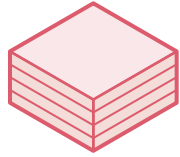
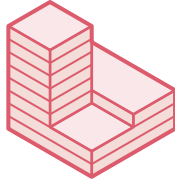


FAR: HOW IT WORKS

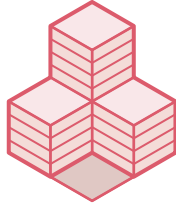
$$\text{Floor Area Ratio} = \frac{\text{Total Building Area}}{\text{Area of Site}} \rightarrow \frac{160,000 \text{ sq ft}}{200 \text{ ft} \times 200 \text{ ft}} = 4$$



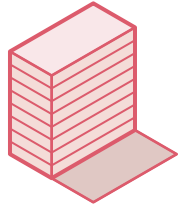
SCHEME A
 FAR 4:1 (4)
 LOT COVERAGE 100%
 HEIGHT ~40'



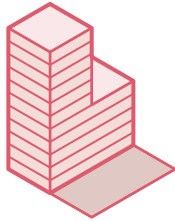
SCHEME B
 FAR 4:1 (4)
 LOT COVERAGE 100%
 HEIGHT ~80'



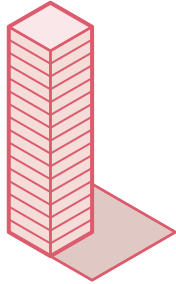
SCHEME C
 FAR 4:1 (4)
 LOT COVERAGE 75%
 HEIGHT ~80'



SCHEME D
 FAR 4:1 (4)
 LOT COVERAGE 100%
 HEIGHT ~80'

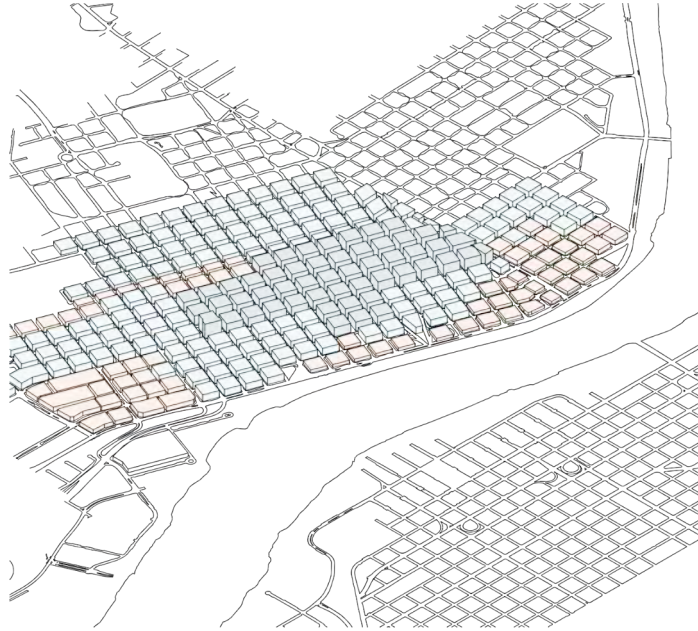


SCHEME E
 FAR 4:1 (4)
 LOT COVERAGE 50%
 HEIGHT ~110'



SCHEME F
 FAR 4:1 (4)
 LOT COVERAGE 25%
 HEIGHT ~160'

FAR
AXON

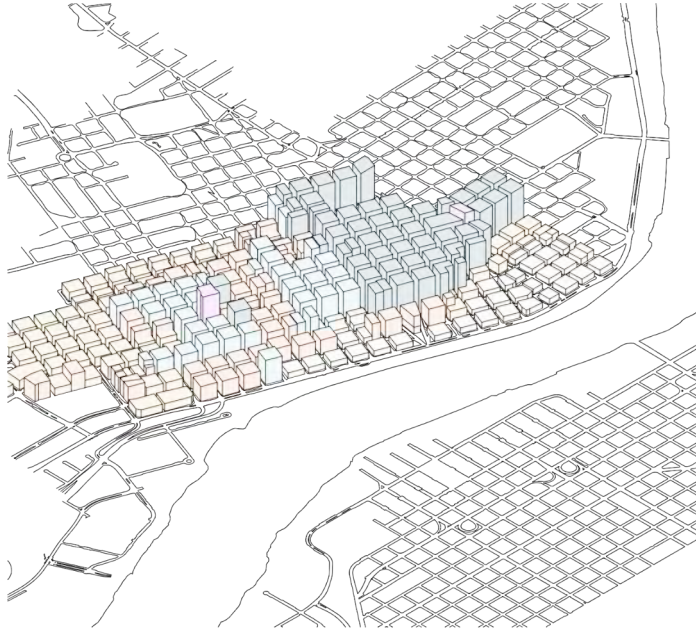


ZONING

URBAN DESIGN STUDIO | UO SPRING 2023

ZONING

HEIGHT LIMITS AXON

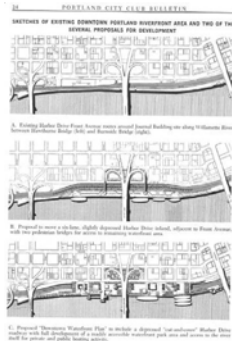
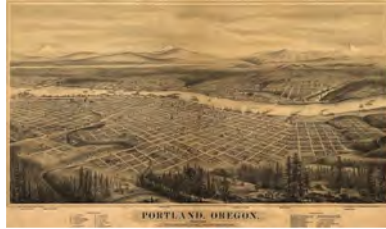


ZONING

URBAN DESIGN STUDIO | UO SPRING 2023

CULTURE/PLACE

PLANNING HISTORY



Portland's Planning and Developmental History

Similarly to many U.S. cities, Portland has a longstanding history of racist zoning and land use practices that have created and then reinforced racial inequalities. Racially restrictive covenants, redlining, and exclusionary zoning are examples of this. Portland is a recipient of federal funding, obligating it to contribute to fair housing and to meet the Federal Fair Housing Act, and as a large city it has the responsibility of fostering a diverse and inclusive community.

On the developmental side of the story, Portland has gone through series after series of proposed plans, affecting both the waterfront and the city itself. Asa Lovejoy and Frances Pettygrove laid down the first 16 blocks of the city on a 200 foot square block in 1845, setting Portland up to be a walkable and accessible city. The waterfront itself has always been a point of tension in terms of how to address development and successful planning. Many plans were proposed but Portland has fallen short of its planning potential and the waterfront remains a topic to be addressed.

CULTURE/PLACE

CULTURAL GROUPS



Portland's "Japantown" (Nihonmachi)

Japantown existed before World War II and was in the area that is now known as Old Town-Chinatown. During the 1890s, labor contractors found jobs for Japanese immigrants on farms, forests, and railroads. Many of these immigrants were processed through Portland, creating a need for bathhouses, hotels, laundries, and other services. Because of the low rent area and the high demand for these services, many Japanese families opened small businesses that focused on service that was oriented toward the Japanese population.

Portland's African American Population

African Americans who came to Portland settled near Union Station due to the work with the Pullman Company within railroads or with downtown hotels. In the 1900s, the First African Methodist Episcopal Zion Church had relocated to 13th and Main, where many African American men lived and worked. The Bethel AME Church was located on 68 North Tenth, in a neighborhood where many African American women operated rooming houses and where the Golden West Hotel (near the Park Blocks) housed between 40 and 50 men. Similar to the Japanese population, many African Americans moved to East Portland in search of homeownership after the Broadway Bridge opened in 1913. This was due to exclusionary acts from the Portland Realty Board who discouraged sales to Asian and African people.

Portland's "Chinatown"

Chinatown stretches from Ash to Market Street. Thousands of Chinese men came to the West coast largely due to the California goldfields in the 1850s and the railroad labor throughout the West in the mid 1860s. Chinese men settled around Second and Oak Street, which had become so segregated by 1880 that the federal census designated it a separate enumeration district, containing over 1,500 Chinese men and no one else.

CULTURE/PLACE

WATERFRONT



1922, West Side

Portland's strong presence as a port city are evident in this photo showing the accumulation of docks and industry related warehouses lining the river. Public access was allowed but was limited to streets that extended from the cities grid to the shore.



1899, Port of Portland

The Port of Portland was established in 1891 to construct and permanently maintain a 25 foot ship channel in the Willamette and Columbia rivers.



1898, East Portland

Double decker docks line the river allowing ships to access cargo in high and low water conditions.



1930, Guild's Lake Area

Between 1906-1920's this area was filled in with soil sluiced off the hillsides and dredged from the Willamette. It was proposed to become a park.

CULTURE/PLACE

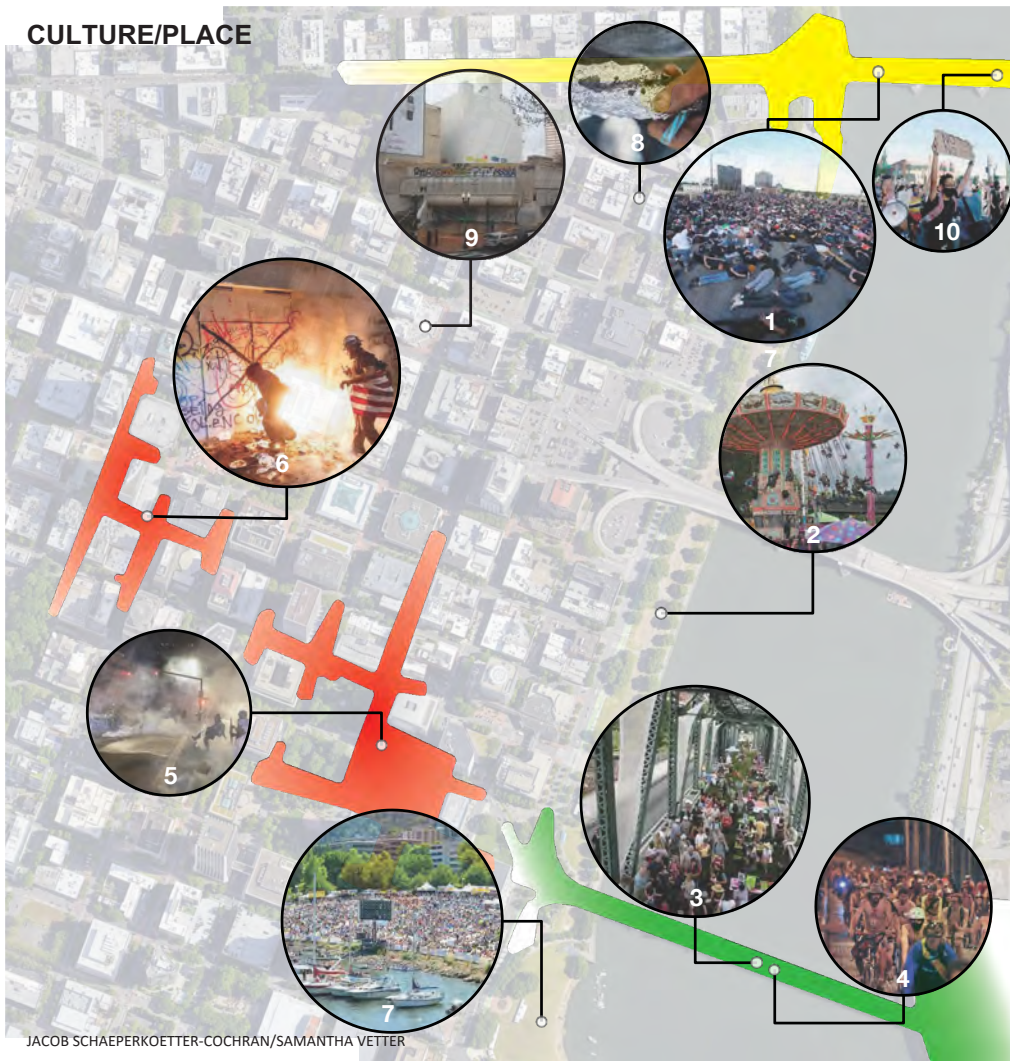
WATERFRONT



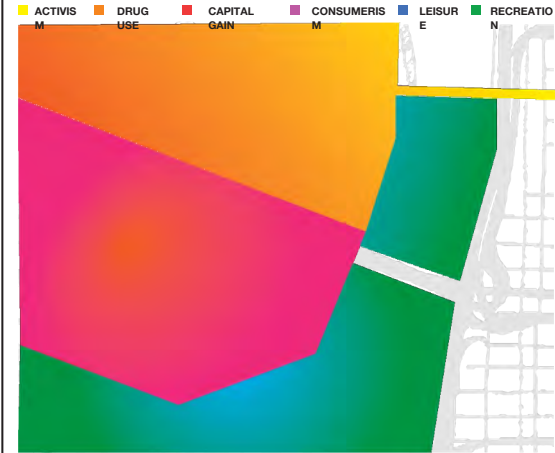
1928- Portland's West Side Waterfront Construction



Circa 1940s- Portland's West Side Waterfront



JACOB SCHAEPERKOETTER-COCHRAN/SAMANTHA VETTER



◀ **EVENTS & ACTIVITY**

1. **BLM “Lie-In” 2020**
2. **Portland Rose Festival**
3. **PDX Bridge Festival** “Hawthorne Park” 2010
4. **Naked Bike ride** (Critical Mass, Bridge Ride)
5. **Riot Declared at City Hall 2020**
6. **Destruction** at Pioneer Courthouse Square
7. **Waterfront Blues Festival**
8. **Open Drug Use/ Sales**
9. **Open-Air Fentanyl Market Bust**

PRECEDENTS

AARHUS HARBOR BATH

aarhus, denmark

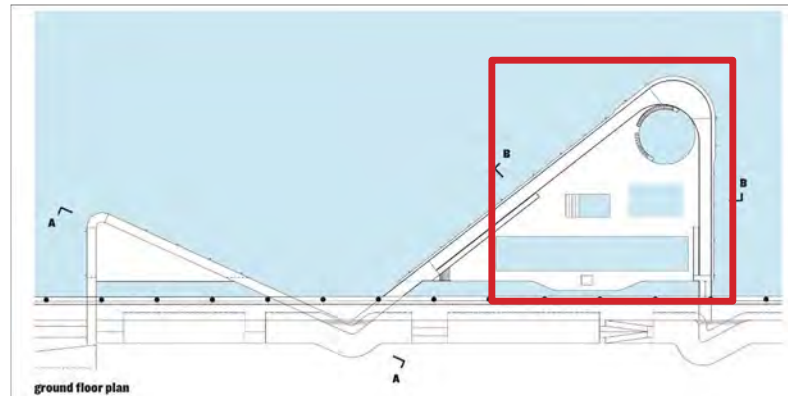


Significance

Public interaction with water, opportunities for outdoor recreation, consideration for change of seasons, accommodations for multiple ages/abilities



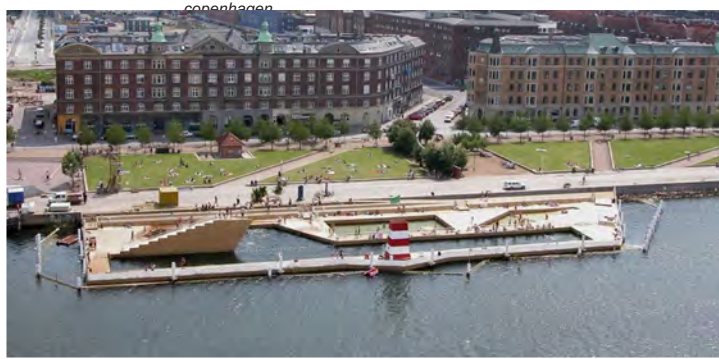
<https://www.architectural-review.com/buildings/harbour-bath-in-aarhus-denmark-by-bjarke-ingels-group>
MADDY JOHNSON



Size: 280000 sqft

PRECEDENTS

COPENHAGEN HARBOR BATH

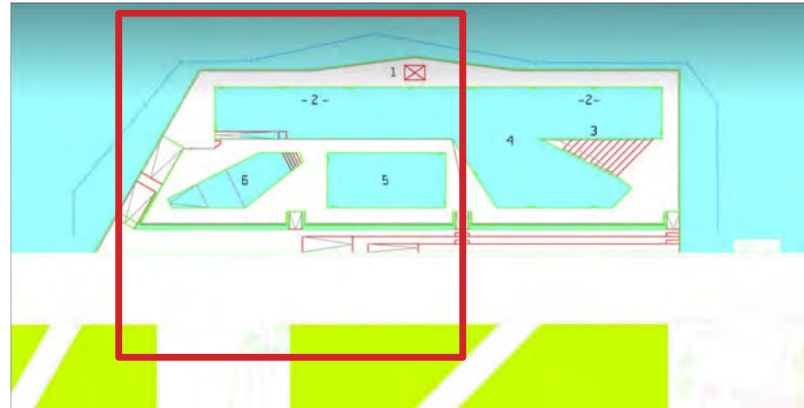
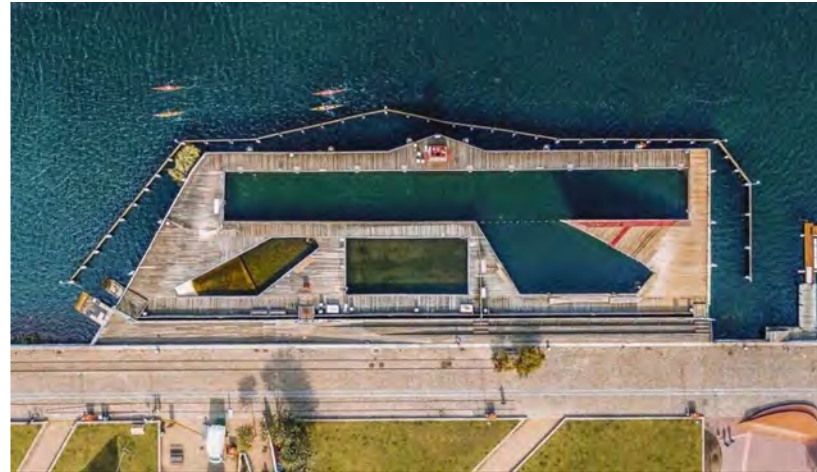


Significance

Public welcomed to waterfront, spaces for multiple ages, safety considerations, flexible programming, access to free recreation



<http://jdsa.eu/bad>
/ MADDY JOHNSON



Size: 25000 sqft

PRECEDENTS

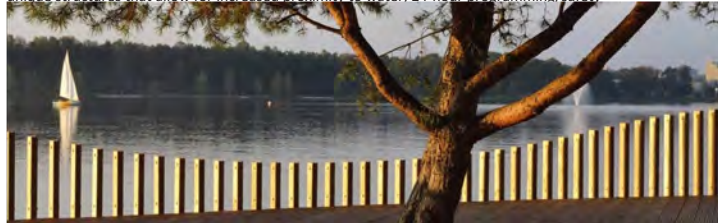
PAPROCANY

WATERFRONT

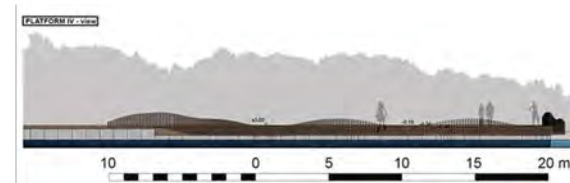
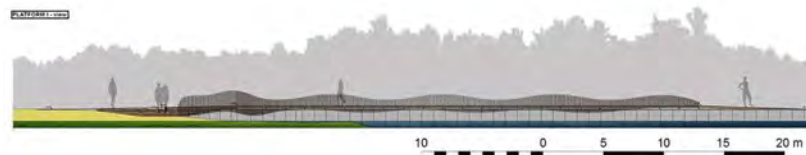


Significance

Network of pathways that enhance waterfront experience, areas for specific recreational activities, unique structures that allow for increased proximity to water. 24-hour programming/safety



<https://landezine.com/paprocany-lake-shore-by-rs/>
MADDY JOHNSON

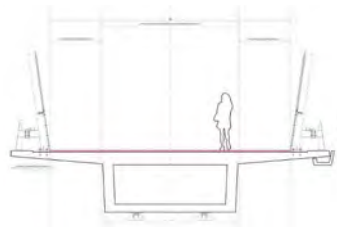
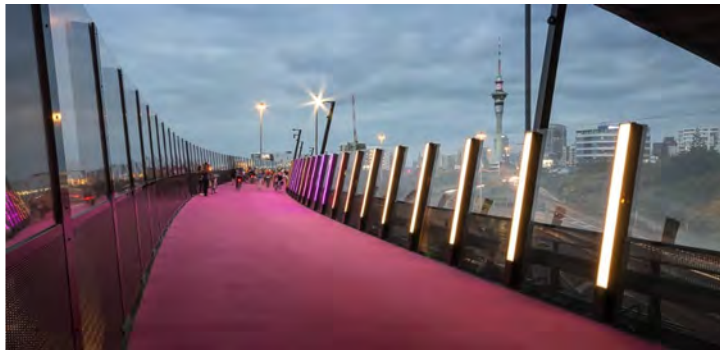


Size: 1300 ft long

PRECEDENTS

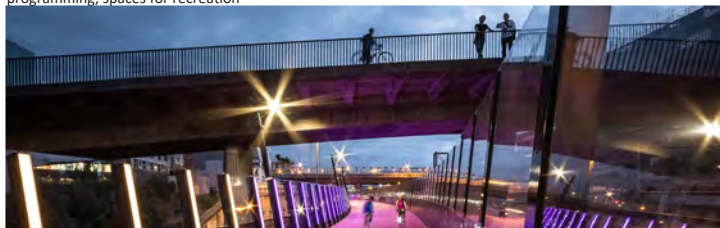
LIGHTPATHAKL

auckland, new zealand

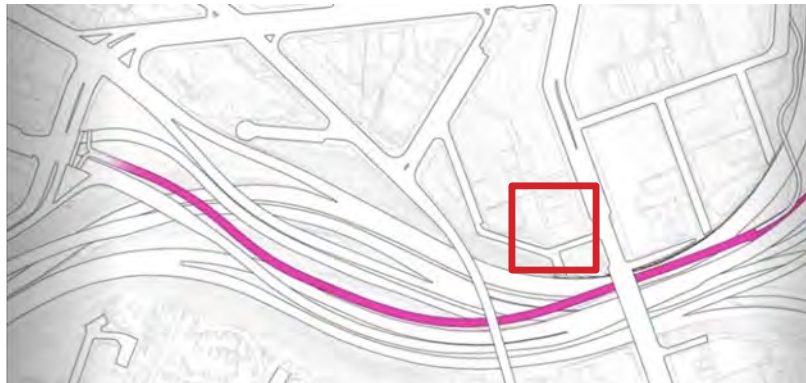


Significance

Highway revitalization/reuse, pedestrian/bike routes separated from vehicles, 24 hour programming, spaces for recreation



<https://www.bikeauckland.org.nz/ride/lightpath-te-ara-i-whiti>
MADDY JOHNSON

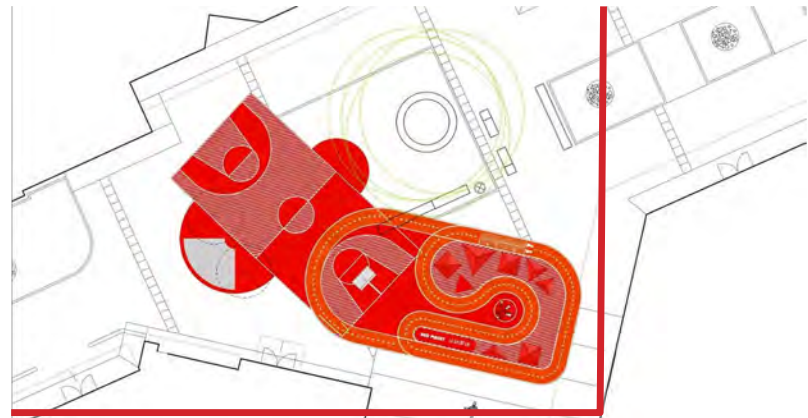


Size: 2000 ft long

PRECEDENTS

RED PLANET

zhahaiyu china



Significance

Recreation connected to ground floor commercial spaces, activation of underused circulation space, family-friendly spaces



https://www.archdaily.com/891645/red-planet-100architects?ad_medium=gallery

MADDY JOHNSON

Size: 2500 sqft

PRECEDENTS

PROXY

san francisco, california



Significance

Activation of unused urban spaces, ground floor retail and restaurants, spaces for community events and activities



<https://envelopead.com/work/proxy>
/
MADDY JOHNSON



Size: 90000
sqft

PRECEDENTS

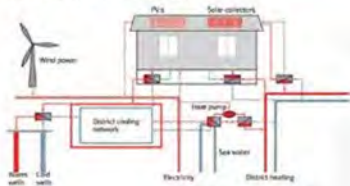
BO01

Malmö, Sweden



PV ARRAYS AND WIND TURBINE PROVIDE ELECTRICITY

100% locally renewable energy



DISTRIBUTION SYSTEM - 100% LOCAL RENEWABLE ENERGY



PONDS BUFFER AND PURIFY WATER



ALL HOMES CAN TRACK WATER CONSUMPTION

SIGNIFICANCE

This district is run on 100% renewable energy. Their heat is from an Aktern heat pump installation which extracts heat from an underground reservoir. Cold air also utilizes sea water. Electricity is from local wind turbines and PV Arrays. The residents can track all of their energy and water consumption. For rainwater, they use the topography to direct water to the sea. There are green roofs and a number of purifying

PRECEDENTS

THE FORKS

Winnipeg, Manitoba, Canada



SIGNIFICANCE

The Forks main focus is awakening and activating the waterfront during every season. In the winter, people can walk, skate, cross-country ski, have curling matches and play hockey on the river. The goal is for the waterfront to be a meeting place full of social interaction using a mixed-use approach.



<https://www.theforks.com/uploads/documents/go-to-the-waterfront-2014.pdf>

ALYSSA RUPP

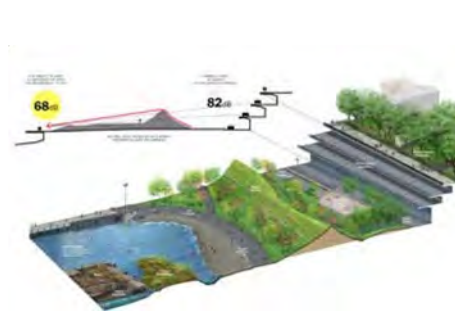
Size: 62.5 acres

WARMING HUT COMPETITION

PRECEDENTS

BROOKLYN BRIDGE PARK

Nordhaven, Copenhagen



SOUND BERM REDUCES TRAFFIC NOISE



SIGNIFICANCE

The park is activated by a greenway and oversized piers, each with designated nature-based play. The furniture and terraces are reused and found material. There are sound berms to deflect traffic noise. The sea wall was removed and replaced with a flood-tolerant stone rip-rap shoreline. The park also acts as a storm buffer for climate change.



REMOVED SEA WALL REPLACED WITH FLOOD-TOLERANT STONE RIP-RAP SHORELINE

<https://www.mvva.com/projects/brooklyn-bridge-park>

ALYSSA RUPP

Size: 85 acres

PRECEDENTS

VANCOUVER OLYMPIC VILLAGE (SE FALSE CREEK)

Vancouver, BC



Significance

Dense example of sustainable urban development. Entire neighborhood awarded Leed Platinum status, extensive green roofs and stormwater management on reclaimed industrial waterfront. Hinge park is a developed wetland, and habitat island serves as an ecological patch.



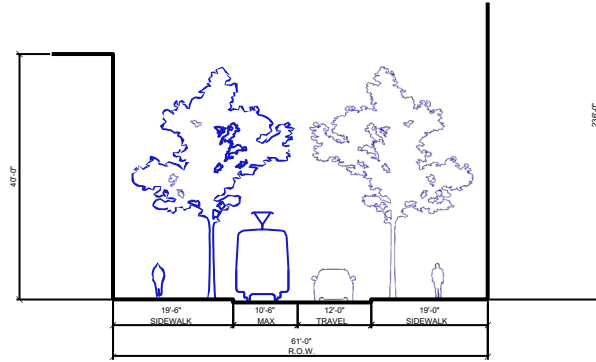
SPENSER GOULD



<https://vancouver.ca/home-property-development/southeast-false-creek.aspx>

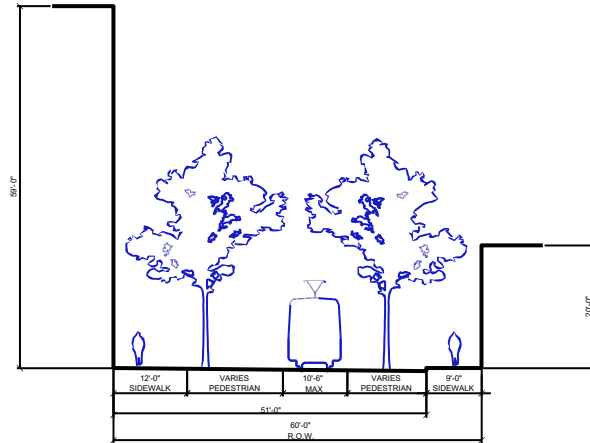
BASE DRAWINGS

STREET SECTIONS



SW MORRISON, BTWN 2nd & 3rd, LOOKING WEST

Scale: 1/16" = 1'-0"



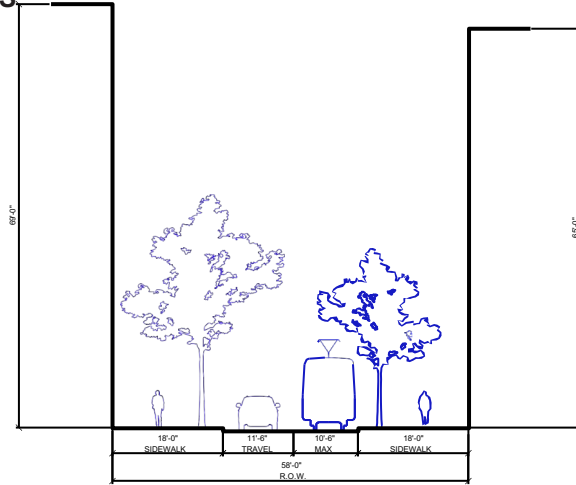
SW YAMHILL, BTWN 2nd & 3rd, LOOKING WEST (BLOCK CLOSED TO CARS)

Scale: 1/16" = 1'-0"



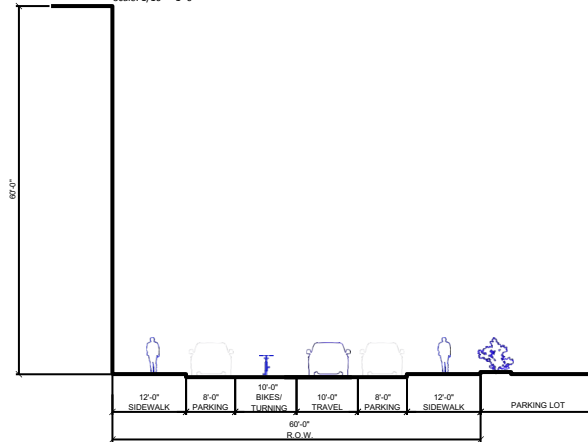
BASE DRAWINGS

STREET SECTIONS



SW YAMHILL, BTWN 3rd & 4th, LOOKING WEST

Scale: 1/16" = 1'-0"



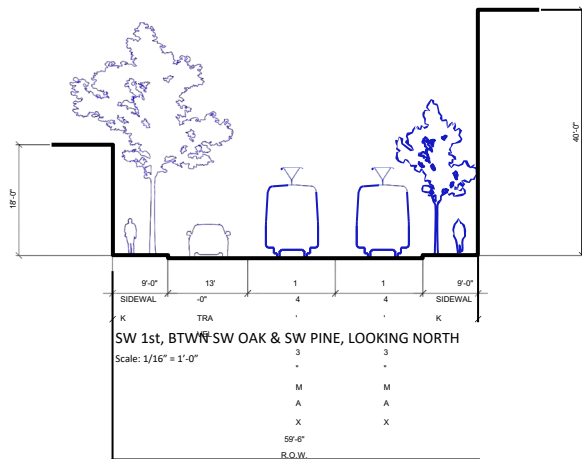
SW HARVEY MILK, BTWN 3rd & 4th, LOOKING WEST

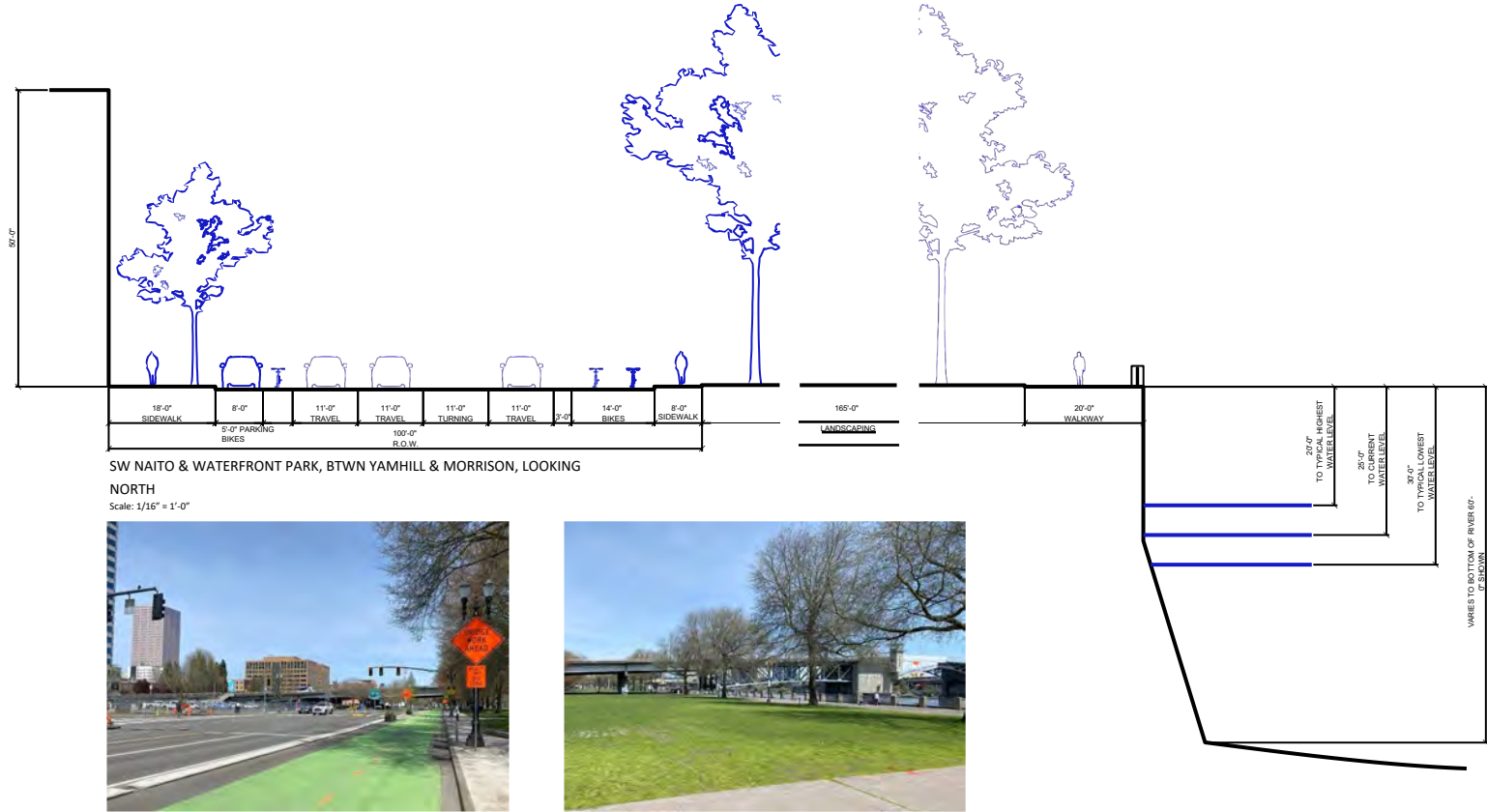
Scale: 1/16" = 1'-0"



BASE DRAWINGS

STREET SECTIONS





BASE DRAWINGS

3D MODEL AXON

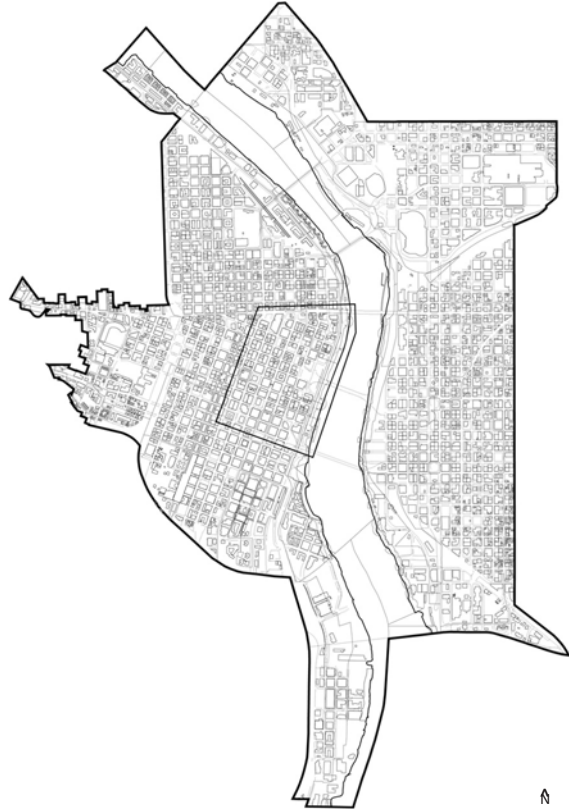


BASE DRAWINGS

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BASE DRAWINGS

2D LINEWORK OVERVIEW



⌄
N.T.S

BASE DRAWINGS

2D LINEWORK PROJECT AREA



BASE DRAWINGS

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SUSTAINABLE URBAN DESIGN FRAMEWORK

TOPIC AREAS
IN URBAN DESIGN
Organized by Scale

1 Energy Use & Greenhouse Gas (Transportation & Land Use)

- 1.10** Compact Development
(For Density & Proximity)
1.11 Robust Transit Networks
1.12 Robust Bicycle Networks
1.13 Balanced Vehicular Networks
1.14 Regional Land Use Mix

- 1.20** Robust Pedestrian Networks
1.201 Small & Defined Blocks
1.202 Street Network Connectivity
1.21 High-Density Zoning & Platting
1.22 District-Scale Parking Mgt & Design
1.23 High District Land Use Mix

- 1.30** Multimodal Street Design
1.301 Pedestrian-Friendly Streets
1.302 Bicycle-Friendly Streets
1.303 Transit-Friendly Streets
1.304 Limiting Motor Vehicle Impact
1.31 Dense & Street-Activating Bldgs
1.32 Site-Scale Parking Design

- 1.40** Active Street Edges
1.41 High Internal Connectivity
1.31 Dense & Street-Activating Buildings
1.32 Site-Scale Parking Design

2 Water

- 2.10** Compact Development
(For Limited Impact on Natural Systems)
2.11 Avoid Flood Prone Areas

- 2.20** Robust Stormwater Networks
2.21 Daylight & Restore Waterways

- 2.30** High Surface Permeability
2.31 Robust Urban Forest
2.32 Green Stormwater Infrastructure

- 2.40** Rainwater Capture & Reuse
2.30 High Surface Permeability
2.31 Robust Urban Forest
2.32 Green Stormwater Infrastructure

3 Ecology & Habitat

- 3.10** Compact Development
(For Limited Impact on Natural Systems)
3.11 Avoid Ecologically Sensitive Areas
3.12 Robust Ecological Networks

- 3.20** Ecological Corridors & Patches
3.21 Daylight & Restore Waterways
3.11 Avoid Ecologically Sensitive Areas

- 3.30** High Surface Permeability
3.31 Robust Urban Forest
3.32 Microhabitat Creation
3.321 High Vertical Complexity
3.322 Native Vegetation
3.33 Wildlife Crossings
3.34 Robust Ecological Area Buffers
3.35 Limited Light Pollution

- 3.30** High Surface Permeability
3.31 Robust Urban Forest
3.32 Microhabitat Creation
3.321 High Vertical Complexity
3.322 Native Vegetation
3.33 Wildlife Crossings
3.34 Robust Ecological Area Buffers
3.35 Limited Light Pollution

4 Energy Use & Production (Non-Transportation)

- 4.10** Compact Development
(For Limited Embodied Energy in Infrastructure)

- 4.20** Street & Block Orientation
4.21 High-Density Zoning & Platting

- 4.30** Dense & Energy-Efficient Building Types
4.31 Urban Microclimates
4.311 Cool & Green Surfaces
4.312 Robust Urban Forest
4.313 Street Ht-to-Width Ratio

- 4.40** Infill Development
4.30 Dense & Energy-Efficient Building Types

5 Equity & Health

- 5.10** Compact Development
(For Proximity, Access & Reduced Infrastructure Cost)
5.11 Equitable Distribution of Uses & Services

- 5.20** Balanced Block Size
5.21 High-Density Zoning & Platting
5.22 Limited Location of Point Source Pollution
5.23 Mix of Housing Unit Types
5.11 Equitable Distribution of Uses & Services

- 5.30** Active & Attractive Open Space
5.31 Robust Urban Forest
5.32 Affordable Housing Typologies
5.33 Site Design For Community Safety & Inclusion
5.23 Mix of Housing Unit Types

- 5.40** Infill Development
5.23 Mix of Housing Unit Types
5.30 Active & Attractive Open Space
5.32 Affordable Housing Typologies
5.33 Site Design For Community Safety & Inclusion

See Energy Use & Greenhouse Gas (1.10 - 1.41): To Maximize Access, Affordability, Activity, Safety, and Social Mobility

DOWNTOWN PORTLAND
URBAN DESIGN STUDIO

SITE ANALYSIS:
SUSTAINABLE URBAN DESIGN STRATEGIES

Site Analysis Report + Sustainable Urban Design Analysis Report:

<https://blogs.uoregon.edu/nlarco/downtown-portland-urban-design-studio-university-of-oregon/>