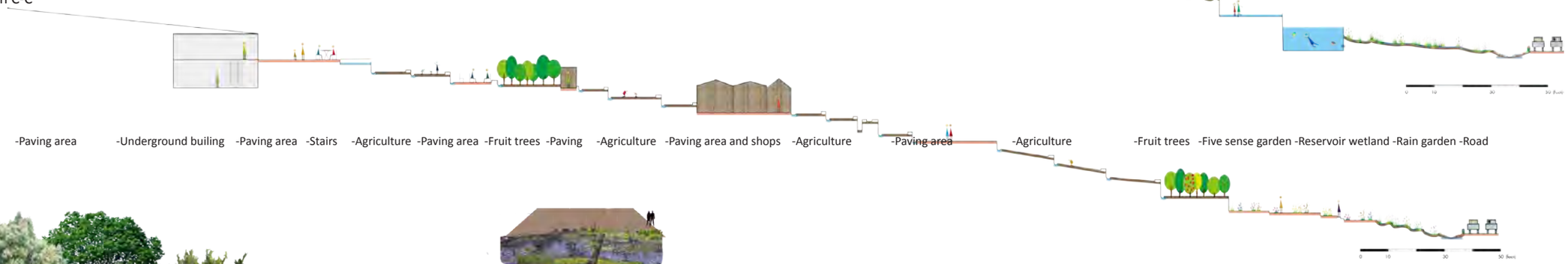


- Paving area -Underground builing -Paving area -Stairs -Agriculture -Underground building -Paving area -Agriculture -Paving area -Grass -Frite trees -Paving area -Reservoir wetland -Agriculture -Frite trees -Bush myth -Garden -Water playground -Reservoir wetland -Rain garden -Road

Section B-B'

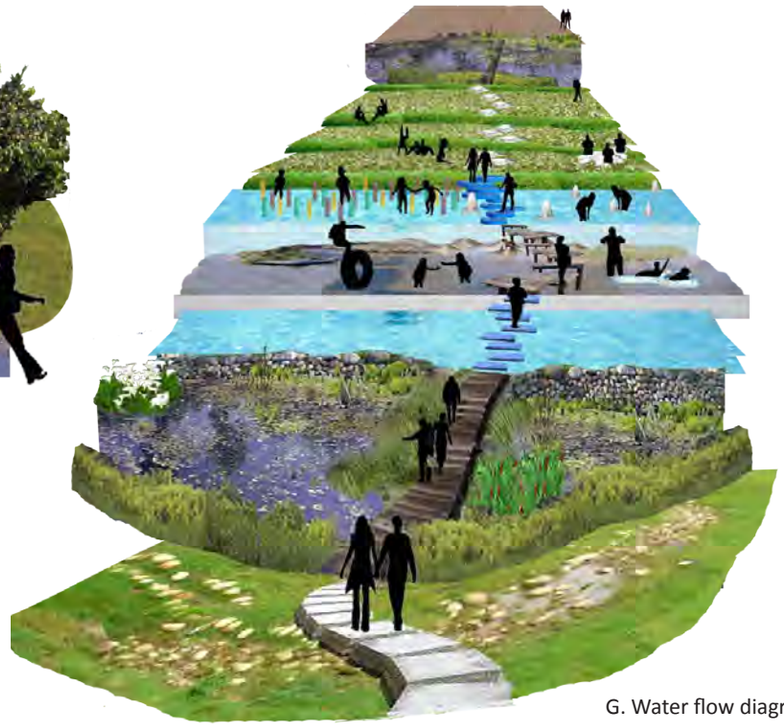
-Paving area -Underground builing -Paving area -Stairs -Agriculture -Reservoir wetland -Agriculture -wetland -Paving area -Agriculture -Stairs -Paving area -Watersacpe -Waving grass -Water playground -Waving grass -Water playground -Reservoir wetland -Rain garden -Road

Section C-C'



-Paving area -Underground builing -Paving area -Stairs -Agriculture -Paving area -Fruit trees -Paving -Agriculture -Paving area and shops -Agriculture -Paving area -Agriculture -Fruit trees -Five sense garden -Reservoir wetland -Rain garden -Road

F. Fruit tree forest path



G. Water flow diagram

H. The facade of parking lot building, shopping path

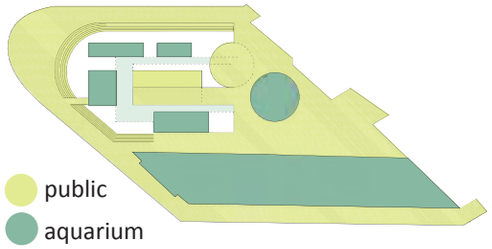
I. Myth garden having gathering space in between

Experience path

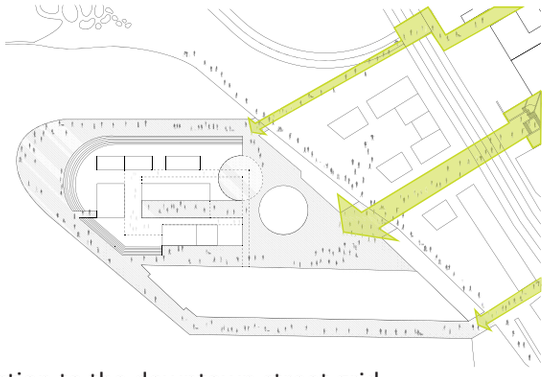
Aquarium Pier

The existing relationship between the aquarium and the waterfront is boring and unengaging.

With the addition of a public pier and a series of aquarium additions, the relationship is mutually beneficial to all users.

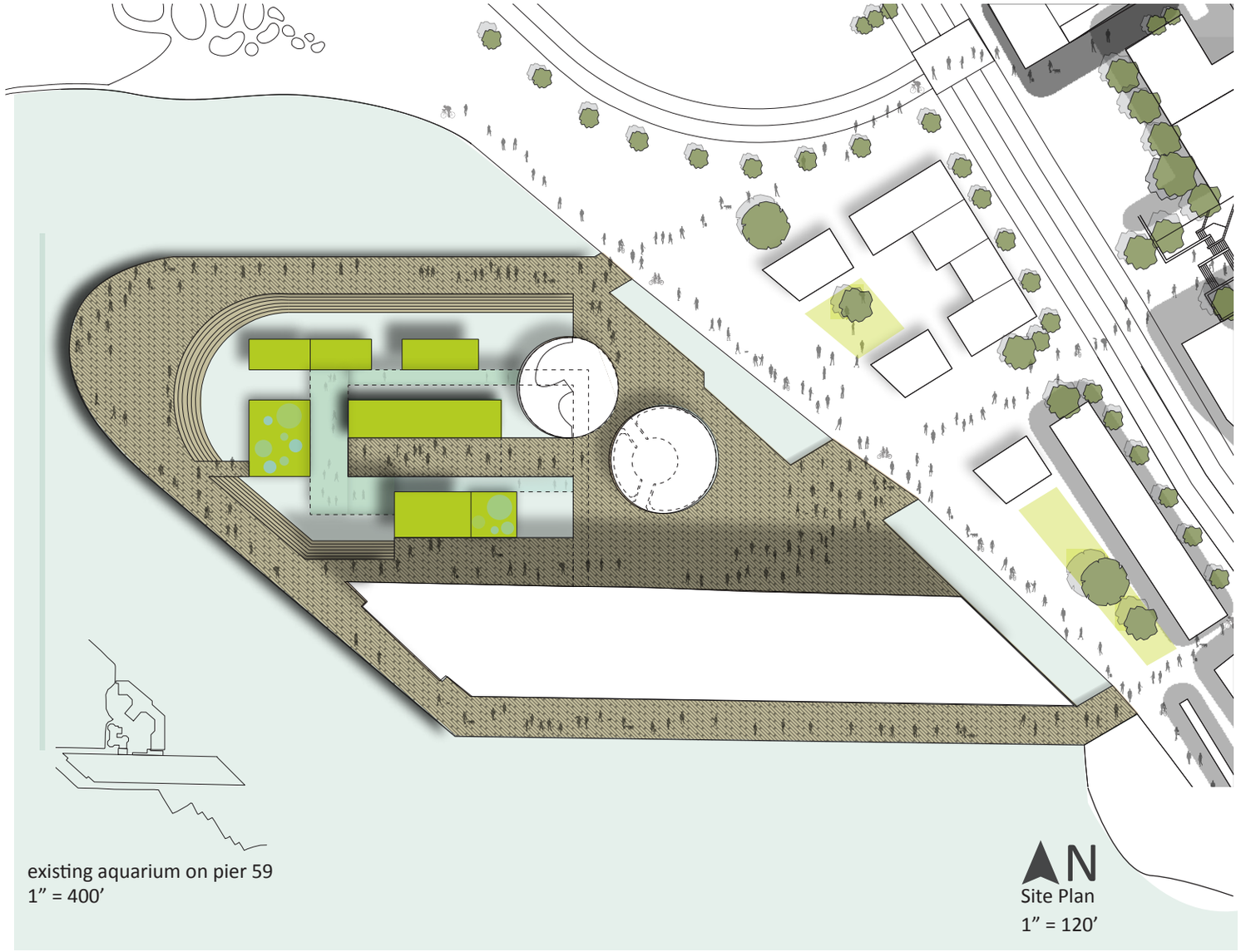


overlap of public and private functions



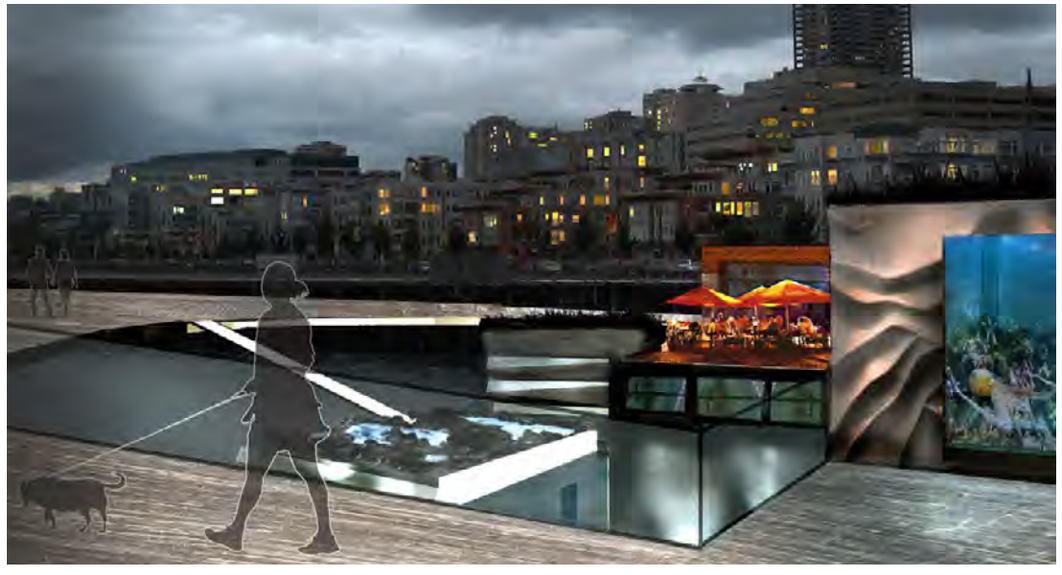
connection to the downtown street grid

aquarium expansion as marine habitat

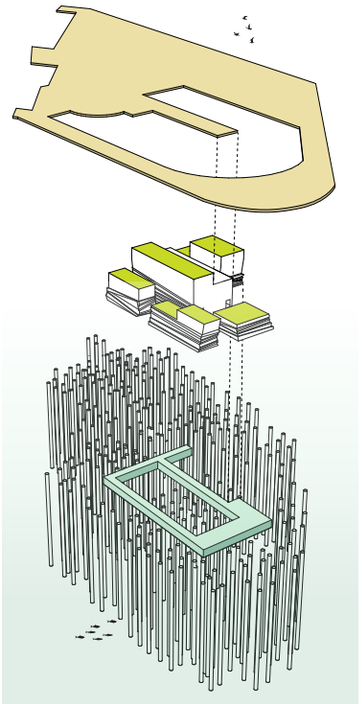


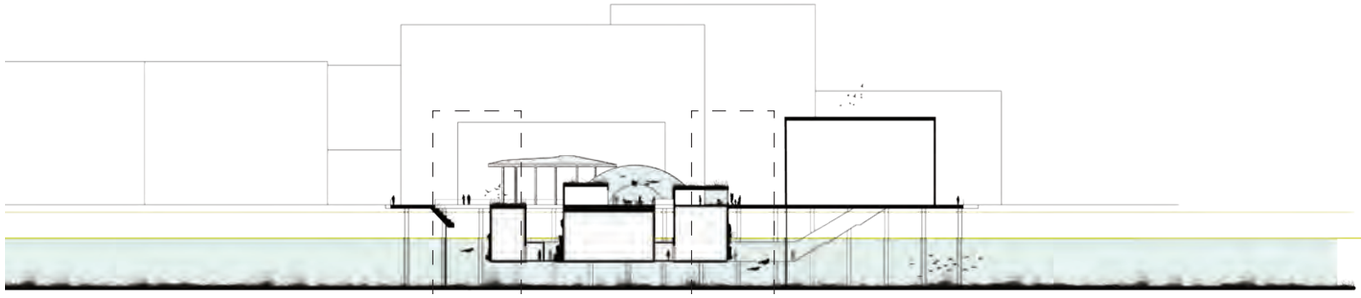
existing aquarium on pier 59
1” = 400’

N
Site Plan
1” = 120’

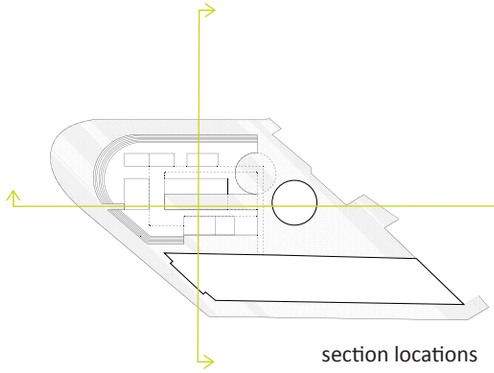


evening on aquarium pier

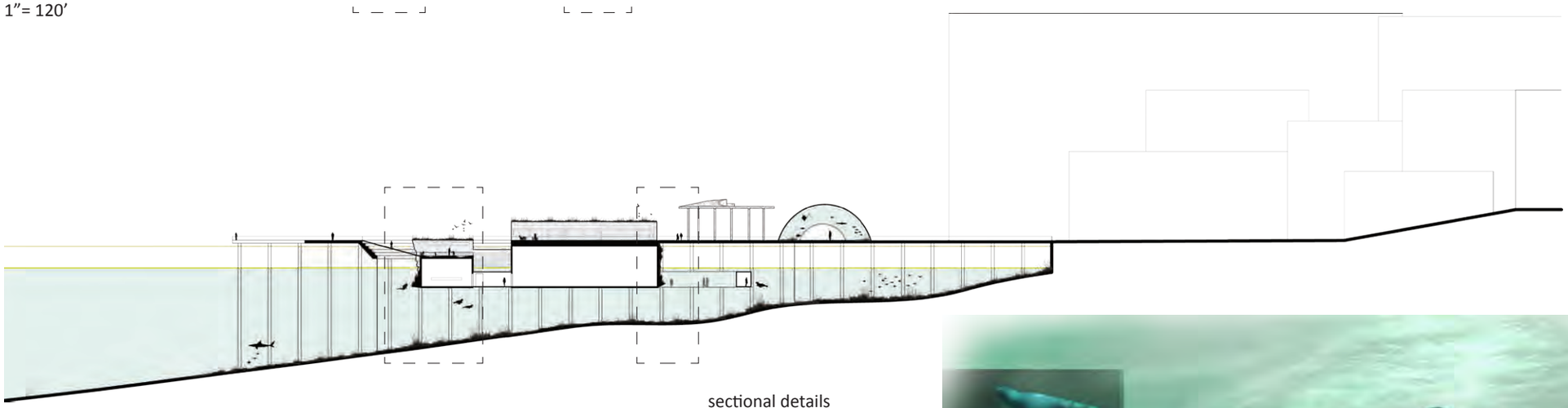




north|south section through aquarium pier
1”= 120’

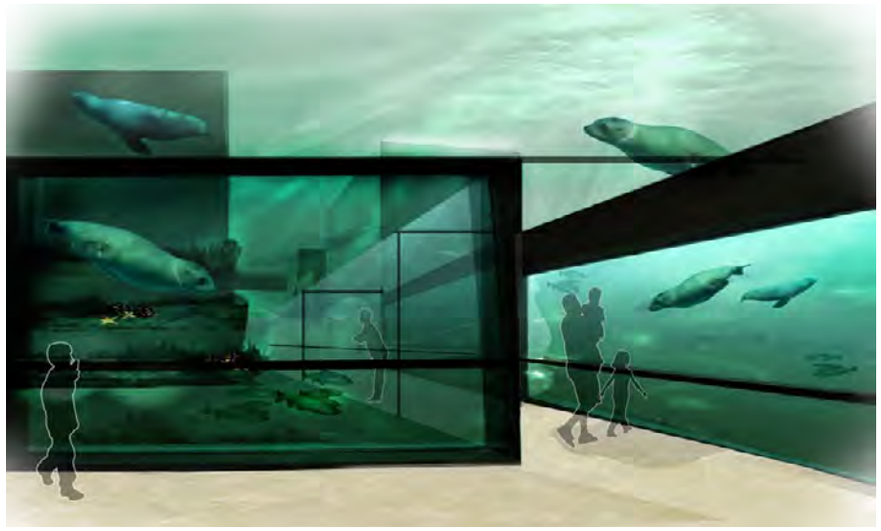


section locations

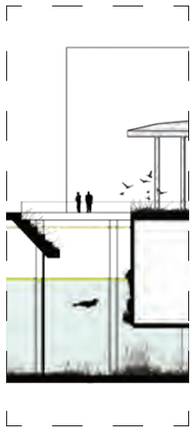


east|west section through aquarium pier
1”= 120’

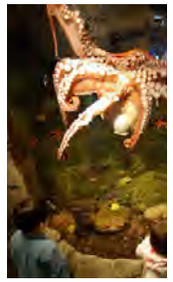
sectional details
1”= 60’



View into Elliott Bay from the underwater hallway connecting additional exhibit spaces

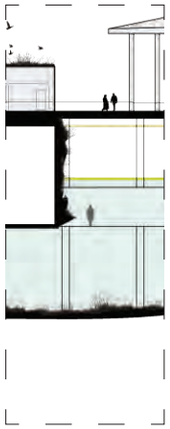


Planted steps encourage biodiversity and fence off the habitat exhibit for the aquarium sea mammals.

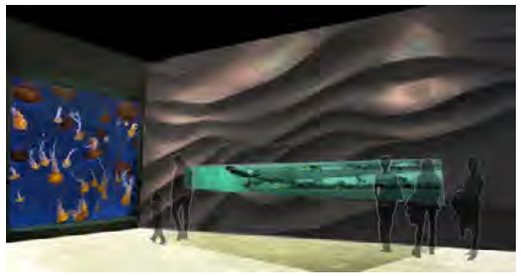


An octopus tank opens up onto the pier level as well as being viewed from inside the aquarium.

Rooftop tide pools are accessable during low tide and provide hands-on experience to both the aquarium and public.



The folded building exterior acts as a habitat bench for marine growth.



Interior of additional exhibit

Public Spaces | Public Life for Seattle’s Central Waterfront

Waterfront Way & Streetcar

Space & Movement at the Human Scale

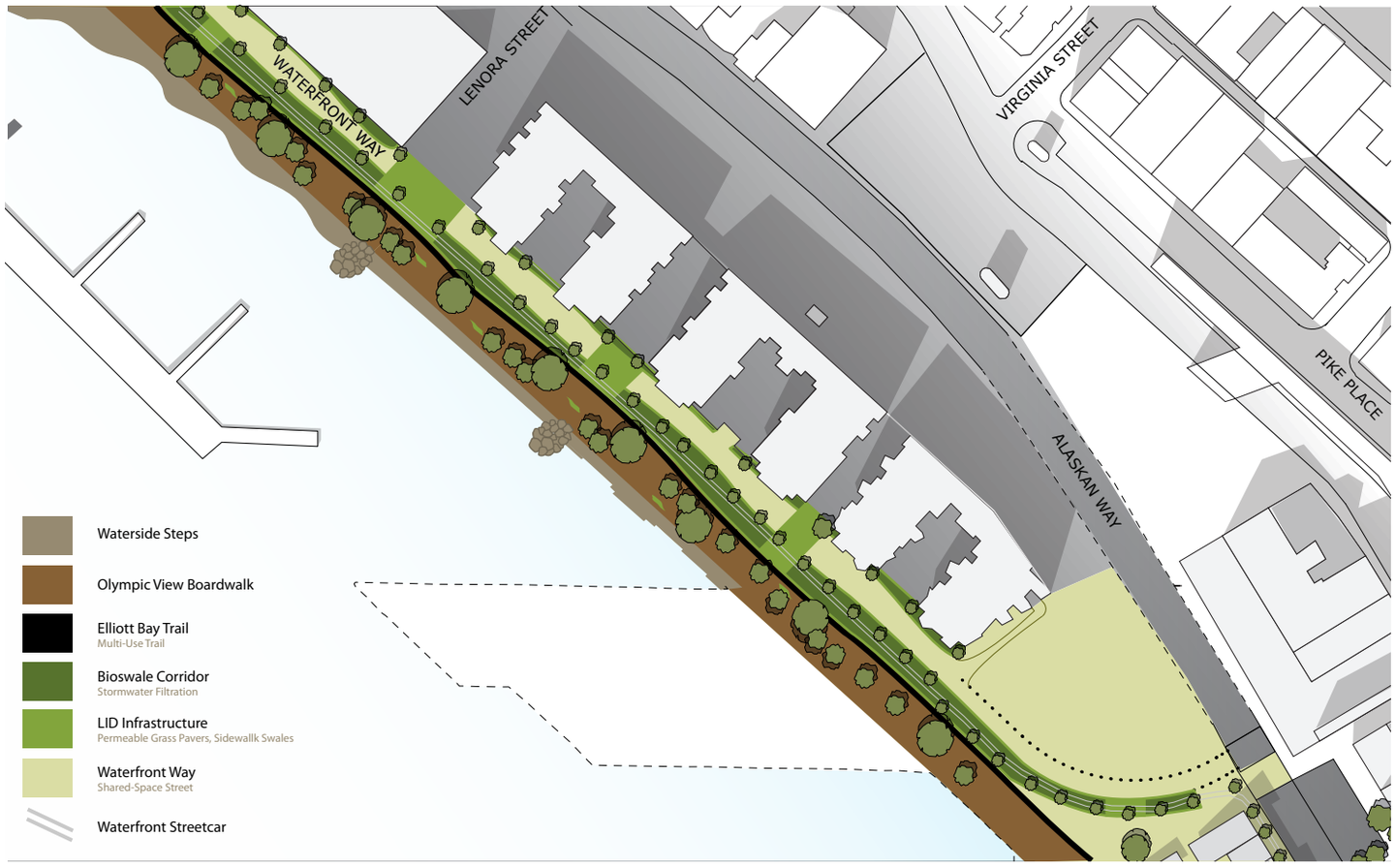
Absent the traffic typical of Alaskan Way today, the re-imagined waterfront street applies the principles of 'living streets' and 'shared space' to create a comfortable social space that enhances the public realm while accommodating the needs of local residents. The reinterpreted street suggests a new paradigm--place and movement at the human scale, where all modes enjoy equal priority, space is negotiated naturally at low speeds, and users are encouraged to *be* in the street as much as move through it.

People Meet Water
Western Harbor, Malmö, Sweden

Multi-Use Trail
Elliott Bay Trail & Myrtle Edwards Park

Bioswale Streetcar
Alignment as Runoff Filter

Streets for Living
Carlsberg, Copenhagen, Denmark



Historical Ties to Rails

Railroad Avenue

Known as Railroad Avenue before 1936, the street was originally characterized by industry and its associated web of rail lines, which wove across wooden trestles suspended above the rocky shores of Elliott Bay. The design of Waterfront Way draws inspiration from the street's past, including a reinterpretation of the boardwalk and old freight rails.

Railroad Ave from Wall St (1916) and Marion St (1934).
Source: University of Washington Libraries Digital Collection

George Benson Waterfront Streetcar

In operation from 1982 through 2005, the 'Benson Line' was an iconic vintage streetcar that connected Broad Street to Pioneer Square and the International District via Alaskan Way. One of the classic cars will stand as a monument along the Olympic Sculpture Walk, while the Waterfront service will be reinstated on a newly constructed track.

George Benson Waterfront Streetcar
Source: City of Seattle Municipal Archives

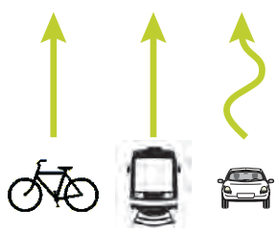
Circulation Concepts

Systems for Movement | *At Human Scale*

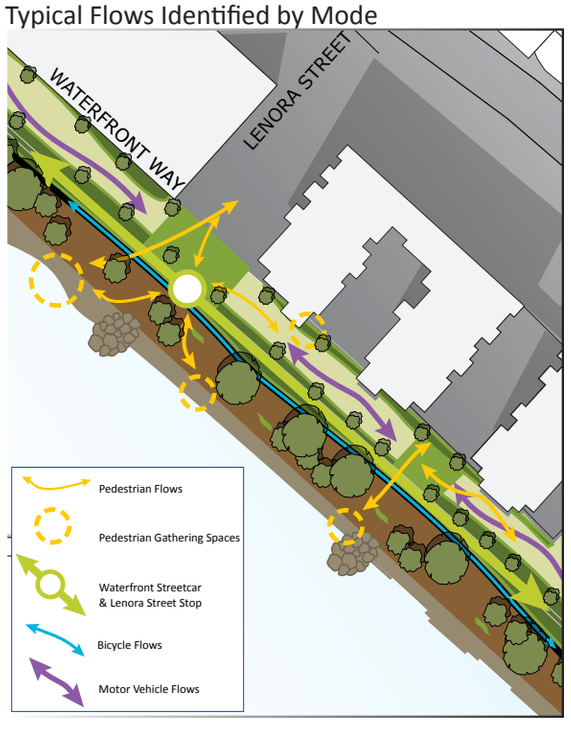
Every component of the transportation system is designed to move at a pace more hospitable to people than the motor-vehicle-dominated Alaskan Way. Motorized traffic on the street is slowed significantly through the use of traffic calming measures typical of shared-space streets; an abundance of space is available for walking or bicycling, and the re-introduced Waterfront Streetcar offers to do the leg-work for those needing to travel a greater distance along the waterfront--and for those simply interested in a relaxing ride.

Improvements for Bicycling | *Elliott Bay Trail*

Elliott Bay Trail has been re-aligned to follow the west side of Waterfront Way, providing a path uninterupted by crossstreets for the entire length of the central waterfront. The path has also been widened to 10 feet, and bicycle racks abound to ensure that riders can stop riding and start resting whenever they may desire.



Typical Flows Identified by Mode



Waterfront Streetcar
Proposed Service Map

Olympic View Boardwalk at Dusk.

Places for Seating | Spaces for Meeting

Variegated steps line the boardwalk, inviting passers-by down to the water to stop and stay in one of the many gathering spaces created by undulating steps. Benches opposite the steps slide along rails, encouraging users to pull up a seat wherever their favorite spot or friendly gathering finds itself.

Places for Eating | Wine & Dine Waterside

Mobile vendors of all sorts flock to the boardwalk, congregating near popular social spaces to serve everything from coffee on the go to gourmet street fare--a great spot for families and business lunches alike.

Places for Relaxing | Indulge the Senses

Nature or nurture--or perhaps both at once. Cafe tables provide the perfect place to enjoy coffee, cake, and breathtaking views of the Olympic Peninsula across Elliott Bay.

A Place for Ecology | Low-Impact Design

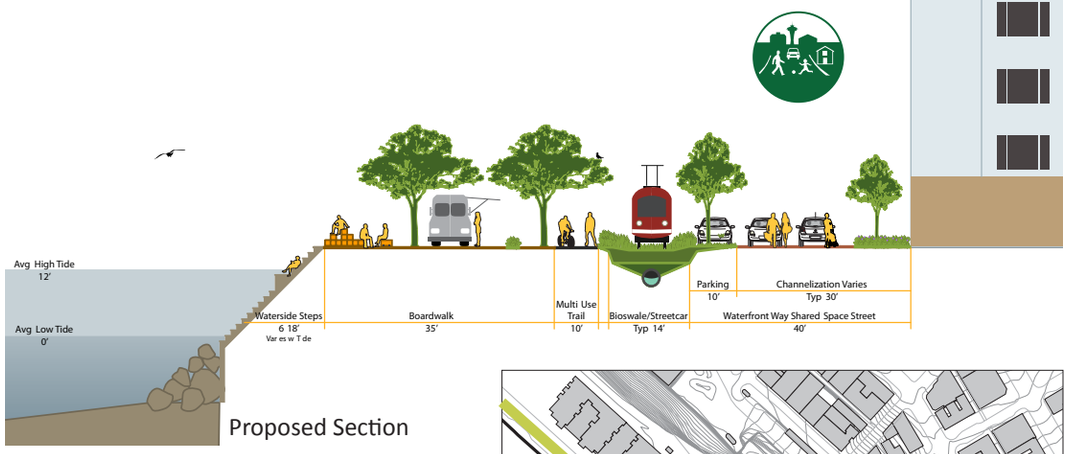
The entire project seeks to promote low-impact, ecologically sound design principles, especially with regards to water. While the most visible element of the site's stormwater systems is certainly the bioswale corridor running beneath the new Waterfront Streetcar alignment, this is but one piece of the significant sub-surface natural filtraton system. The expansive boardwalk introduces additional pervious surface to the formerly primarily concrete scene, and boards 'split open' intermittently to allow the plant-life beanath to peak through.

Early Morning on Waterfront Way

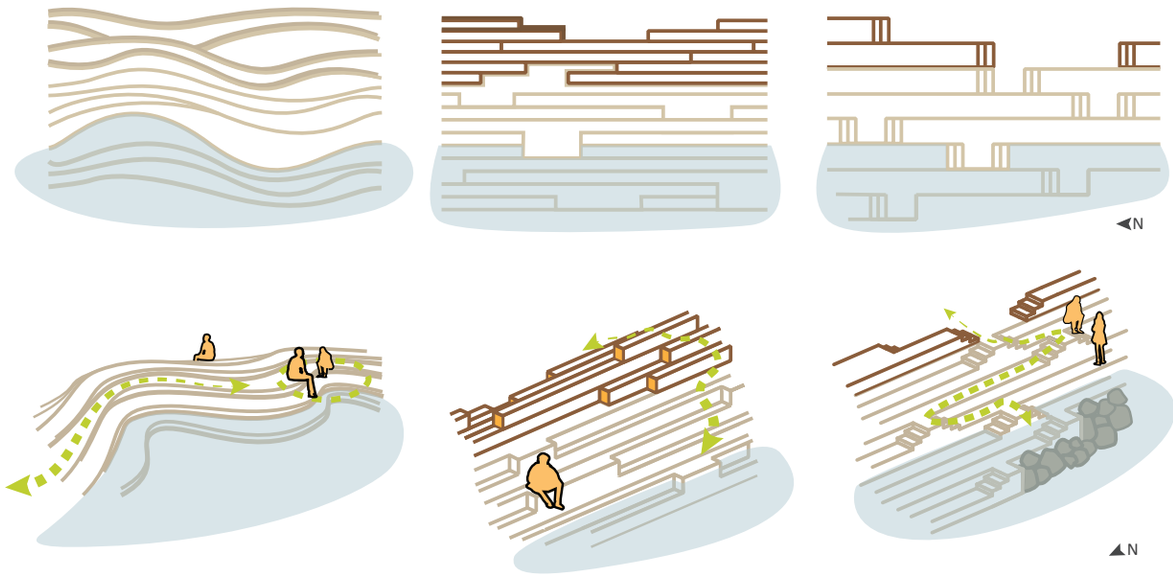
Quick Win | Temporary Shared-Space Street Trial

Because development of Waterfront Way as a shared-space street as designed [left] would be both costly and unprecedented in Seattle, a trial scenario should be used to confirm projections about its value and applicability. A temporary and inexpensive means of testing this concept suggests simply installing movable planter boxes [above] within the existing motor vehicle right-of-way. A method such as this, deployed near Nørreport Station in Copenhagen in September 2011, effectively simulates the reduced traffic capacity and weaving travel paths characteristic of a shared-space street.

Existing Section



Proposed Section

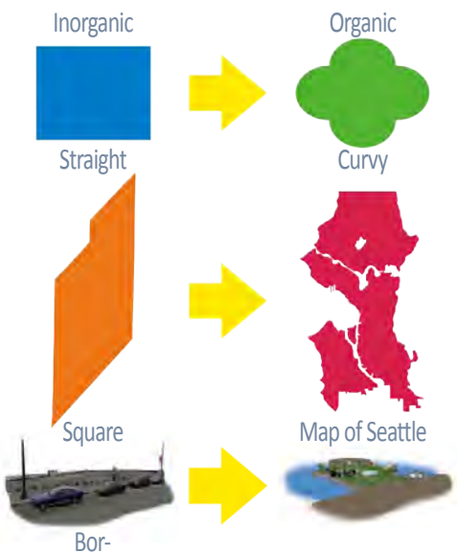


Waterside Steps | Olympic View Boardwalk

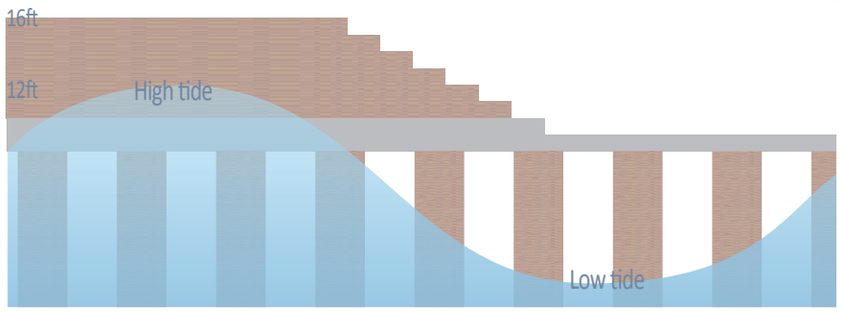
The Olympic View Boardwalk is divided into three distinct spaces according to the character of each one's respective waterside steps. Each set of steps exhibits some form of horizontal and/or vertical undulating pattern, thereby influencing how individuals might flow through or stay in the unique resulting spaces. The rise and fall of the tide introduces a natural element of fluctuation--alternately engulfing or uncovering the concrete seating spaces--while further variety is introduced through sliding wooden steps and benches that allow users to customize their experience.

Play Park Pier

Concept is play on Seattle map!



Tide system



They have two layers of pier. There are small Lake Union and Elliott Bay on the lower pier, which are flooded with seawater at the high tide. At the low tide, seawater desappear, but small water pockets on the lower pier collect seawater.

Water pocket

Left isometric 3D model @high tide

Floating system

Floating bridge

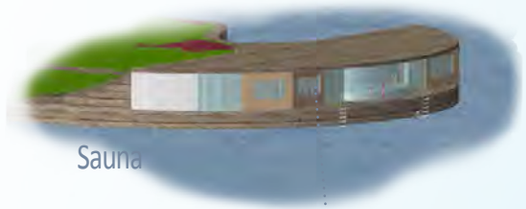
Floating kayak slope

Section @high tide 1”=50’

At the tip of this pier, there is play slope and the pier goes up. People can enjoy great view at the highest point of this pier. Under this slope, there is sauna. The wall of sauna is made of glass, so that people can enjoy sauna with nice view. If they want to get cooler, they can jump in to the sea!

Play slope

In front of the play slope, there are food wagons, so that people who are waiting for their family or friends from sauna won't be bored.



Sauna

Kayak

People can enjoy kayak
at the location of "Magnuson Park."

Cafe in DownTown

At the location of "DownTown," there is cafe. The path of this park pass through the cafe, which engage people to the cafe. People can buy some cup of coffee for their picnics, or take a rest inside of it. Its wall is made of glass, so that people can the ocean even if they are inside.

They have restroom
at the location of "Seward Park."

Paths and bridges are along "I-5" and "I-90."
Bridges are so narrow that people can be thrilled.

Flower gardens

They have several flower gardens at the location of parks/gardens in Seattle.

Play meadow

At southwest part of Seattle, there is play meadow.
They have just two soccer goals.
People can enjoy whatever they want!

Plan @ liw tide 1"=75'

Green Lake

Around the hole of "Green Lake,"
there are several circle glasses.
People can stand on the glasses and look into the sea.

climbing Space Needle

Play ship on Elliott Bay

On "Elliott Bay" the play ship is floating! Actually, it exists on the pier and doesn't float. During high tide, it looks floating and kids can play on the water.

Alki Beach

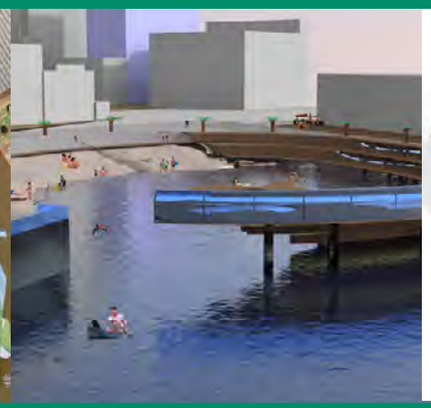
At the location of "Alki Beach," there is artificial beach. During summer, people can enjoy sea bathing. And if they want to take a shower, they can use sauna.

AUDREY MALONEY	MLA
HILARY MCDONALD	MArch
JESSICA MICHALAK	MLA
HARUNA NEMOTO	MLA
JENNY NGO	MUP
ROMA SHAH	MArch, MLA

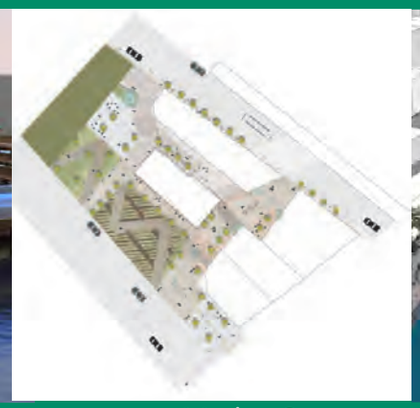
Seaweed

New Pier 62/62

Starfish



Urban Beach



Market Commons

Puget Sound Diving Center

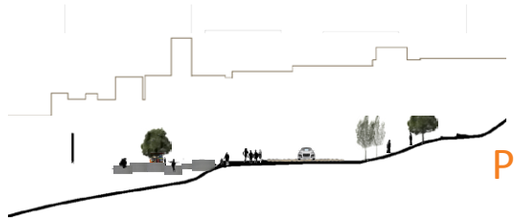
Pocket Piers

Seaweed

This district plan for the Seattle Central Waterfront takes inspiration from the native seaweeds found in the Puget Sound waters. Seaweed requires 3 things to survive: sunlight, saltwater and a strong anchor point, analagous to Seattle's historical dependence on its port and waterfront. The goal was to create a pedestrian priority district that would provide attractions, amenities and resources to the waterfront promoting year-round day and night use. The Seaweed master plan establishes a new district at the water's edge where the city can take root. The Sea Path is the spatial anchor/stem for the district, while the east-west stormwater function, ecological details, and pedestrian connections and ecological details form tendrils connecting the city to Elliot Bay.

The new waterfront district requires clear circulation intertwined with activities and ecology. First, a pedestrian promenade, 'Sea Path,' runs the north-south length of the waterfront. To better connect the site to the existing Seattle street grid, three specific east-west connections are extended to the Sea Path: Union Street, Pike Street, and a new connection from the PC-1 site (Pike Place Market). Each connection is developed in a character that reflects the needs of its vicinity. Additionally, due to the extreme grade of the site, each of these pedestrian corridors serves stormwater functions via rain gardens and biofiltration.

PC-1



PIKE ST

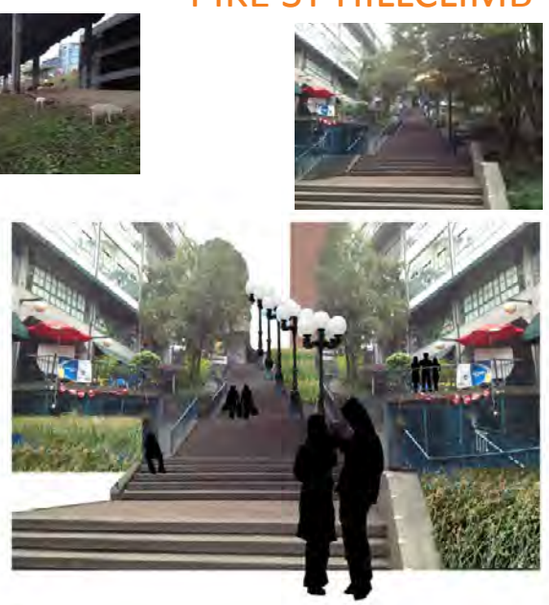
UNION ST

The Seaweed plan proposes an urban beach, waterfront plaza, extended space for the Seattle Aquarium, a new vision for pier 62/63 and new pedestrian experience from the PC-1 site. The following pages will explain these specific sites in further detail. Each design addresses the city to the east and bay to the west by weaving ecological considerations into the design proposals with rain gardens, green roofs, reduced near shore coverage, lightwells for salmon runs and native planting palettes.

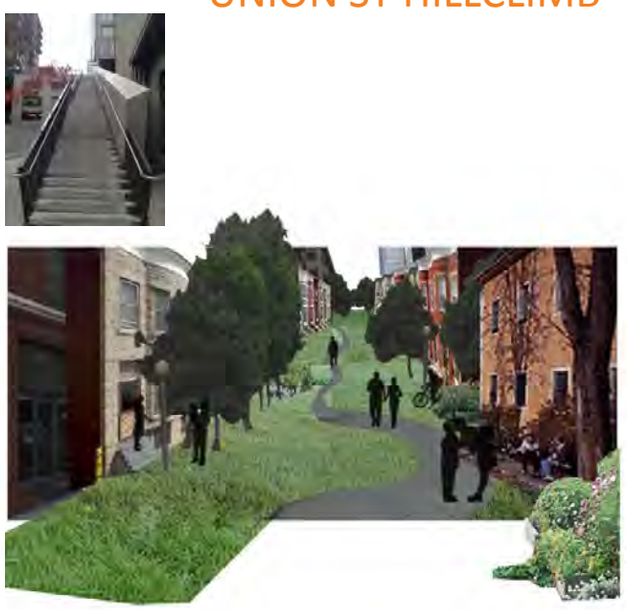
STORMWATER MANAGEMENT

PC-1 HILLCLIMB

PIKE ST HILLCLIMB



UNION ST HILLCLIMB



SEA PATH

The green streets which run along the PC1 Hillclimb, the Pike Street Hillclimb, and the Union Street Hillclmb serve as the primary routes for pedestrian circulation, stormwater treatment, and increased vegetation.

PC1 HILLCLIMB

PIER 62/ 63

NEW URBAN CORE

AQUARIUM PLAZA

IV

SITE PLAN

THE URBAN BEACH

Seaweed
Hilary Alves, Audrey Maloney, Jessica Michalak, Haruna Nemoto, Jenny Ngo, Roma Shaw

SEAWEED

STARFISH

With all of the assets present at the Seattle waterfront - stunnning views, proximity to lively neighborhoods, nature visible at a distance - how can the area overcome its current limitations to achieve a balance all the different needs and desire projected on to it? How should issues of transportation, topographical barriers, and pedestrian-unfriendly urban hardscape be addressed and integrated into such a visible space with so much potential for cultural, social, and ecological activity?

OPEN SPACE with potential to combine ecological + social function

VIEWS to be maximized

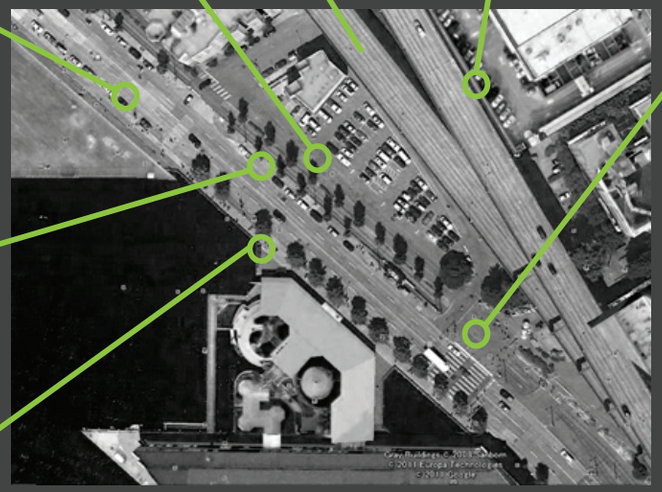
steep TOPOGRAPHY = opportunity for AESTHETIC STORMWATER management

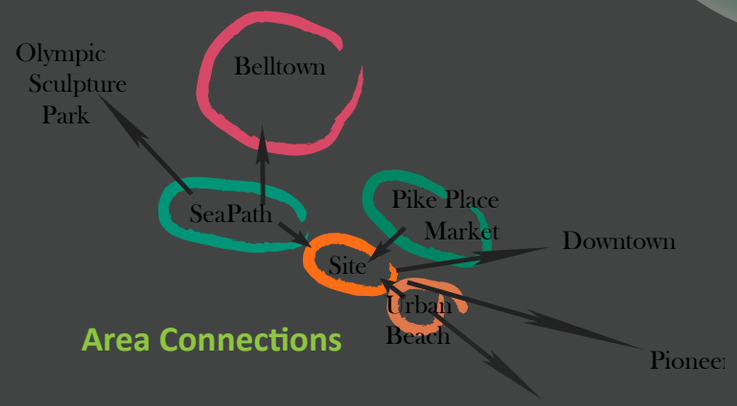
emphasize pedestrian CONNECTIONS

use NATIVE species & materials

restore PEDESTRIAN/ TRAFFIC balance

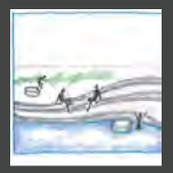
bring the CITY to the WATER





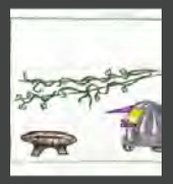
Area Connections

Activity Program:
Water + Steps for Seating & Play

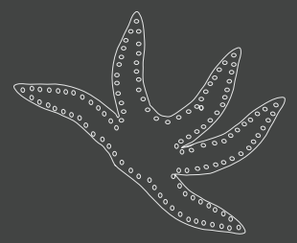


Activity Program:
Small scale commerical + residential mixed-use brings visitors & residents, and activity

Proximity Program:
Add seating, food, greenery, and elements of play to make distances more comfortable.

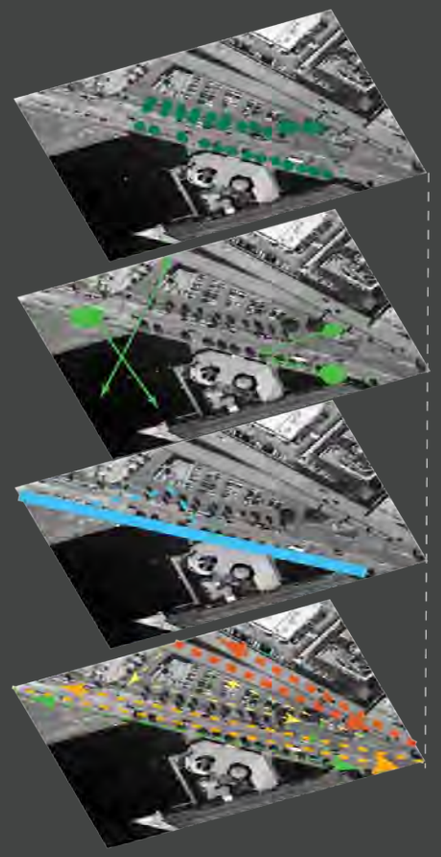


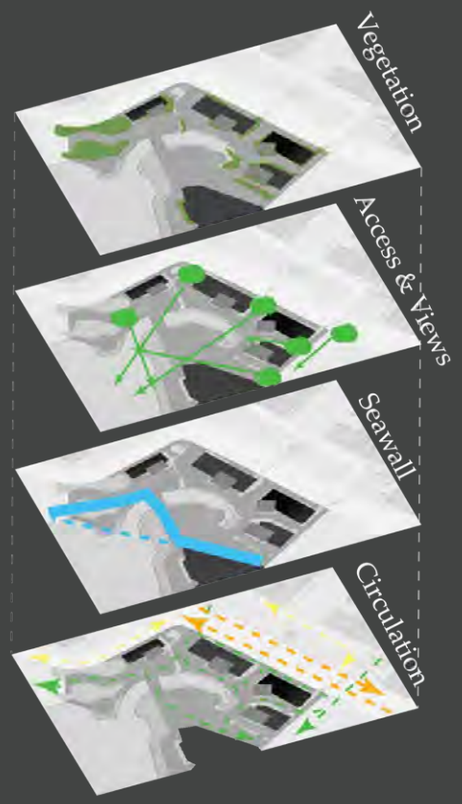
Identity Program:
Structures + water create a variety of spatial shapes, with a hierarchy of big/ small & social/private areas



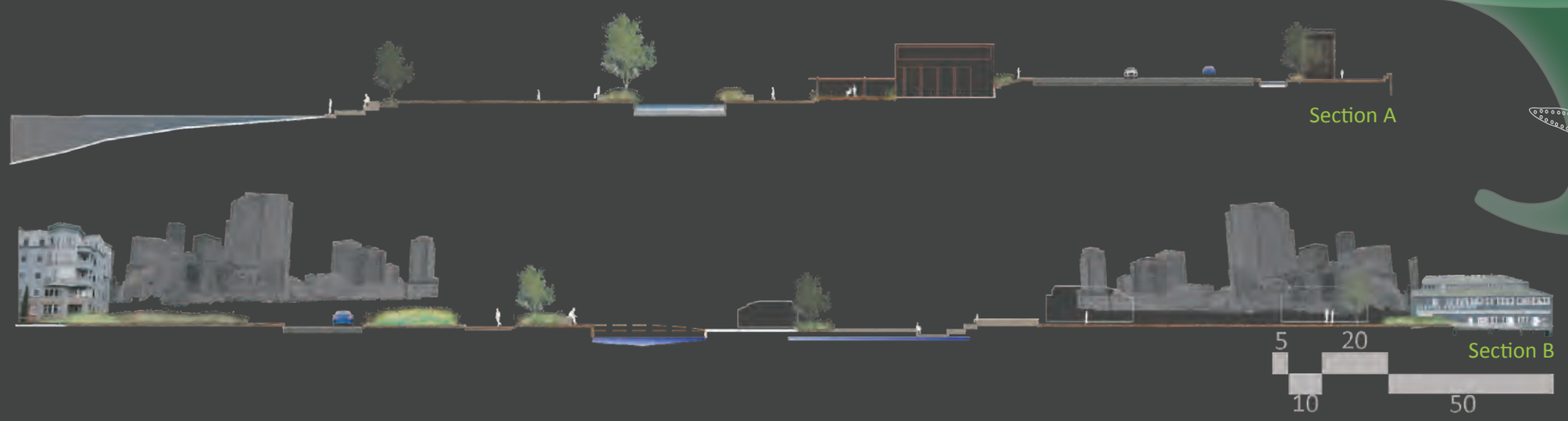
Proposed Site

Current Site

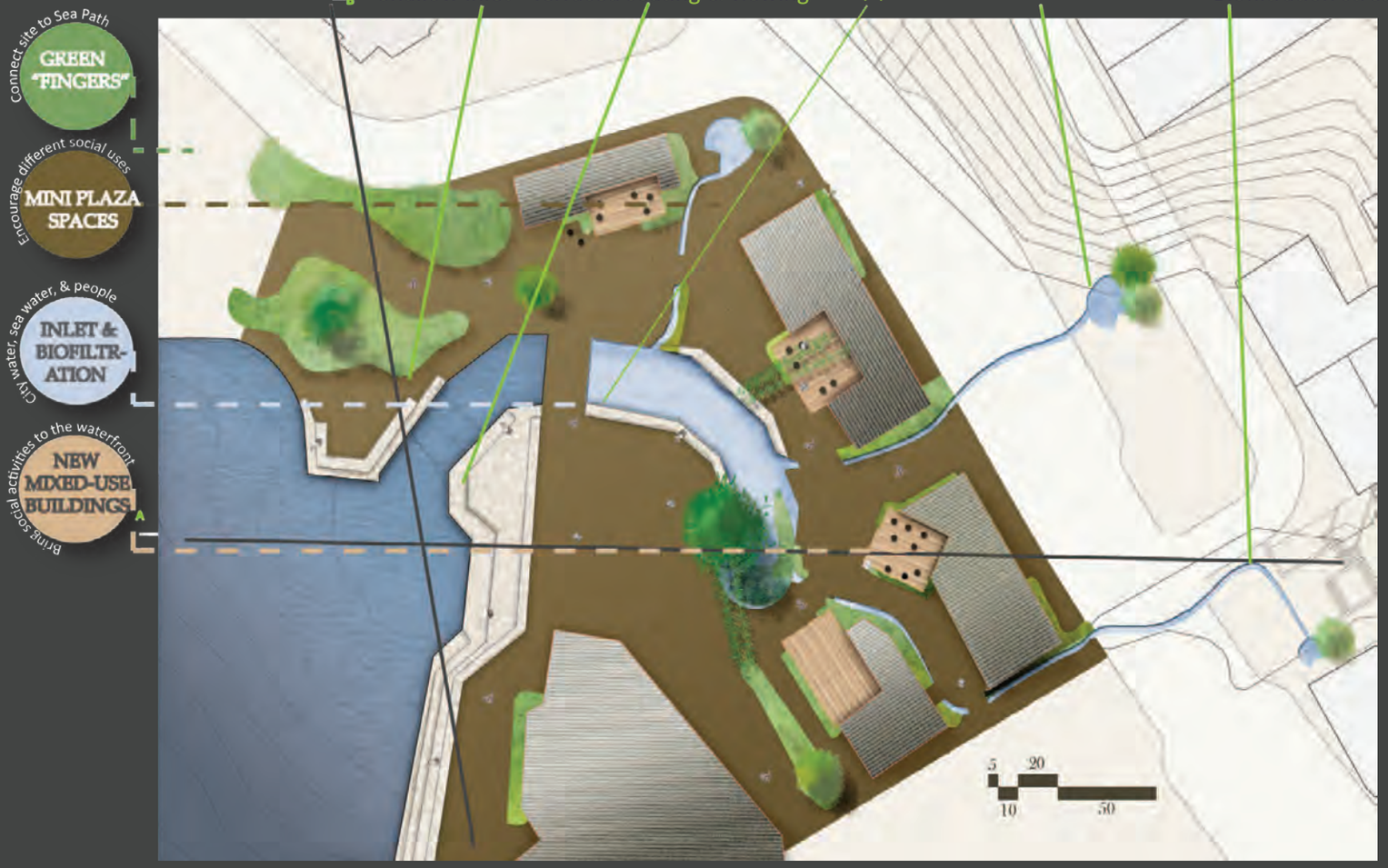




High Velocity Traffic
Med Velocity Traffic
Low Velocity Traffic
Pedestrian Traffic



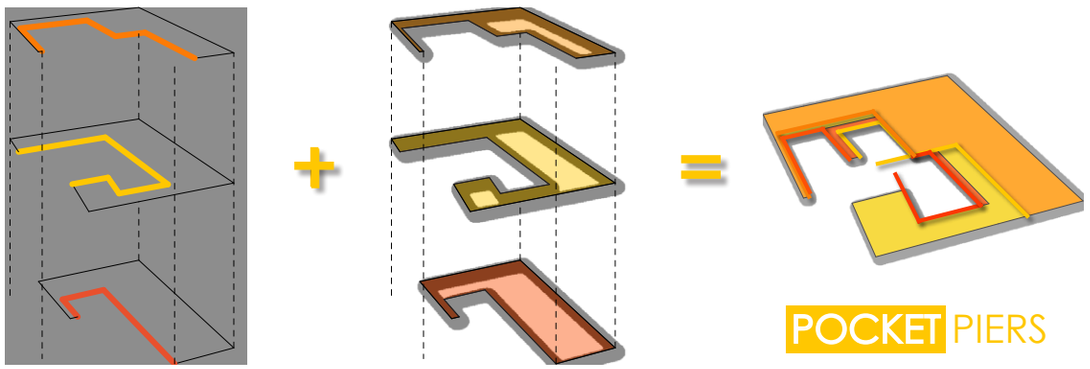
Night view

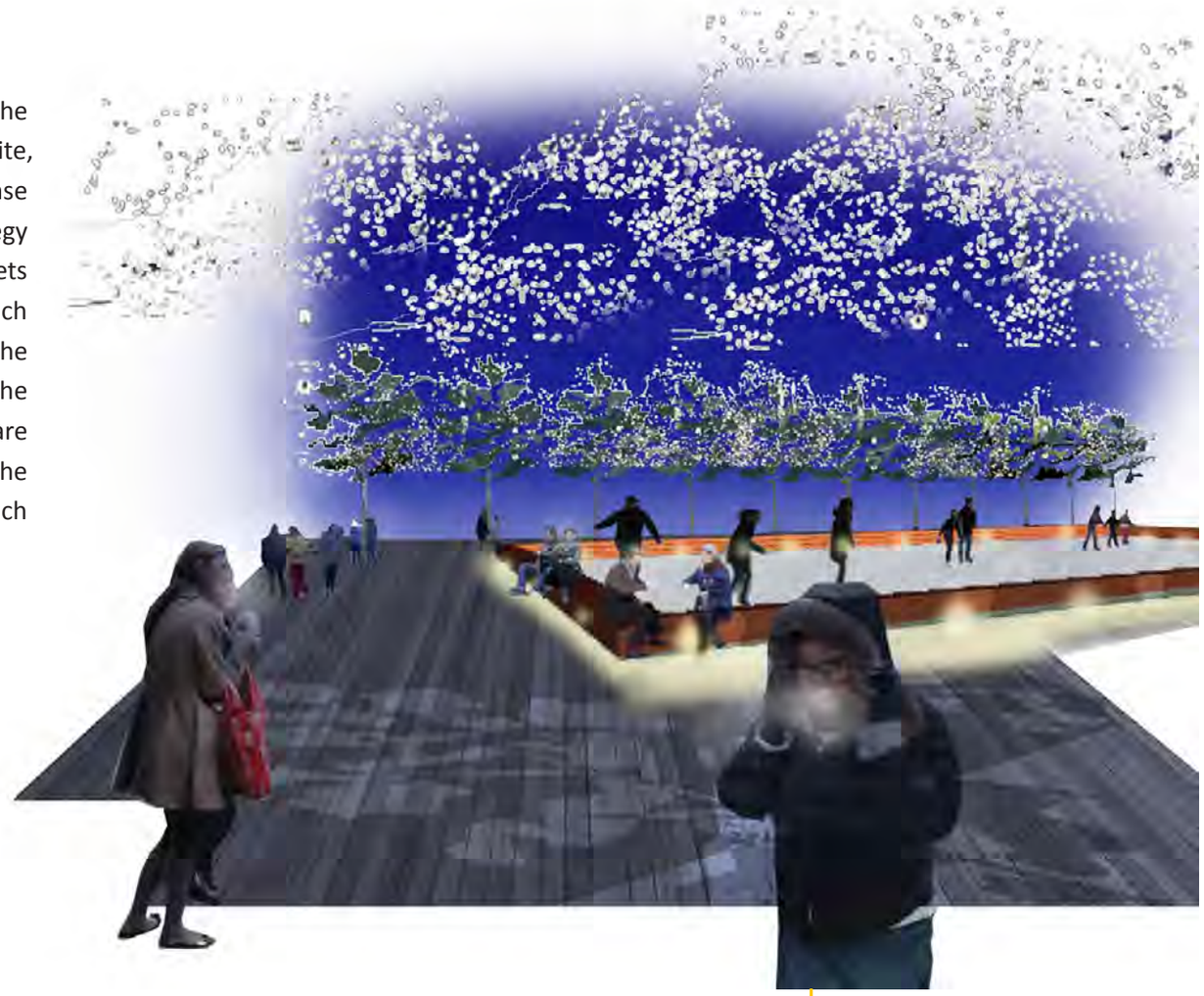


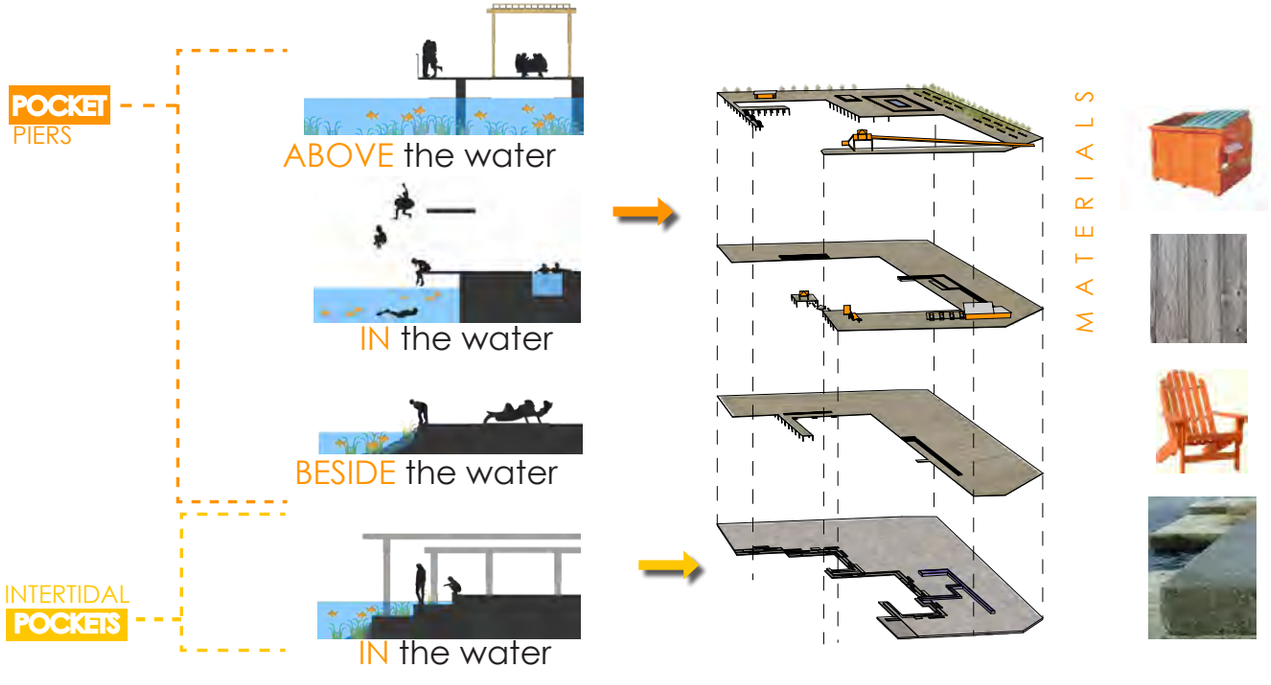
Seaweed
Audrey Maloney

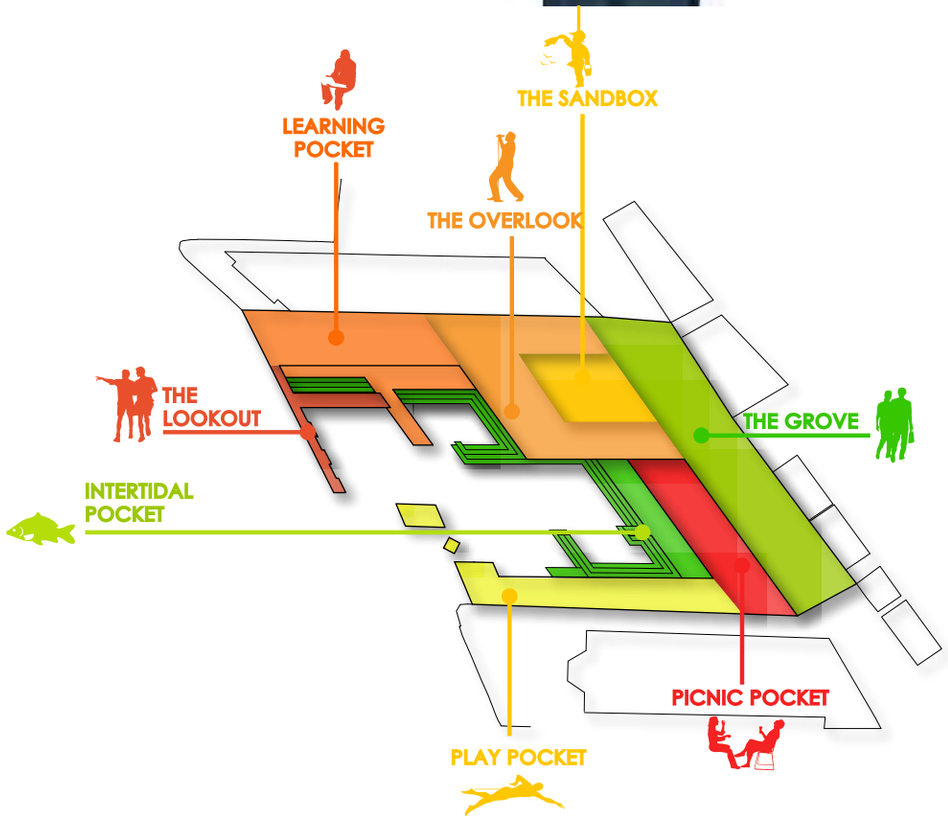
Pocket Piers: the Urban Beach

One of the major focal points of Seaweed master plan is the new urban beach which is located on the site directly south of the Seattle Aquarium, where Waterfront Park is today. The vast extents of the site, which measure nearly 500 feet north to south, pose a major challenge to activating and restoring a sense of human scale to the beach. The Pocket Piers concept draws upon the “pocket park” spatial strategy which breaks down the scale and localizes the activity of the adjacent green street on Union. Pockets which delineate the edges of three piers are stacked to create a dynamic composition of pockets which define the space and the activities which take place throughout the site. The stacked piers explore the various sectional relationships between people and the water, even allowing the public to touch the water, particularly at the lowest level of Intertidal Pockets. The Intertidal Pockets, like the Pier Pockets, are composed of three levels of pockets which are reveled and hidden with the changing tides. Over time, the concrete surface will allow for algae and vegetation to grow, highlighting the changing form that the beach can take over time.

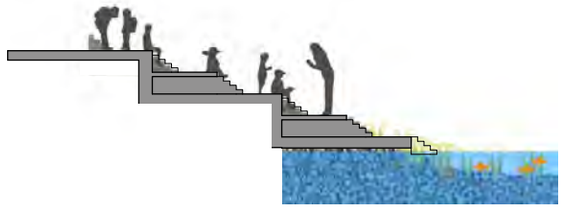






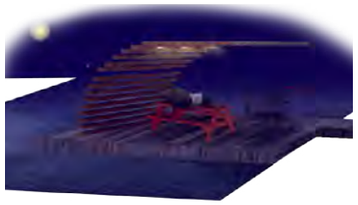


PICNIC POCKET

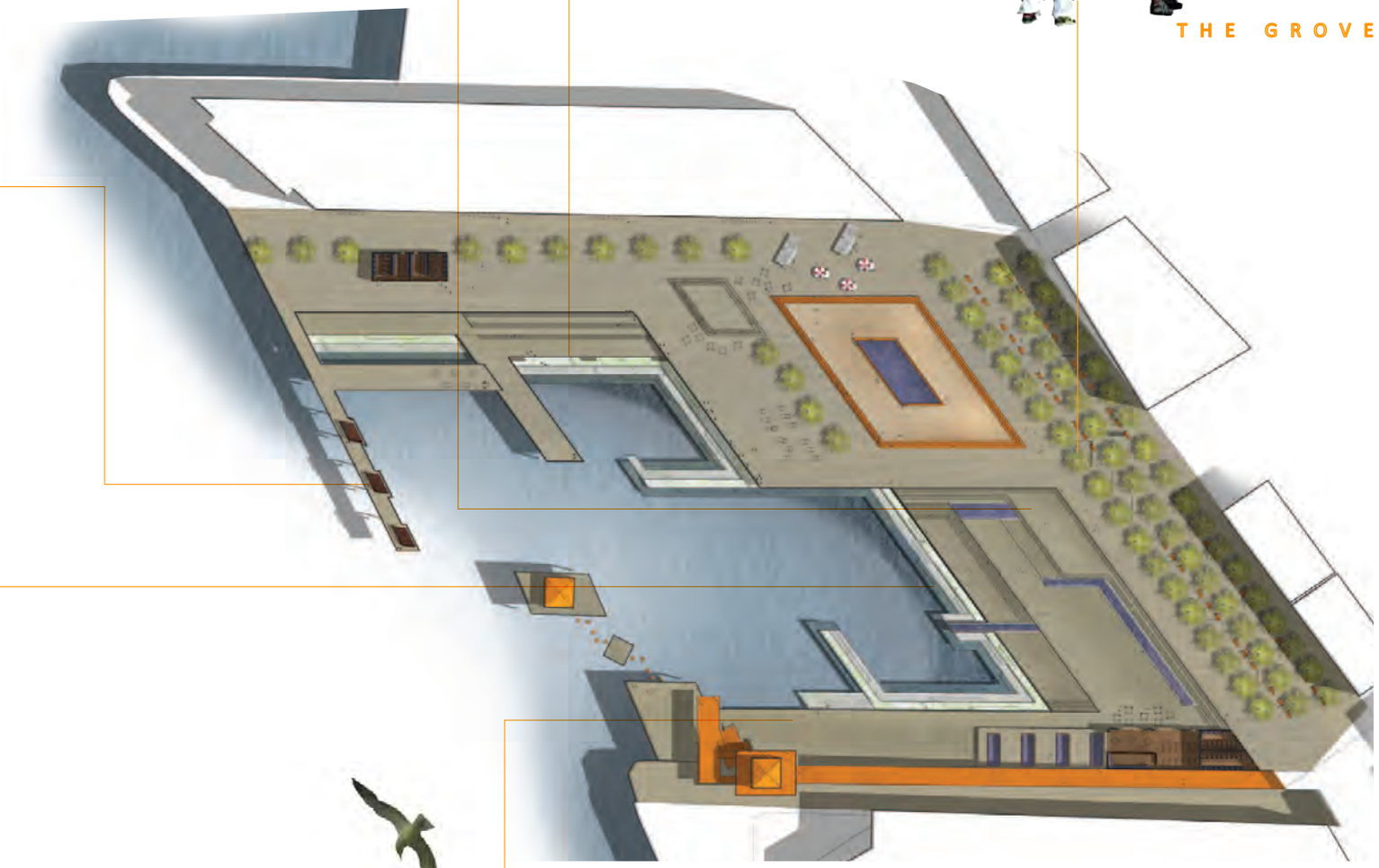


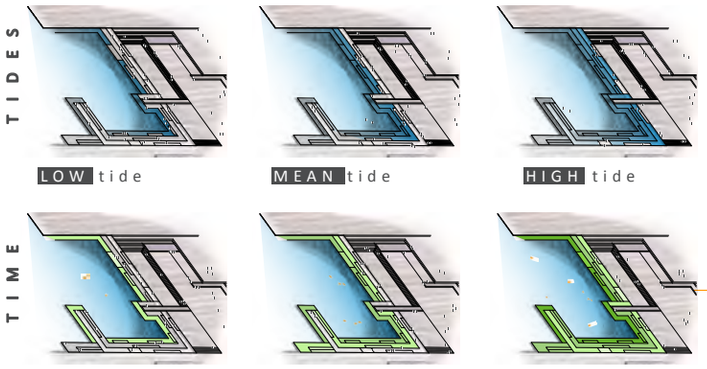
LEARNING POCKET

THE GROVE



THE LOOKOUT





INTERTIDAL POCKETS

PLAY POCKET

Public Spaces | Public Life for Seattle's Central Waterfront

Urban Beach

Convergence Space

The Central Waterfront is situated in Seattle with the potential to become a unique convergence space for many user groups; Seattleites and tourists, neighborhood residents and daily commuters, and extended families with children and young couples.

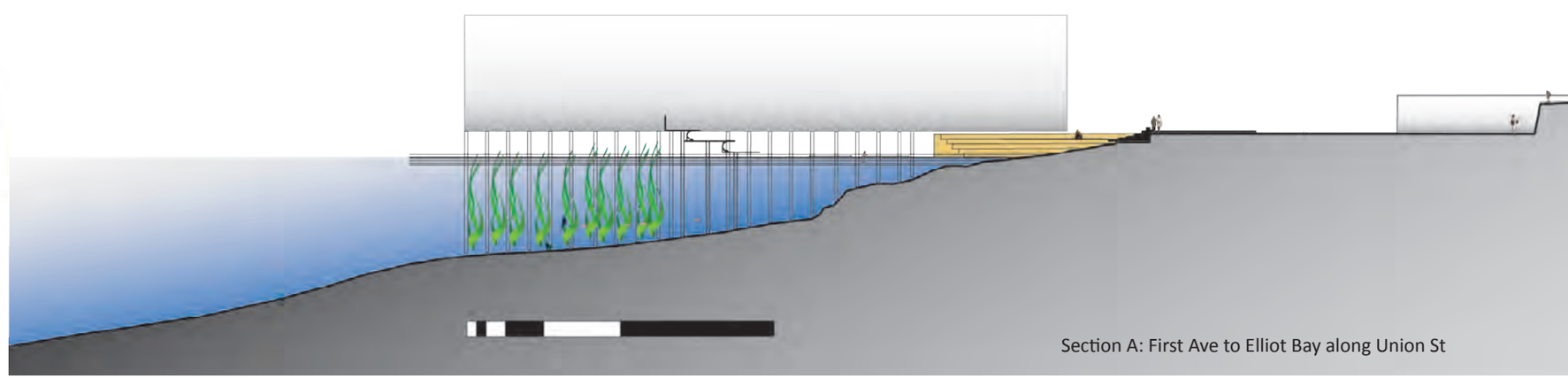
When is a Beach more than just a beach?

The Urban Beach is a portion of the Central Waterfront uniquely capable of encouraging this mixing of user groups. The creation of a protective arm pier encourages swimming, protects the shallow beach, intertidal zone, and tide pools, and encourages jumping from the pier as it sweeps around at grade from the Sea Path. A Waterfront Activities center is located to the North with Scuba functions underwater, changing spaces, and fireplaces on the roof. The beach is comprised of three zones divided by the stormwater running channels running through it; The traditional 'soft' sand beach to the North, a transitional beach in the center dispersing users entering from Union St., and a rocky beach to the South as users progress towards the Tidal Pools. The Tidal Pools will function as active ecological spaces that allow users to interface with the enhanced ecological systems occurring on site. The visible transportation of remediated stormwater from uphill to Elliott Bay will increase user awareness, enhance the quality of the brackish water nearshore, and deleniate spaces within the design.

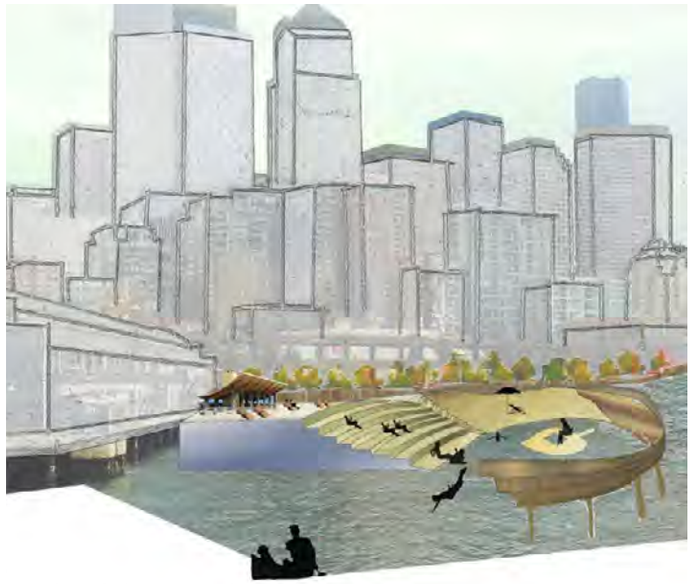
Proposal

Pulled Back Seawall and Urban Beach Proposal

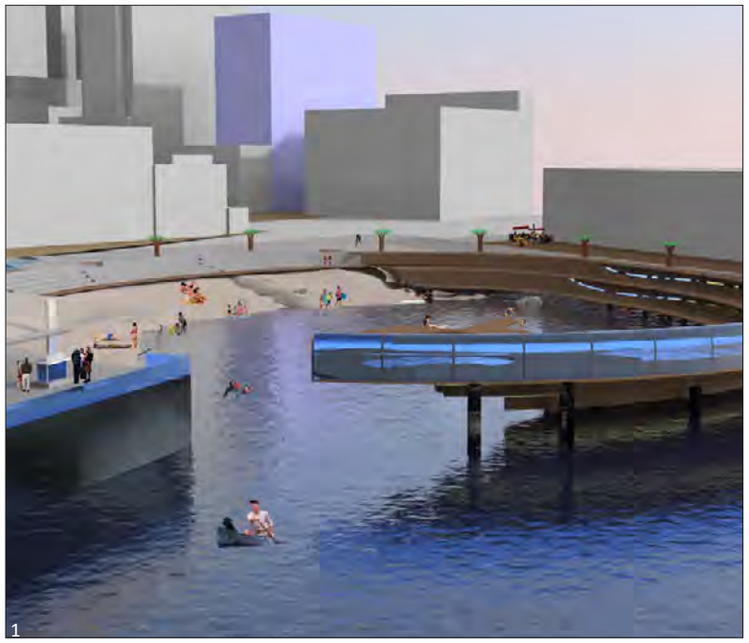
Site Plan



Section A: First Ave to Elliot Bay along Union St



Beach and Pier Proposal



1

2

Night Performance Proposal

3

4

Renderings

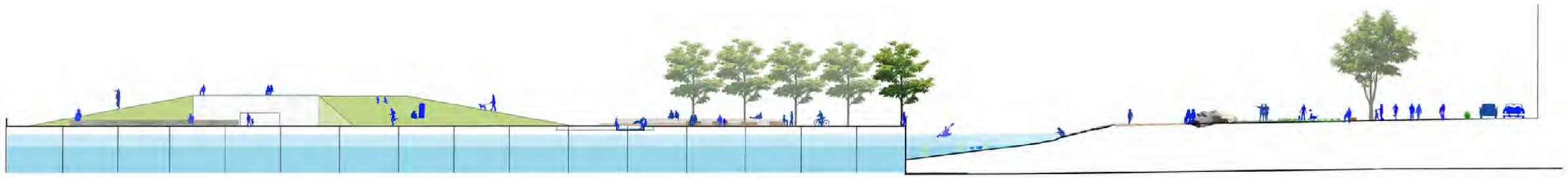
1: Overview of pier, fireplaces, tidal pools and beach
2:Tidal Pools and discovery opportunities
3: Night uses and gathering around fireplaces
4: 'Island Living' showing use of central hot tub for gathering

Section B: Pike Place Market to Urban Beach

Tidal Change Study: MLLW, MLW, MTL, MHW, MHHW, to MRT

New Pier 62/63

Plan

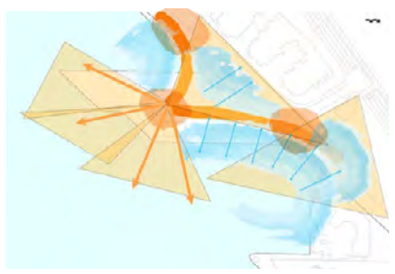


Section

1=10

Analysis:

Circulation

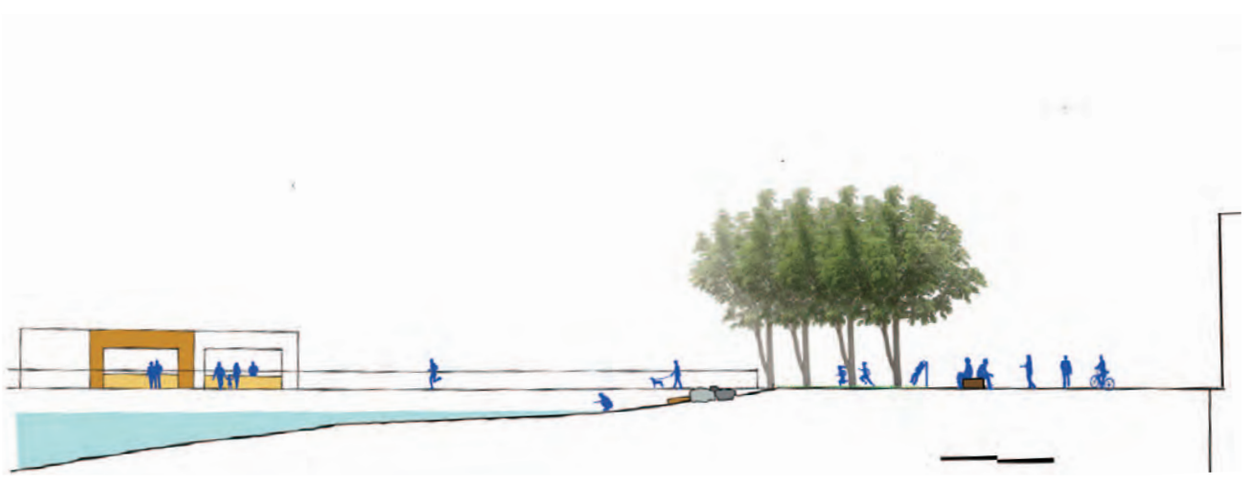


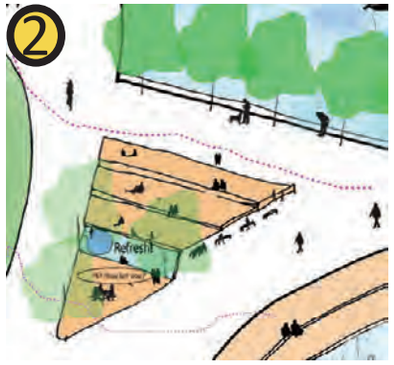
Concept diagram

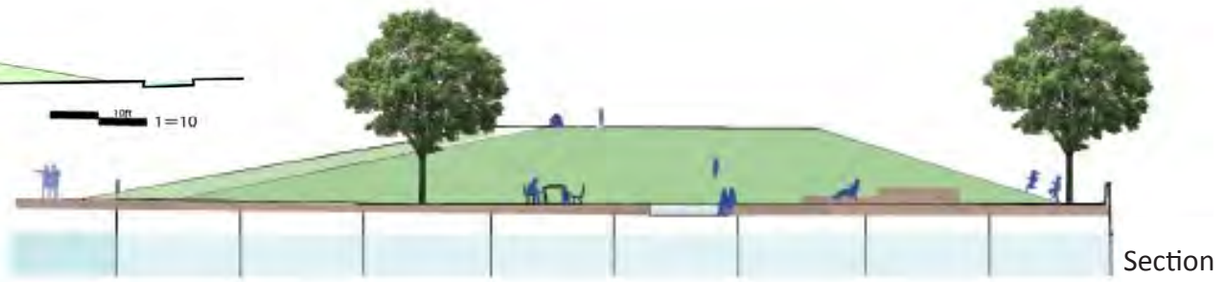
New plan to pier62 63

Design:

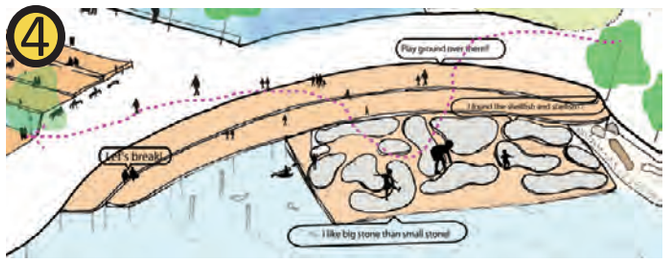
Proposed Circulation

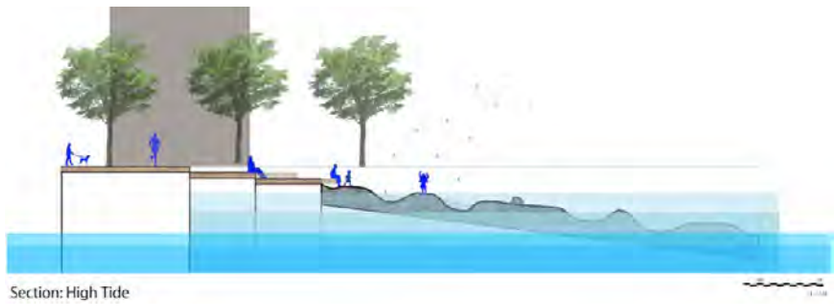




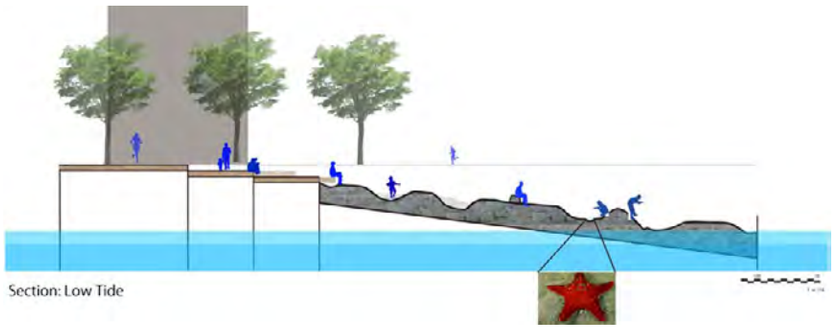


Section





Section: High Tide

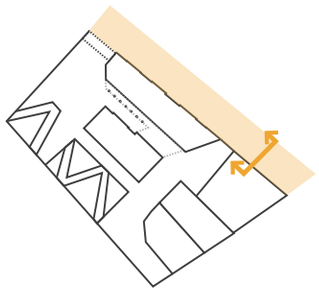


Section: Low Tide

Market Commons

Description

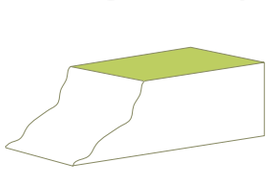
The Market Commons is an effort to reintegrate the existing PC-1 Site into its surrounding neighbors, the Pike Place Market, Victor Steinbrueck Park, Western Avenue and the redeveloping waterfront. The goal of this proposal is to bring the energy and vibrancy of the Market to the Market Commons. By creating at-grade connections at the Market, Western Avenue and the proposed Alaskan Way, this site uses the complex grade to connect users to a larger neighborhood fabric.



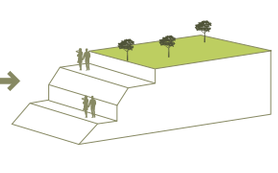
Western Avenue

Create a new street front to reintegrate the site back into the city and to reconnect businesses and activity from north and south ends of Western Avenue

Design Concepts



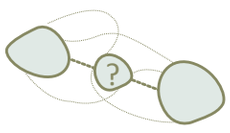
topography: utilizing grade



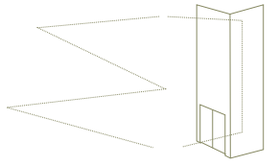
opportunities for views

opportunities for stacking uses

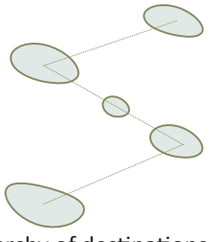
opportunities for stormwater filtration



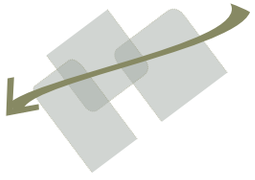
movement: accessibility and connections



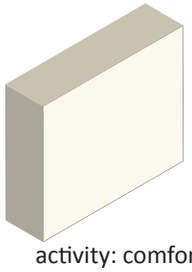
multiple ways to travel, regardless of capacity



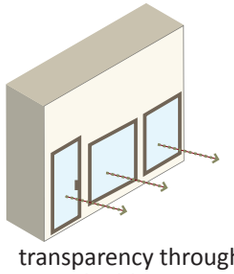
hierarchy of destinations, with an end in sight



overlapping uses and activities

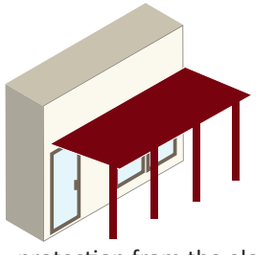


activity: comfort and liveliness

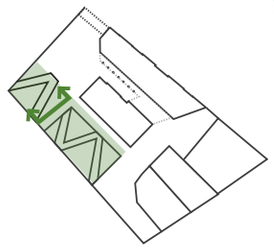


transparency through buildings

ground-floor activity

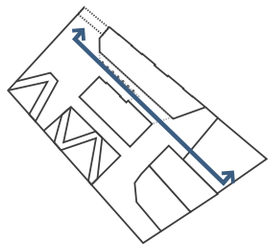


protection from the elements



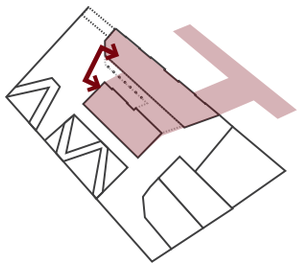
Down from the Park

Improve the connection between Victor Steinbrueck Park and the waterfront. Users can now see the water as well as get down to it.



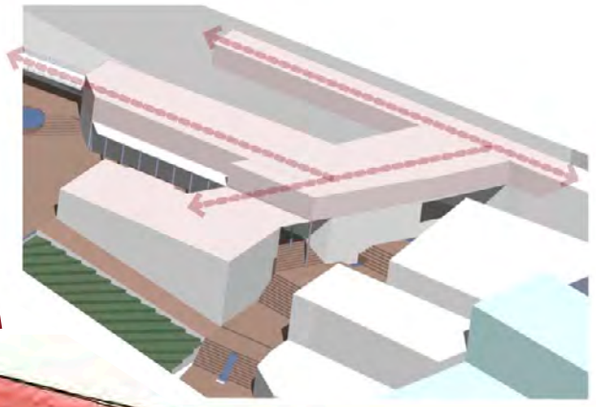
Site Connections

Create a pedestrian connection from Downtown to the Waterfront that supports life and activity 24/7.



Extending the Market

Provide at-grade connection from the main floor of the Market, in order to expand areas for vendor stalls and to bring users to the site.

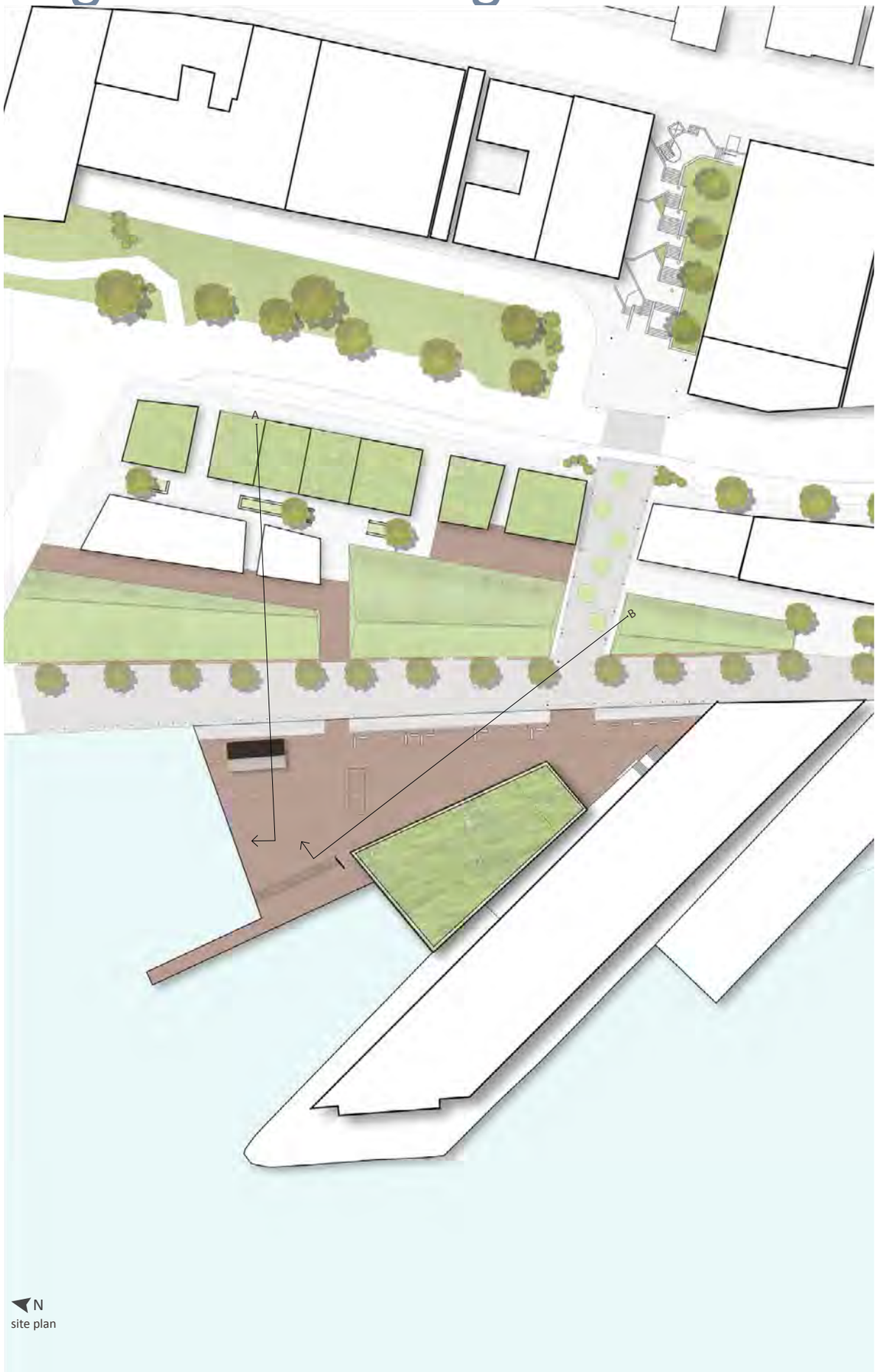


Site Plan

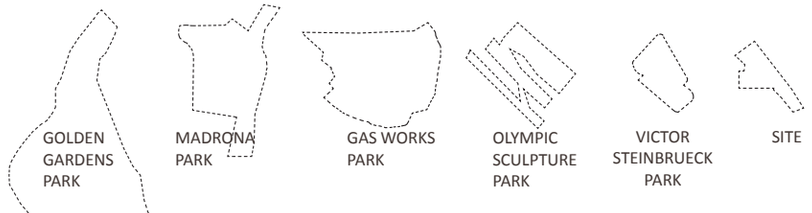
Public Spaces | Public Life for Seattle's Central Waterfront

Seaweed
Jenny Ngo

Puget Sound Diving Center and Waterfront Commons



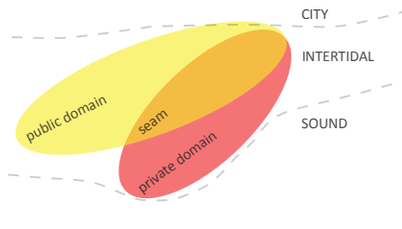
N
site plan

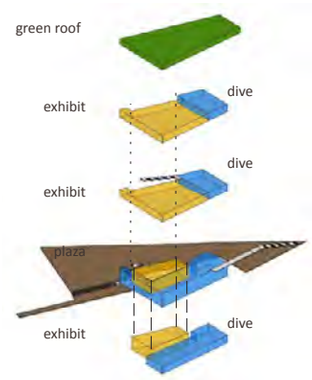


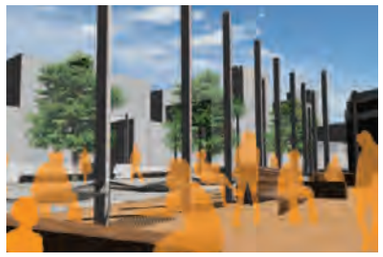
This scheme explores how an introduction of a building with a diving related program and new waterfront plaza could redefine the existing site near the Seattle Aquarium. Based on the strong geometry of the Aquarium and the desire to emphasize one of the only pedestrian connections to the site--Pike Street Hill Climb--the 'fan' became the site strategy . The form of the fan allows for transitions from sea to land, public to private, nature to urban.

The plaza, "Waterfront Commons" is proposed as a central meeting space on the waterfront. Upon entry into the plaza from the hill climb, with the building's overhang a collect space is created. As the visitor moves north through the plaza, next is the drift space, where people can linger and decide their plans, finally the space is to settle, here sun and views reveal themselves, inviting visitors to stay.

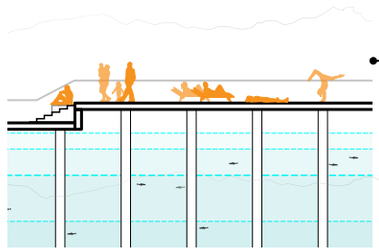
proposed entry to site: COLLECT (DAY)





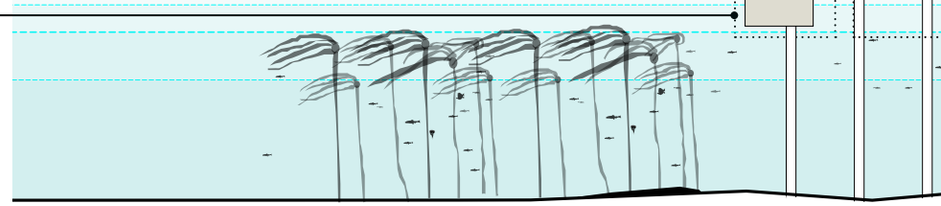


DRIFT

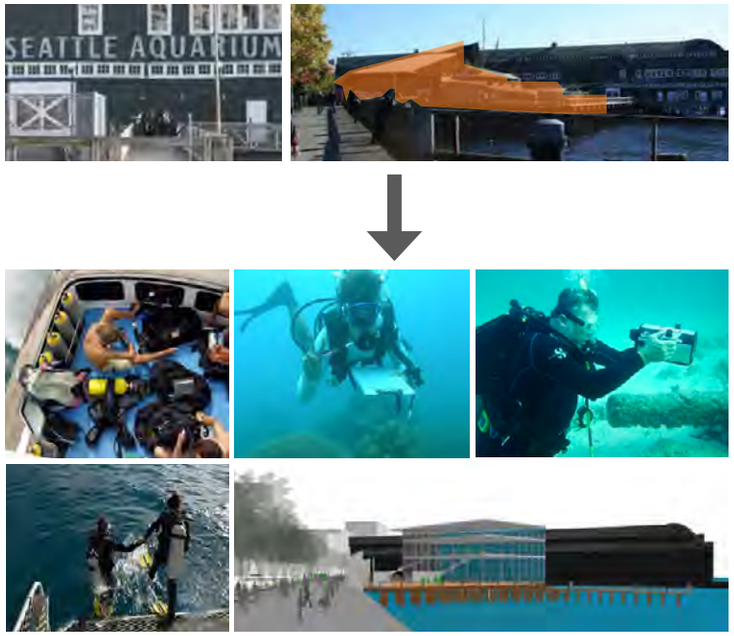


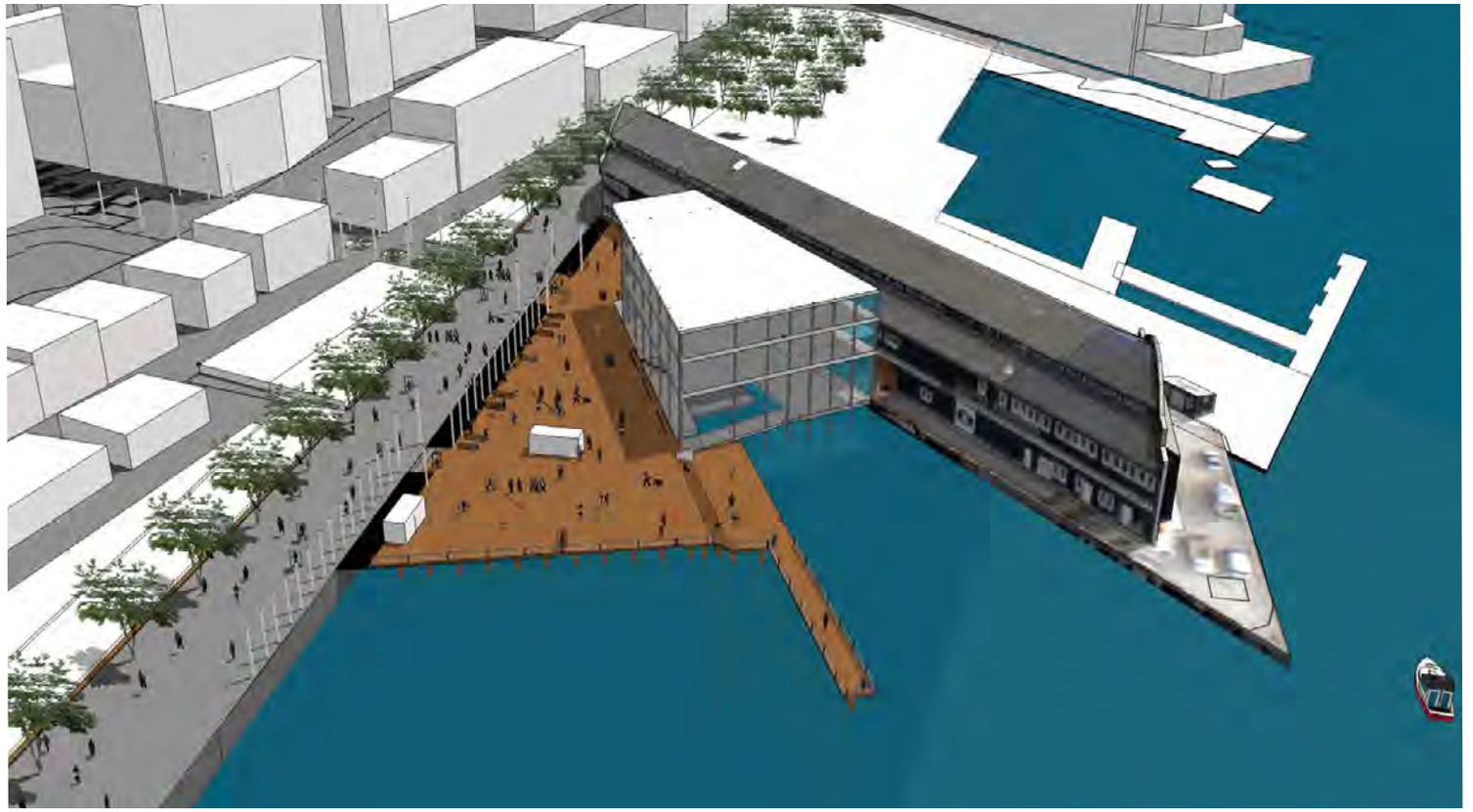
SETTLE

proposed entry to site: COLLECT (NIGHT)



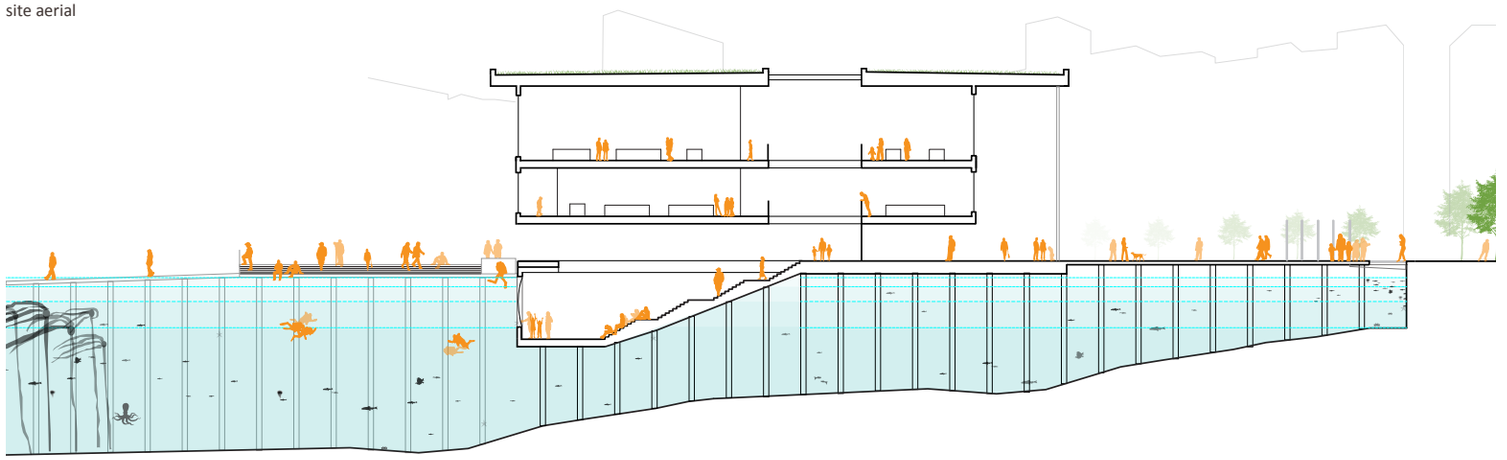
A. site section



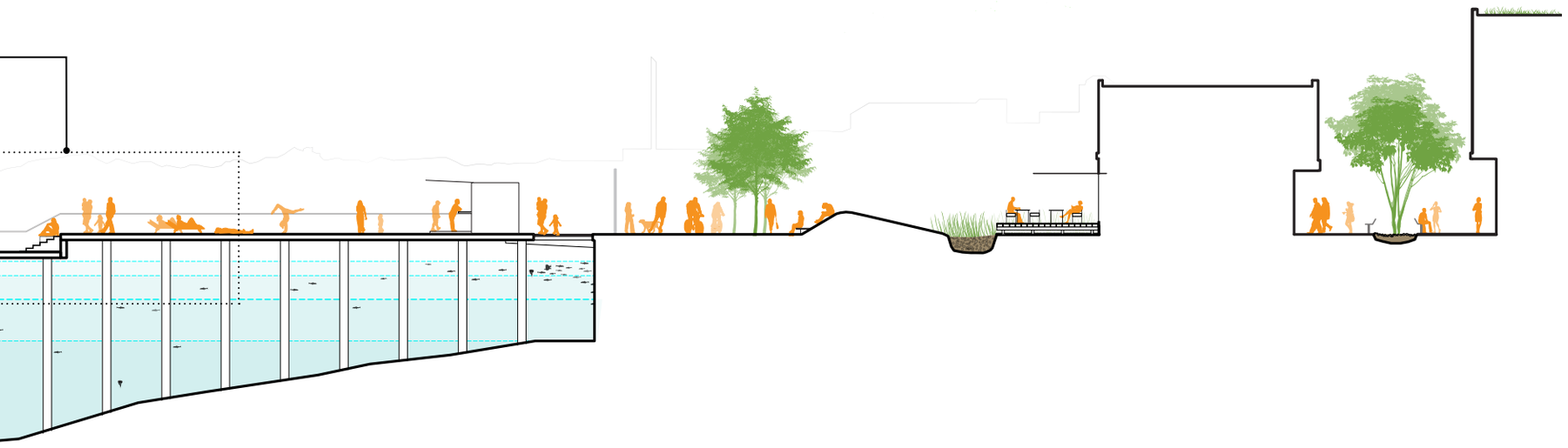


site aerial

view of plaza from boardwalk



B. building section



Public Spaces | Public Life for Seattle's Central Waterfront

Summer 2011 Travel Study Group

Inviting cities must have carefully designed public space to support the processes that reinforce city life. . . . At eye level the good city provides opportunities for walking, staying, meeting and expression, and that means it must provide good scale and good climate.

- Jan Gehl, Cities for People

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