

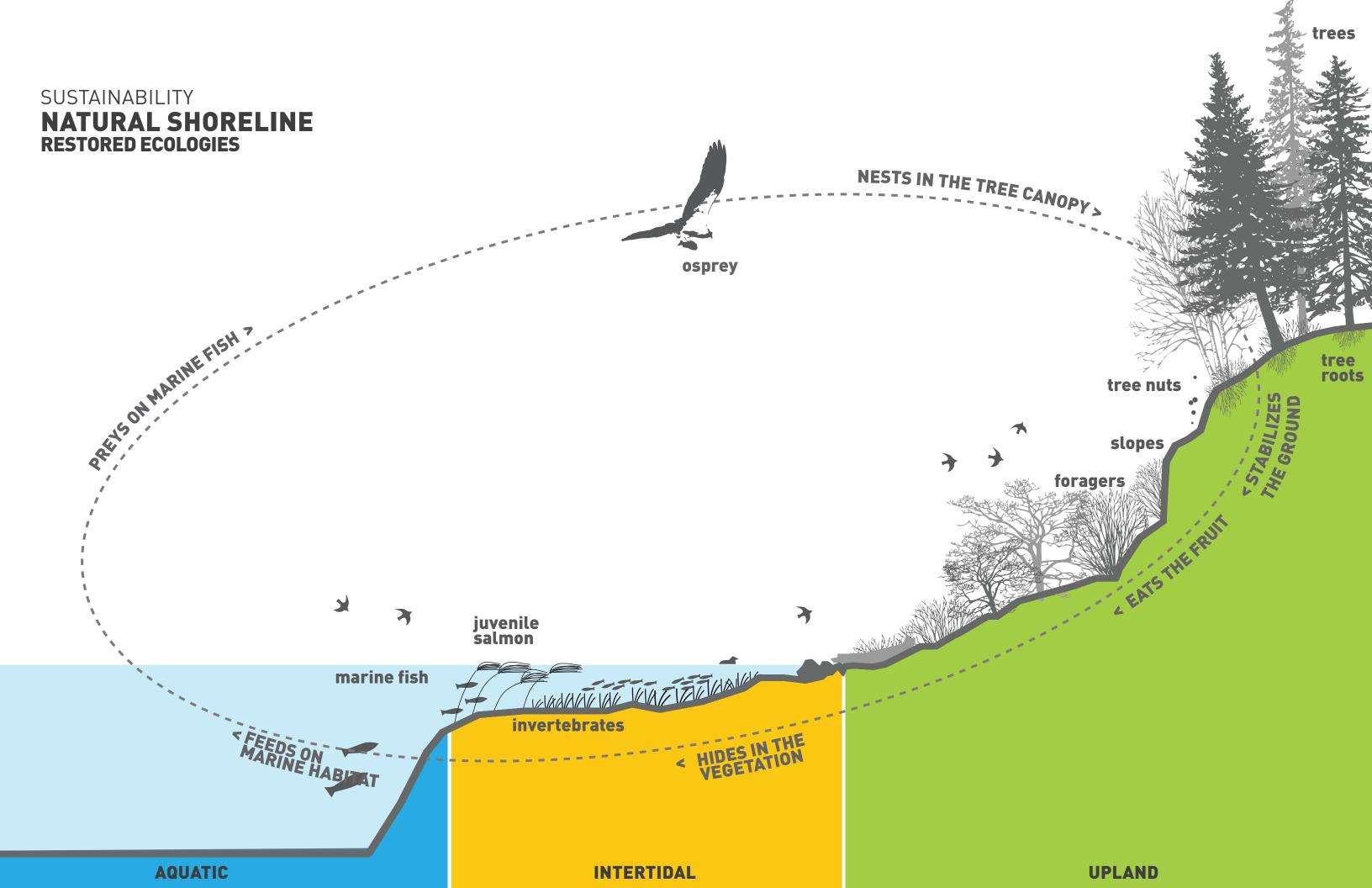
SUSTAINABILITY **GOALS**

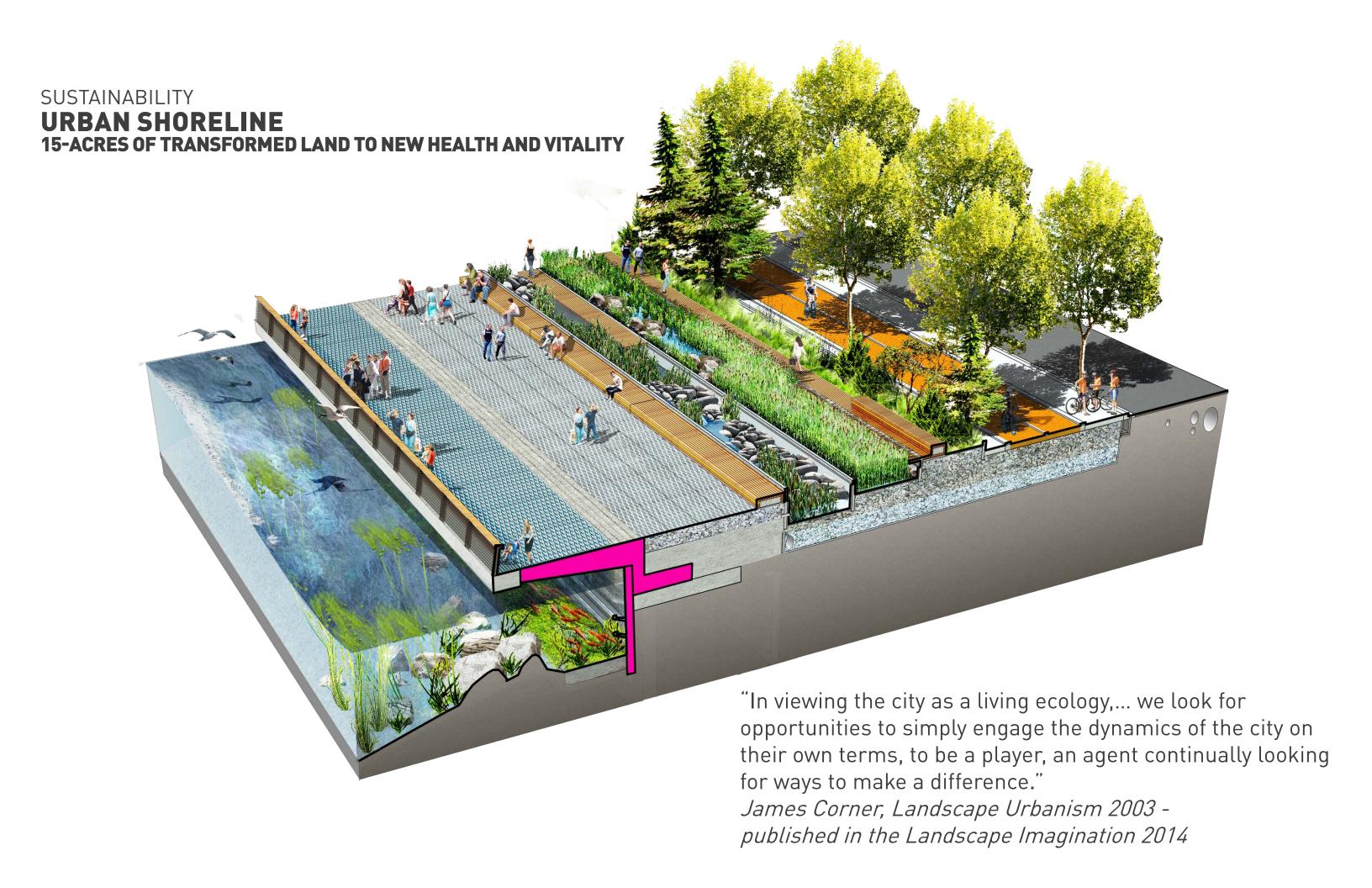
Waterfront Seattle is a transformative investment in a green, sustainable future for Seattle. The program will remake the waterfront, Seattle's front porch, from Pioneer Square to Belltown. Our goal is for the project to exemplify sustainability in its approach to the site.

Equally important, the new Alaskan Way and transportation investments will support a fundamental shift already underway in Seattle to greener, multimodal transportation choices and a public realm that supports the inherent sustainability of urban living.

More than any one element or technology, the sustainable 'heart' of this project is the transformation of 15-acres (23 city blocks) of once asphalt and concrete surfaces into a public urban waterfront for all, with salmon migration corridors and new aquatic habitat, new social spaces and transportation connections, substantial green planting and restored ecological systems, and state-of-the-art storm-water management.

All this comes together in a integrated design that makes these ecological systems visible and reflect this underlying commitment to the Puget Sound environment.

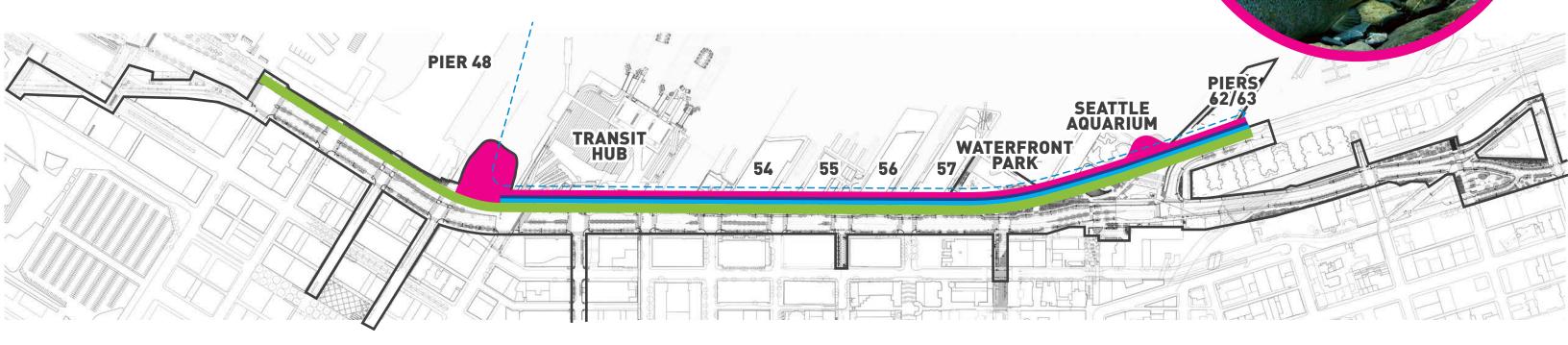




SUSTAINABILITY **AGENDA**

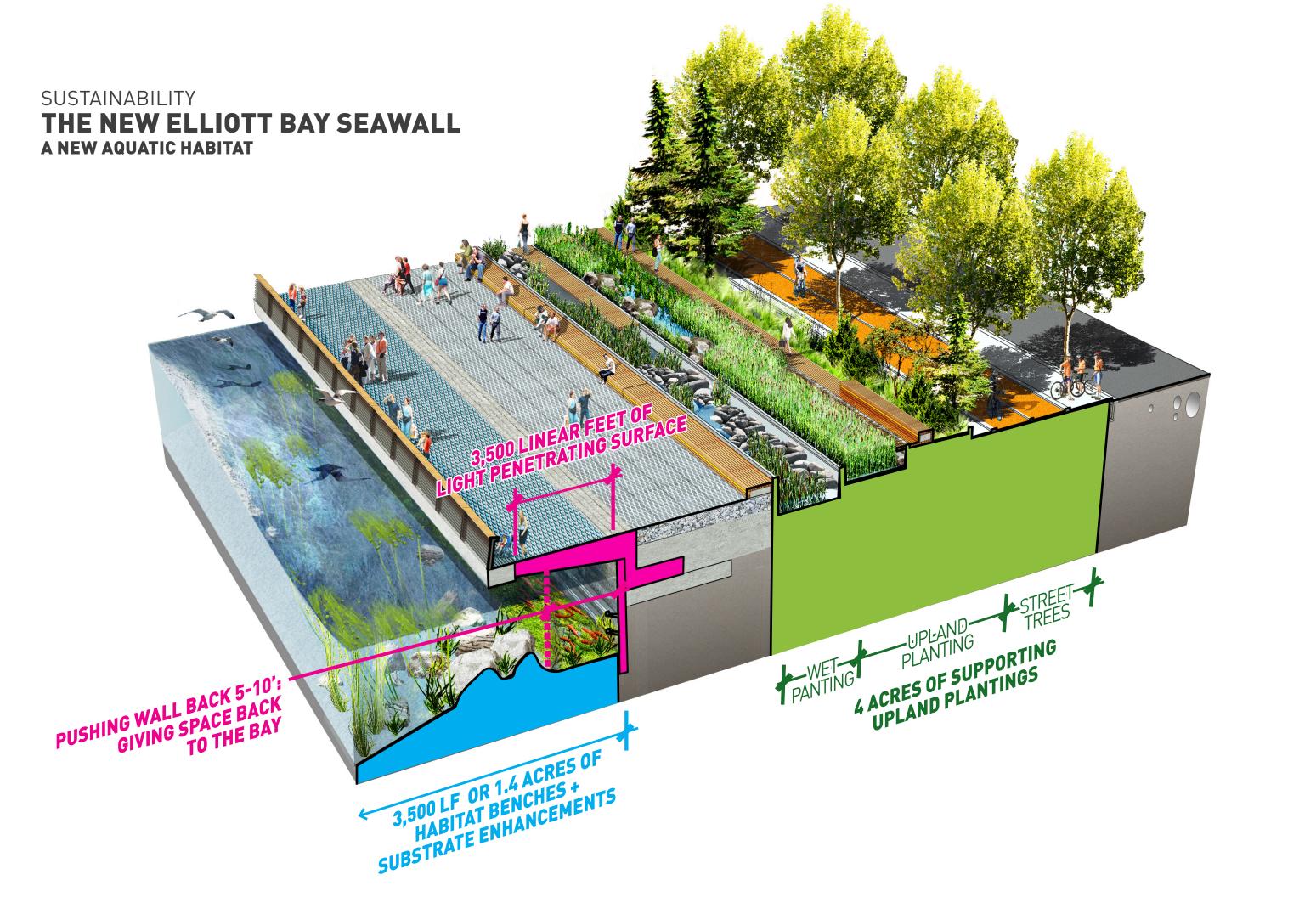
- (1) THE NEW ELLIOTT BAY SEAWALL
- (2) STORMWATER MANAGEMENT
- (3) INCREASED TREE CANOPY AND URBAN HABITAT
- (4) "PEOPLE-FIRST" APPROACH TO TRANSPORTATION
- 5 GREEN BUILDINGS
- 6 SIGNATURE ELEMENTS:
- (7) STRATEGIES TO REDUCE ENERGY AND RESOURCE USE:

SUSTAINABILITY THE NEW ELLIOTT BAY SEAWALL **NEW AQUATIC HABITAT**



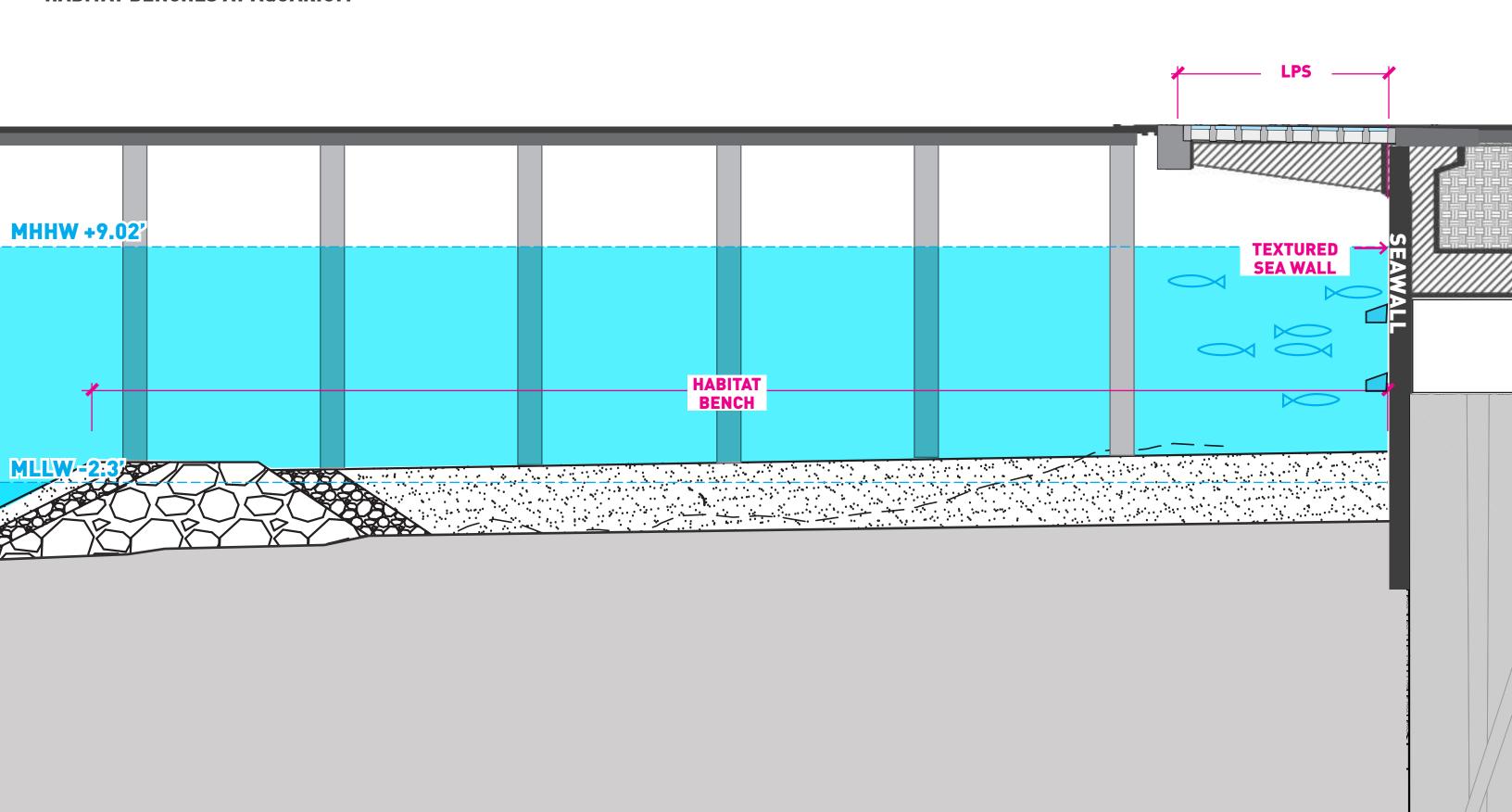
LEGEND

- HABITAT BENCHES
- TEXTURED VERTICAL SEAWALL PANELS
- LIGHT PENETRATING SUFACE
- UPLAND PLANTING



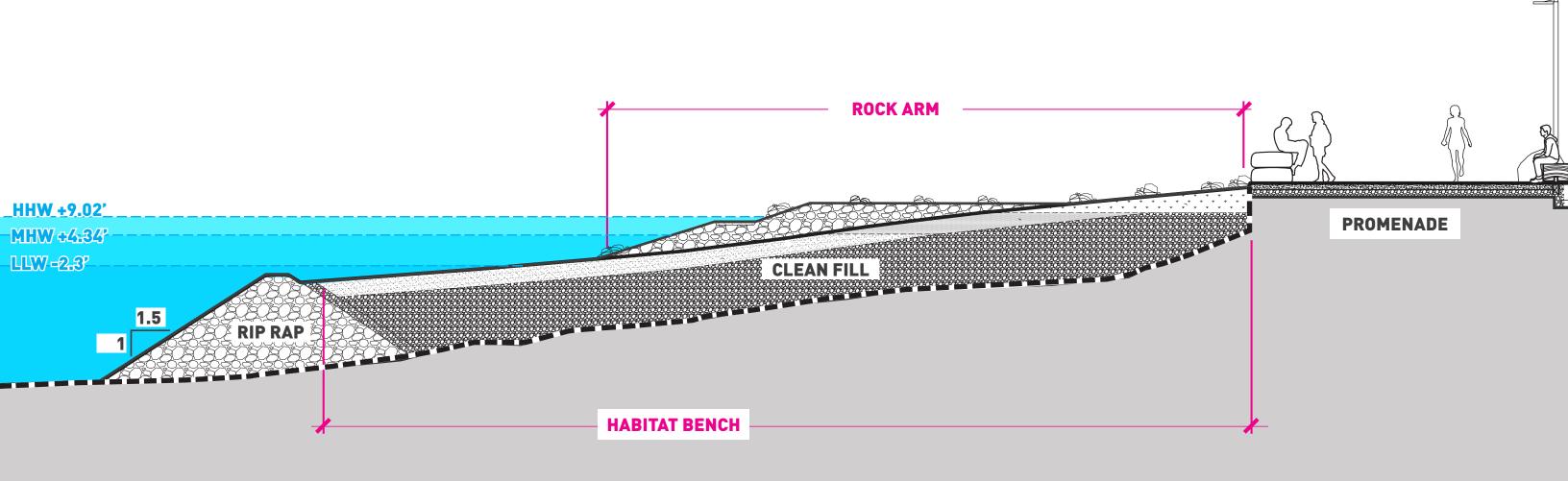
THE NEW ELLIOTT BAY SEAWALL

HABITAT BENCHES AT AQUARIUM

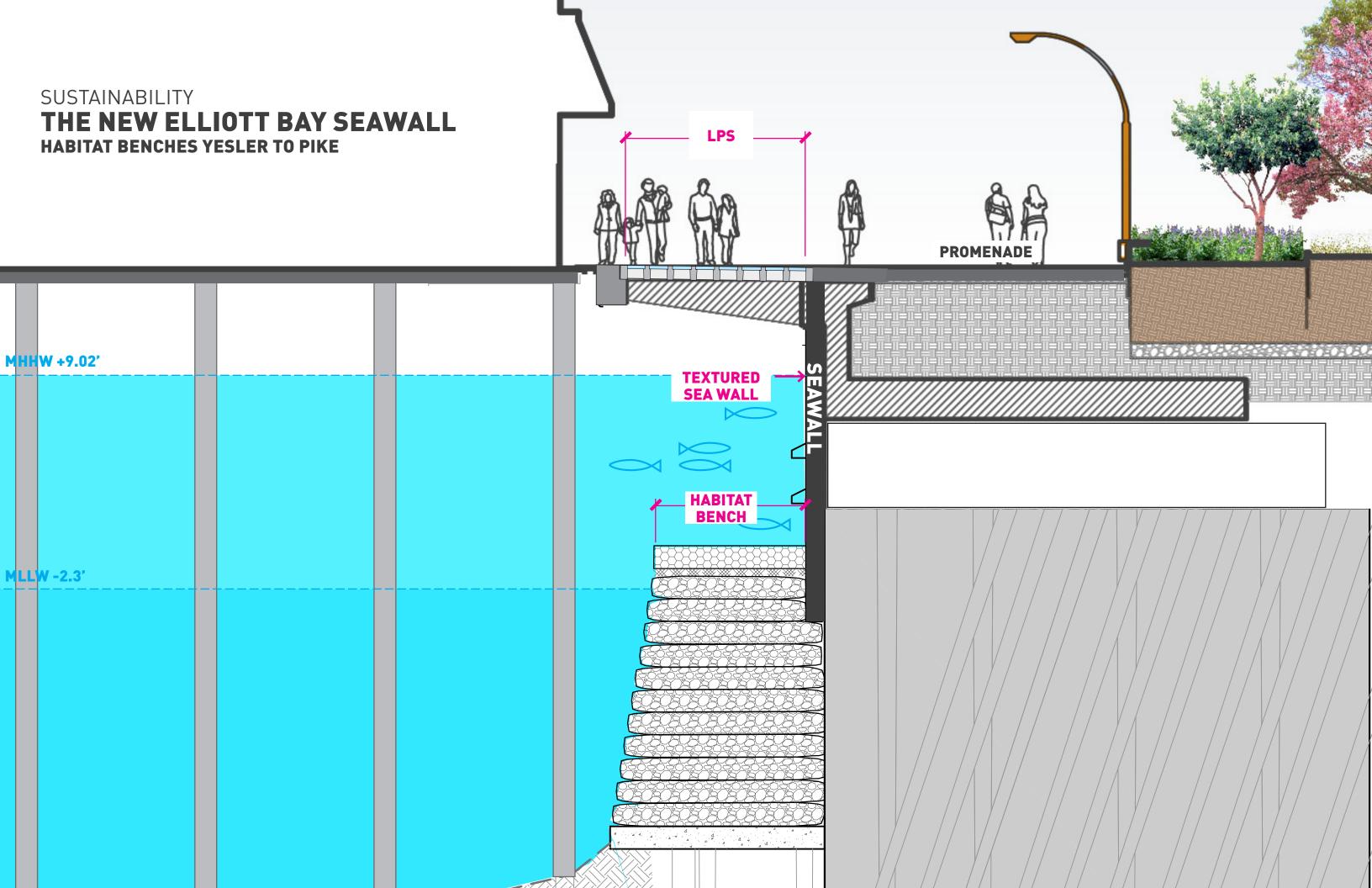


THE NEW ELLIOTT BAY SEAWALL

HABITAT BENCH AT PIONEER SQUARE



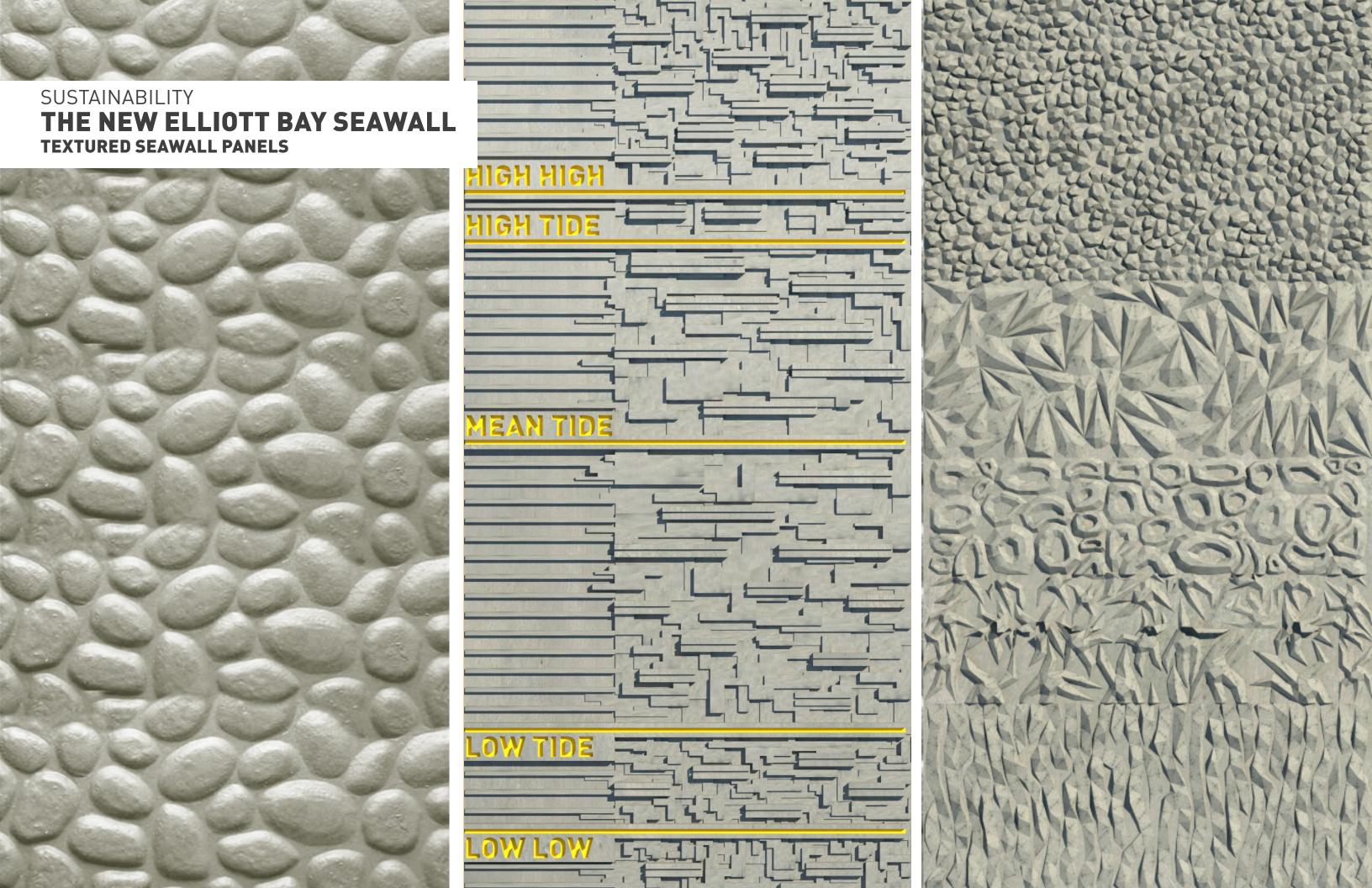














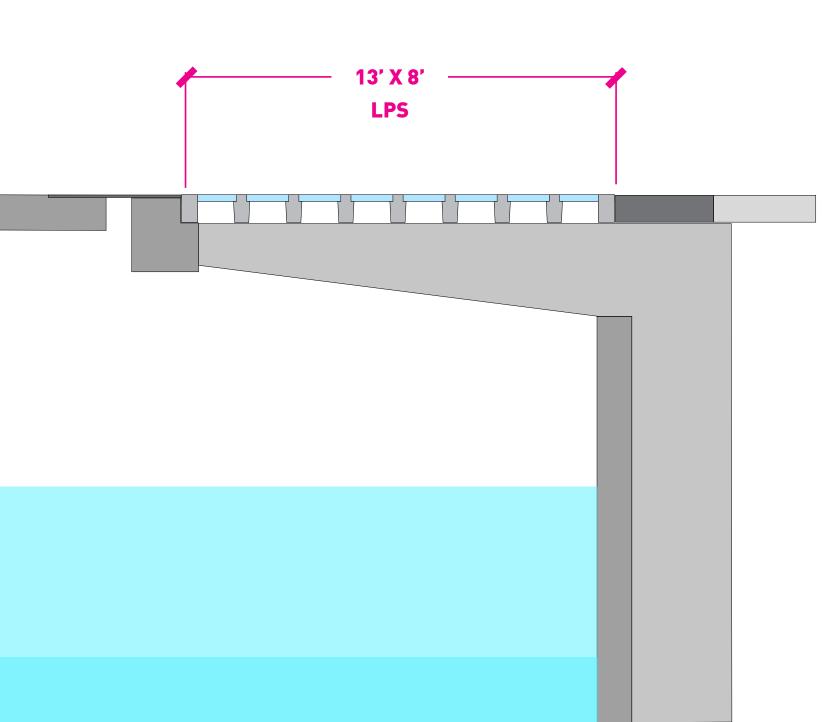


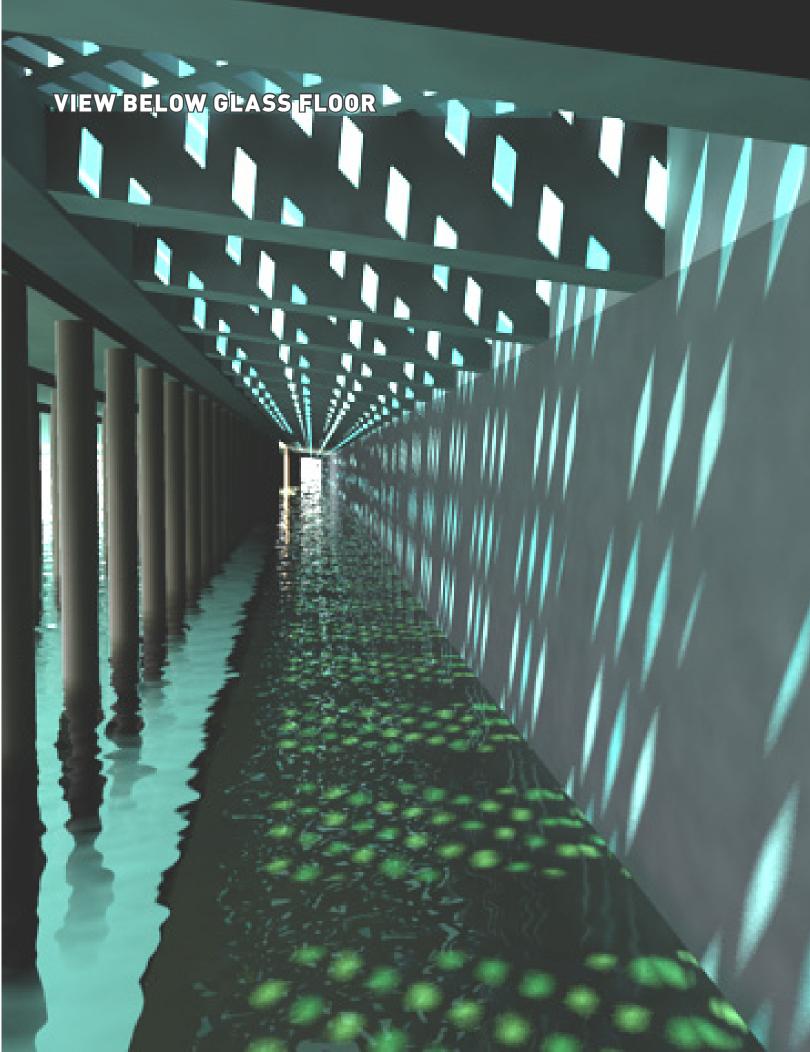


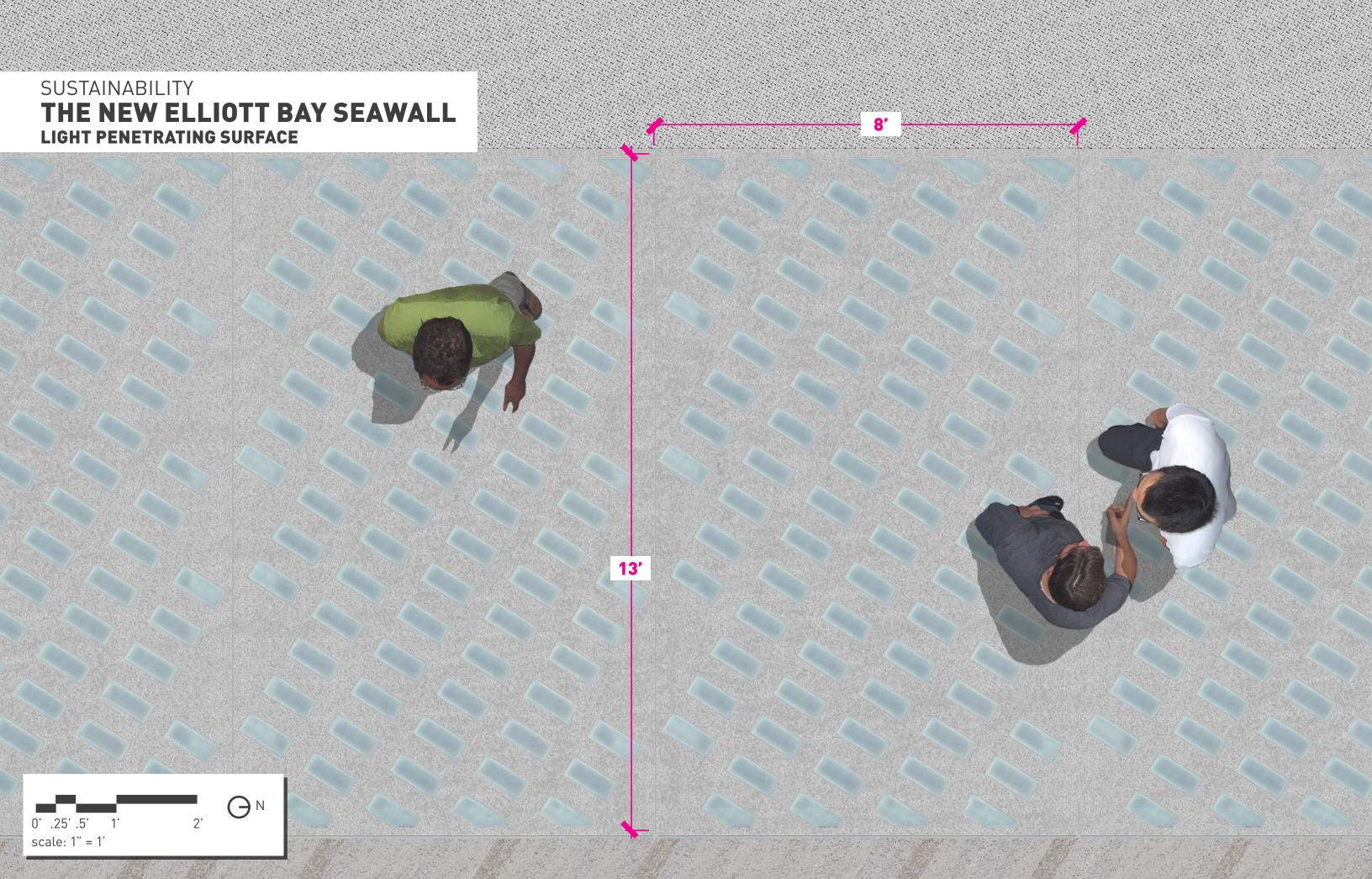




THE NEW ELLIOTT BAY SEAWALL LIGHT PENETRATING SURFACE











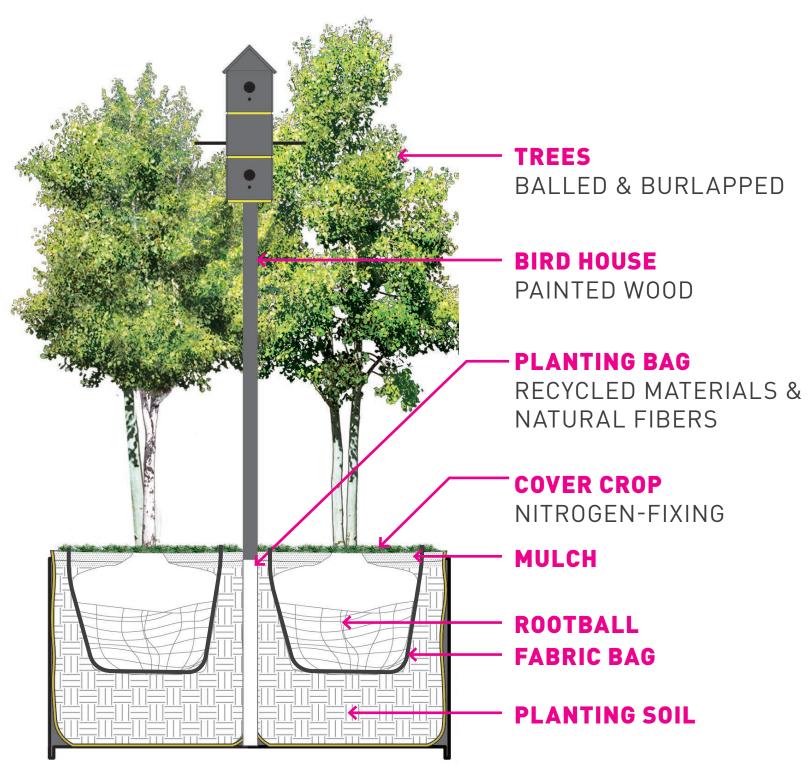






THE NEW ELLIOTT BAY SEAWALL

SEAWALL PHASE UPLAND PLANTINGS



SECTION A-A'

WASHINGTON FISH AND WILDLIFE STANDARD BIRDHOUSE 2" Materials One 1x10" x 4' rough cedar board

FABRIC BAG

Twelve 1-1/4" outdoor wood screws



SUSTAINABILITY **SALMON MIGRATION CONNECTING TO THE CORRIDOR**

HABITAT LOSS

• Shoreline habitats of Puget Sound have suffered significant losses over the last 125 years.

Salmon face many obstacles throughout their migratory cycle:

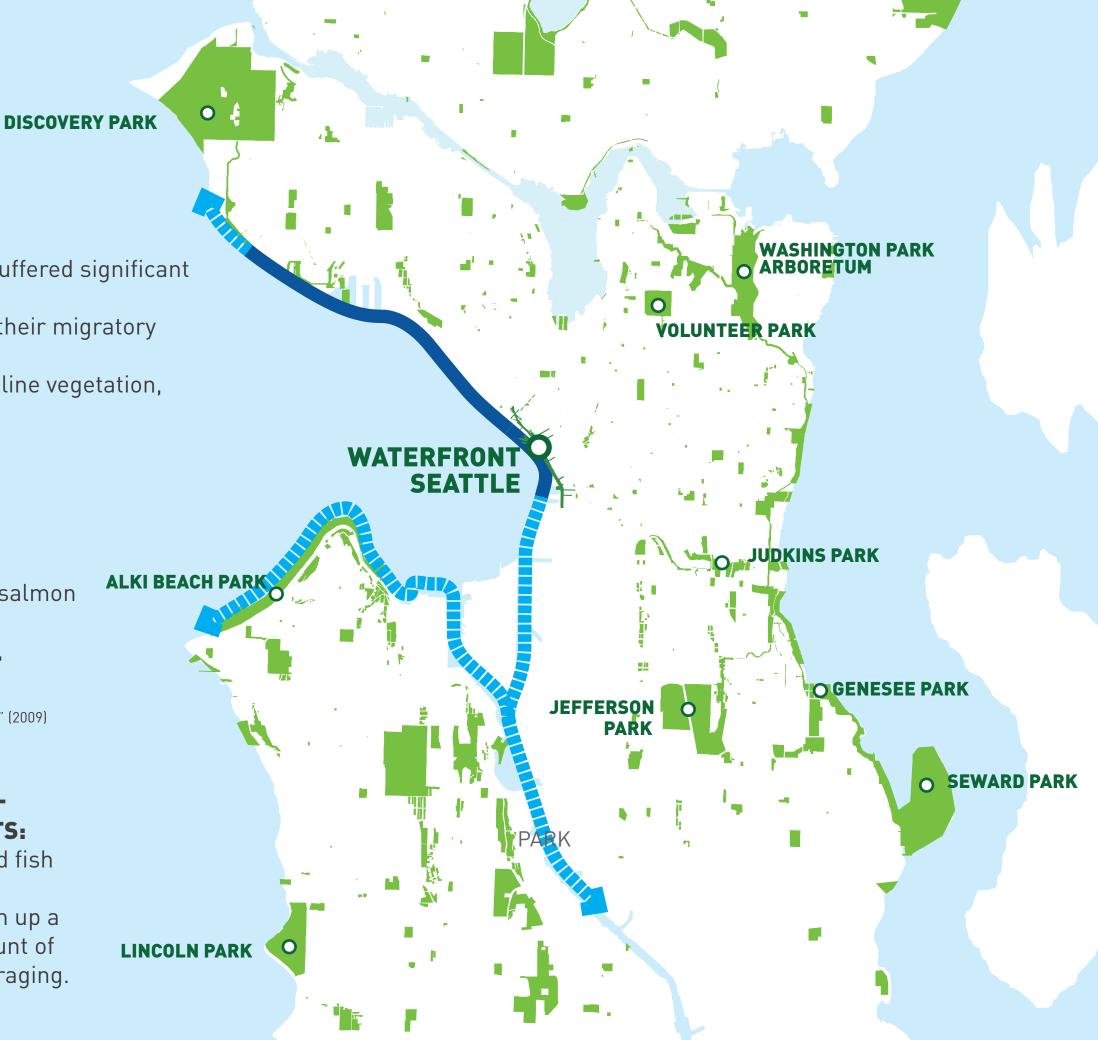
- Loss of shallow marine habitat and shoreline vegetation,
- Pollution,
- Bulkheads,
- Blockage from docks and piers
- Urban development

DECLINING SALMON POPULATIONS

- Pre-settlement: estimated 10-16 million salmon in Columbia Basin/ Puget Sound area.
- 29% of these populations are now extinct,
- 27 species are threatened or endangered

PUGET SOUND SALMON RECOVERY PLAN-ELLIOTT BAY SHORELINE ENHANCEMENTS:

- Create shallow water habitat benches and fish friendly structures along the waterfront,
- Install a shoreline beach. This would open up a migration corridor and increase the amount of shallow water are for juvenile Chinook foraging.



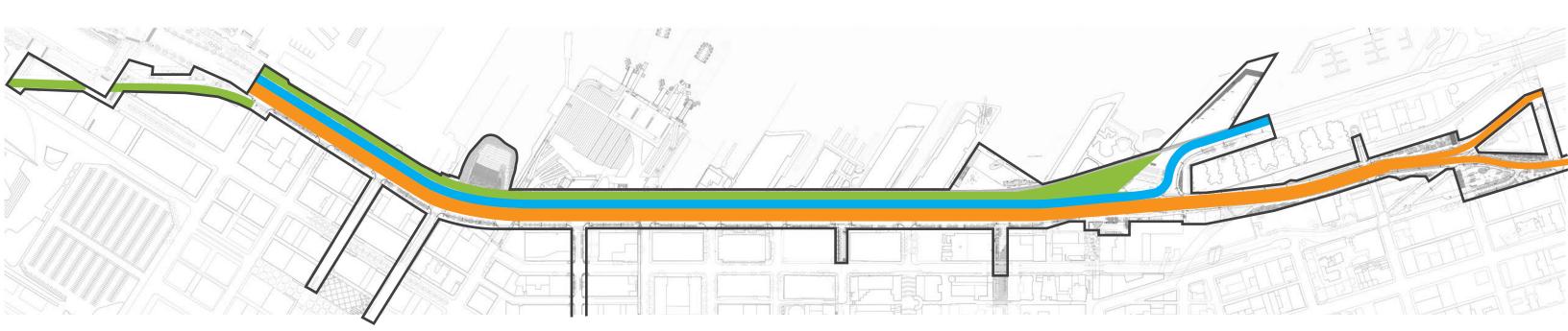
[&]quot;Reconnecting Social and Ecological Resilience in Salmon Ecosystems." (2009)





STORMWATER MANAGEMENT

6.6 MILLION GALLONS MANAGED ANNUALLY



POLLUTION GENERATING SURFACES

10.63 ACRES

PERMEABLE PAVEMENTS

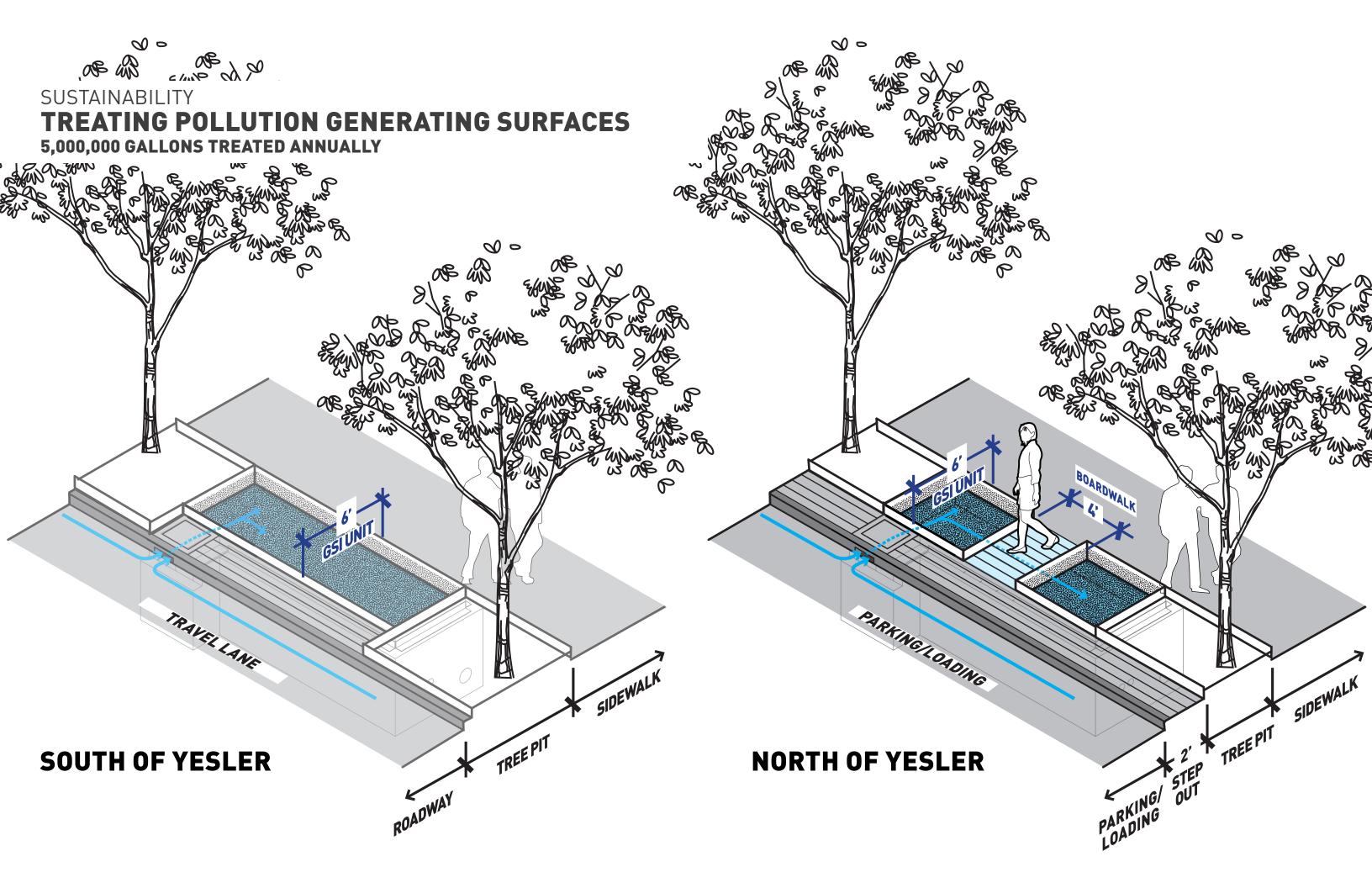
1.3 ACRES

600,000 GAL. FILTERED INTO SUB-SOIL PLANTED AREAS

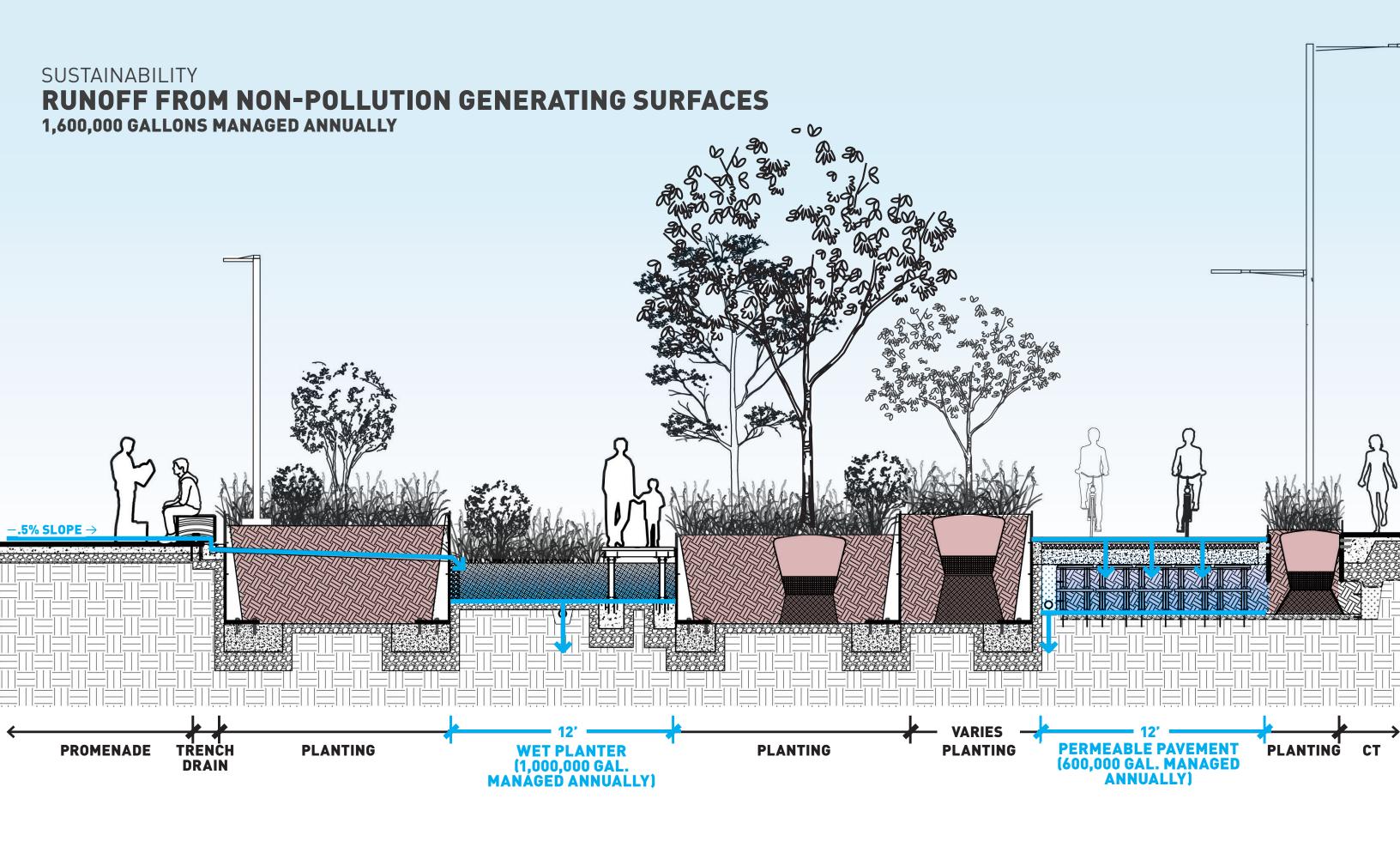
4.2 ACRES

5,000,000 OF 7,500,000 GAL.
TREATED THROUGH
BIOFILTRATION

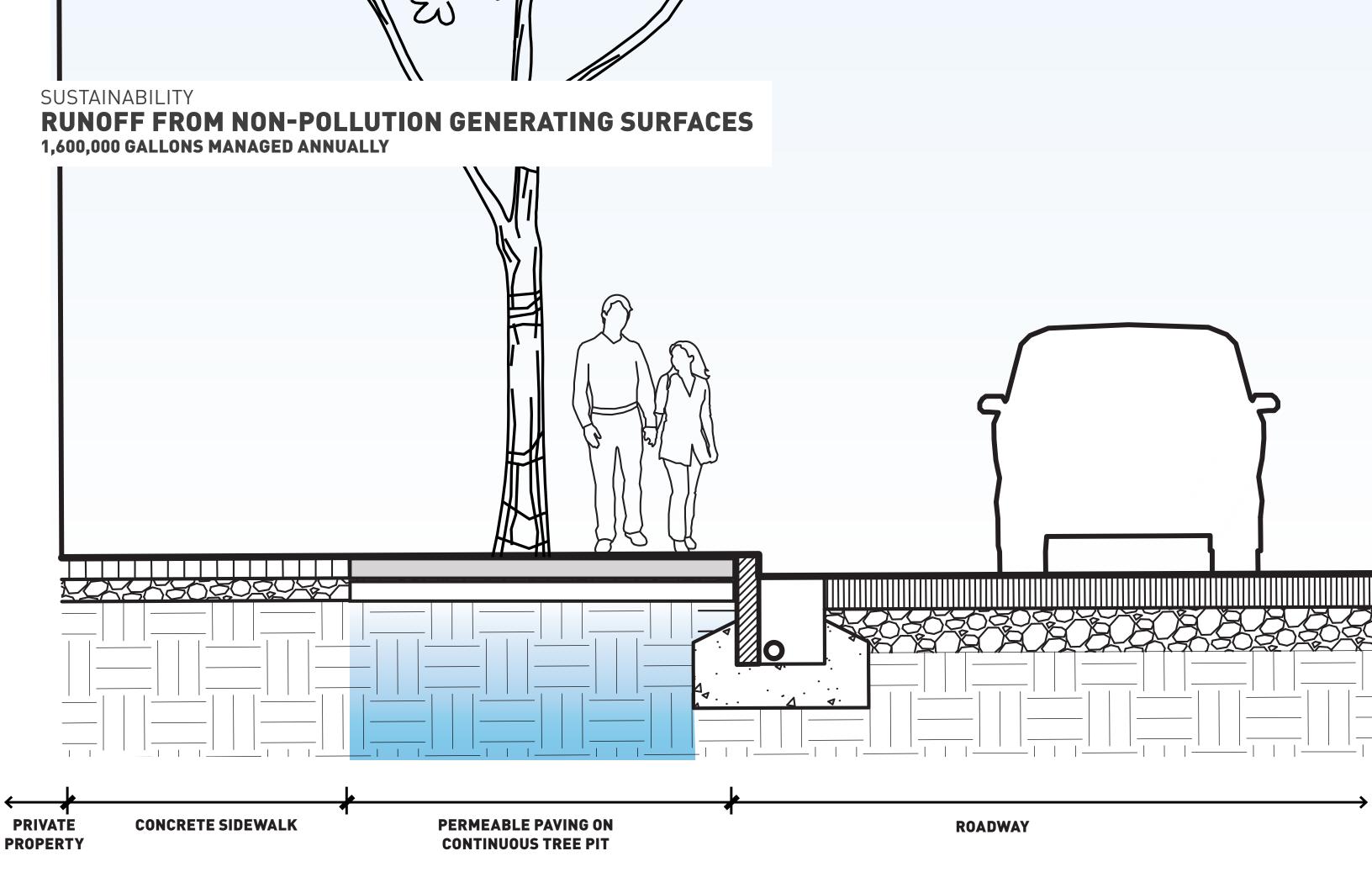
1,000,000 GAL.
ABSORBED INTO ROOT-ZONE

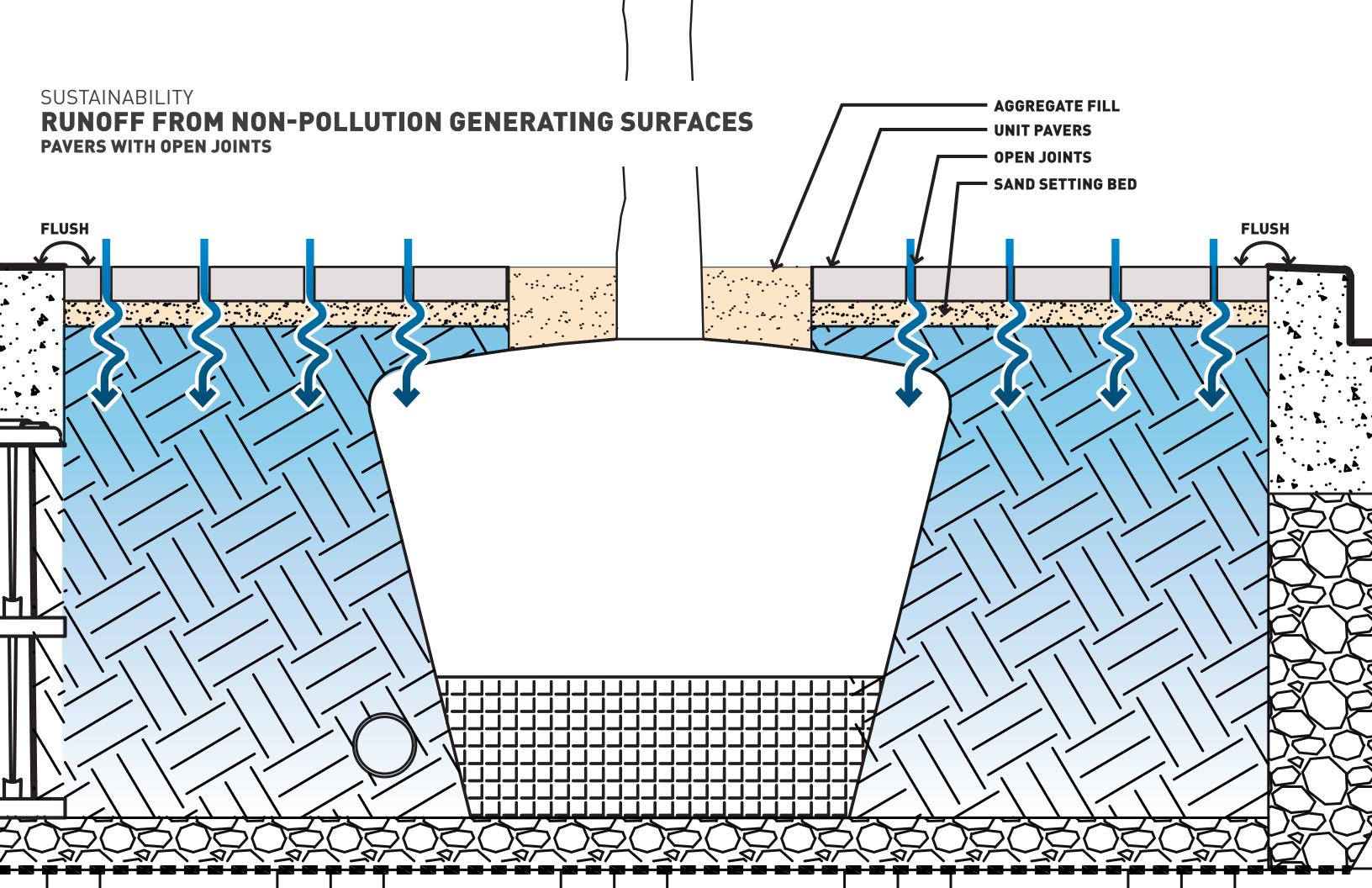












PUGET SOUND WATERSHED REDUCING POLLUTION

IMPERVIOUS SURFACES

- Surface runoff is the largest source of toxic chemicals being deposited into Puget Sound.
- Runoff drains directly into Puget Sound from roads, driveways and rooftops.

Department of Ecology. "Toxics in Surface Runoff to Puget Sound: Phase 3 Data and Load Estimates".

PLANTED AREAS

- Absorb rainwater runoff before ultimately ending up in the rivers and streams.
- Slow and filter out pollutants being washed out of the city,
- Reduce erosion,
- Lower and stable water temperatures, and
- Filter pollutants.

Montgomery, David (2003). King of Fish The Thousand Year Run of Salmon.

AQUATIC BENEFITS

- Improves quality of aquatic habitat along salmon corridor
- Improves heath of marine wildlife
- Improves quality of marine plant life
- Improves quality of upland habitat food sources





SUSTAINABILITY WATERFRONT TREE CANOPY 183 EXISTING TREES



SUSTAINABILITY
WATERFRONT TREE CANOPY
183 EXISTING TREES
844 PROPOSED TREES



WATERFRONT CANOPY INCREASED 6X

413 new Street Trees
431 new Open Space Trees





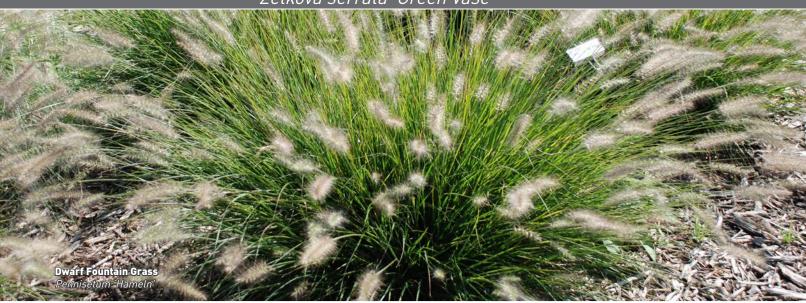




SUSTAINABILITY PLANT COMMUNITIES FORMAL COMMUNITY























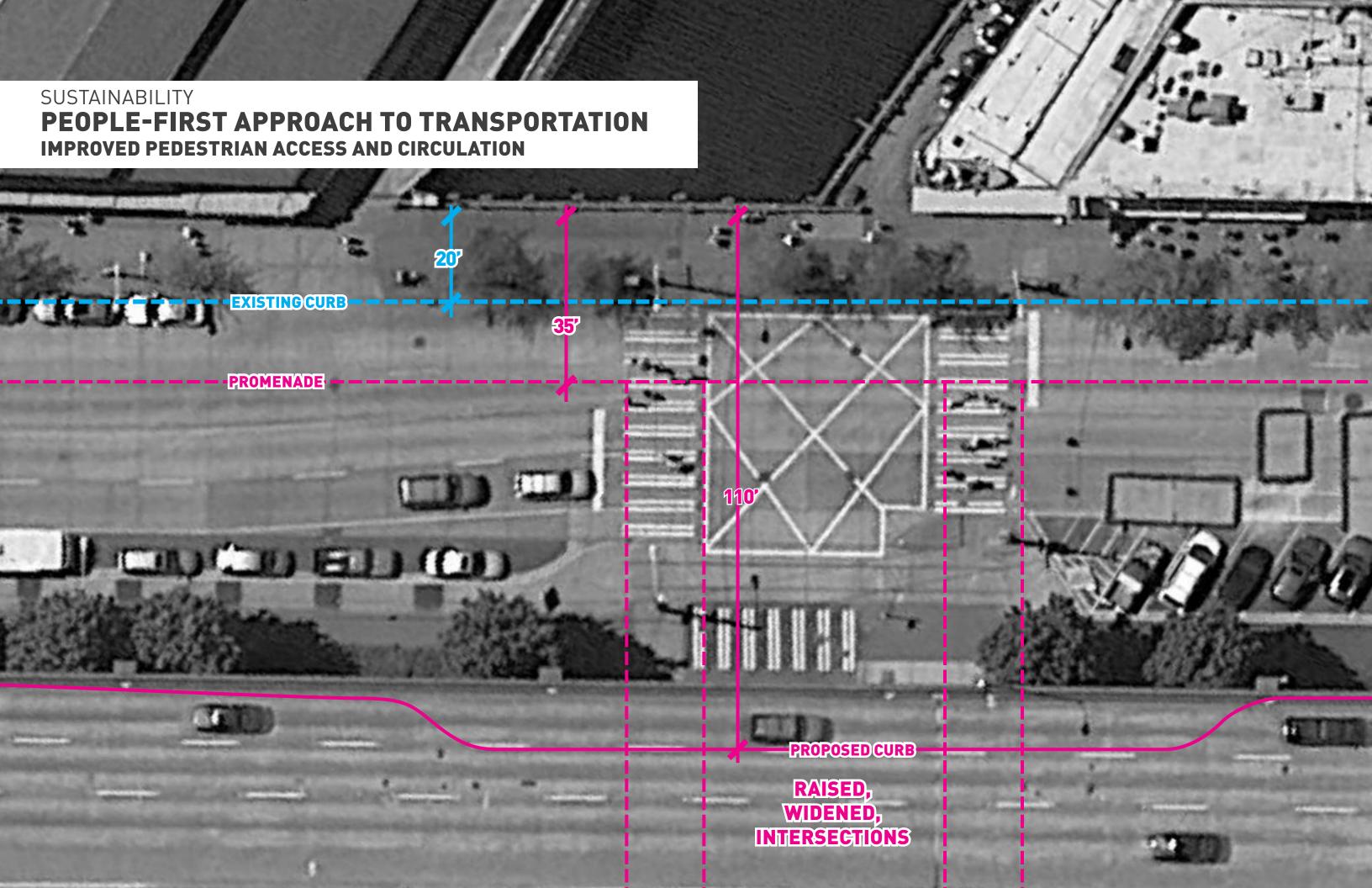


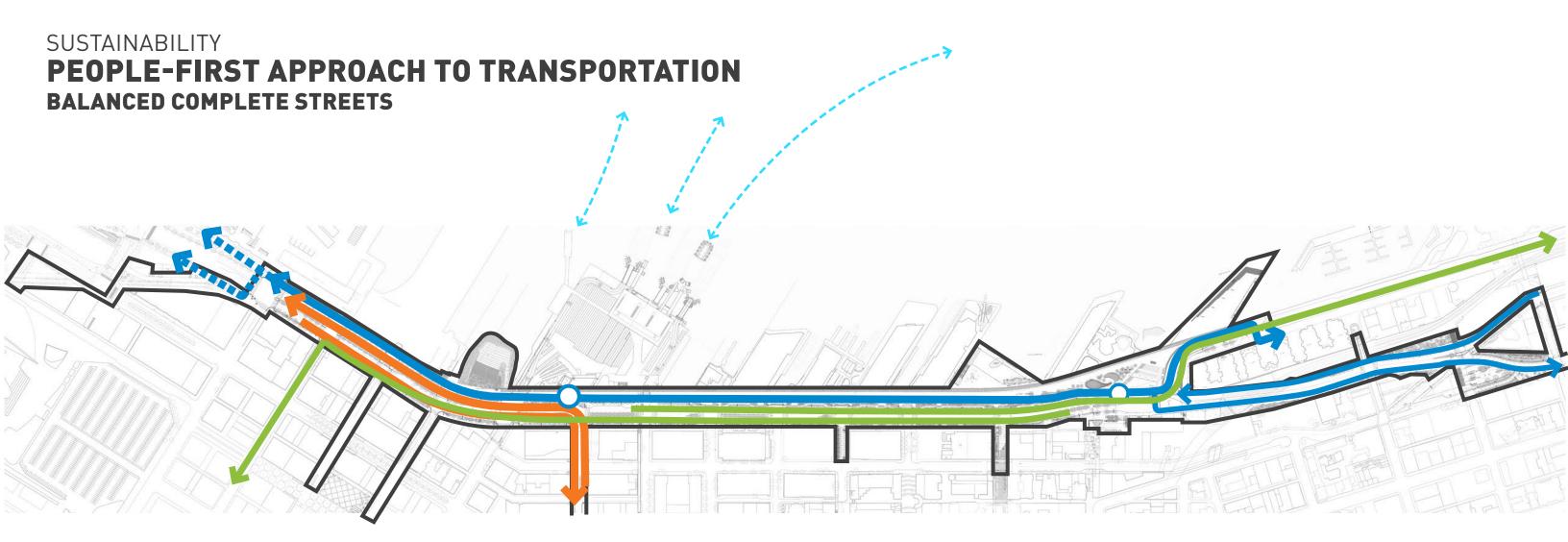


PEOPLE-FIRST APPROACH TO TRANSPORTATION PEDESTRIAN ORIENTED ACCESS



THE STEEP TOPOGRAPHY FROM FIRST AVE. TO THE WATERFRONT

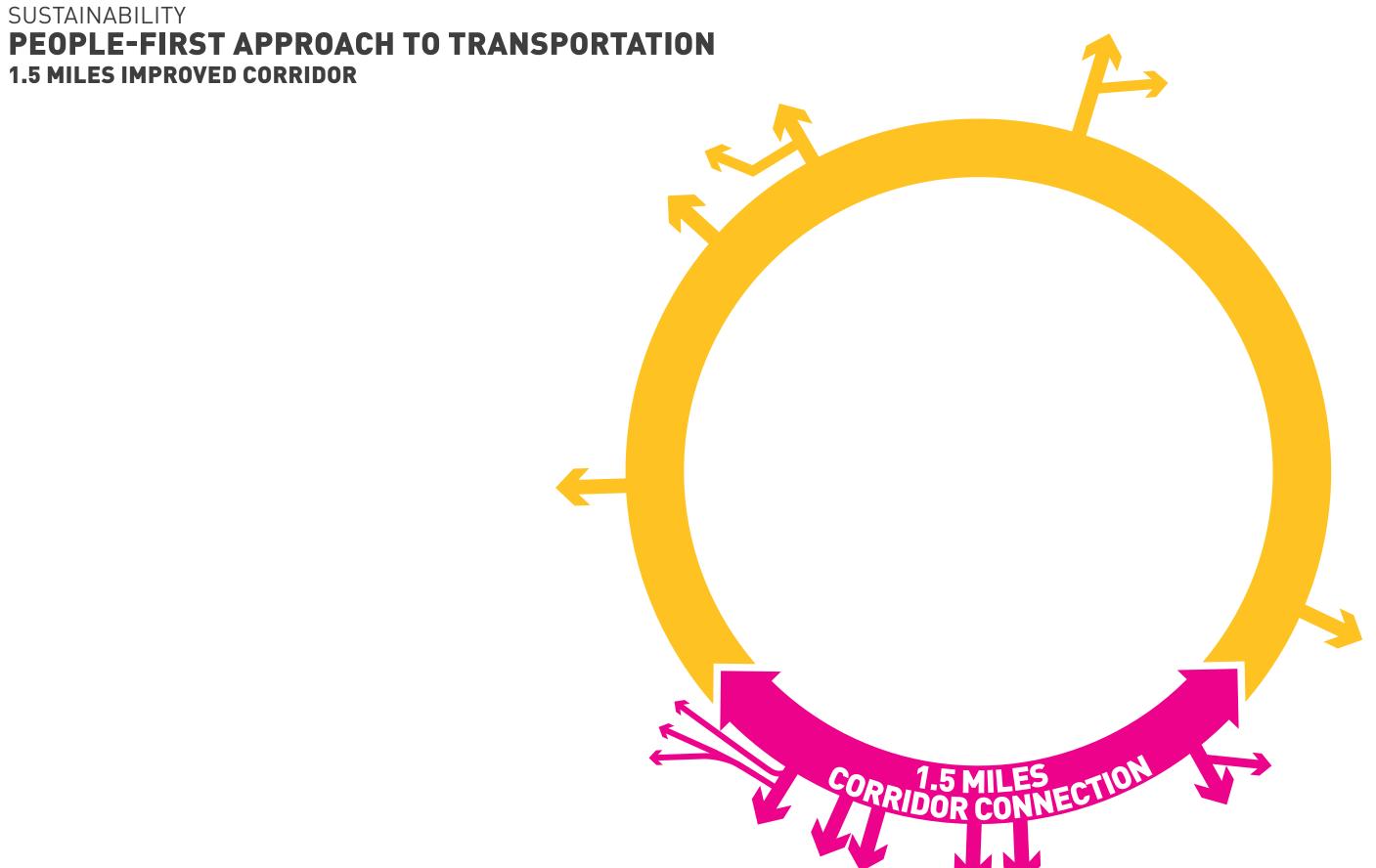




1.3 MILES OF DEDICATED BIKE PATH + 2 BIKE SHARE STATIONS

2 TRANSIT PRIORITY LANES
LINKING
WEST SEATTLE,
COLMAN DOCK &
DOWNTOWN OFFICE CORE

WATERFRONT 'PEOPLE MOVER'



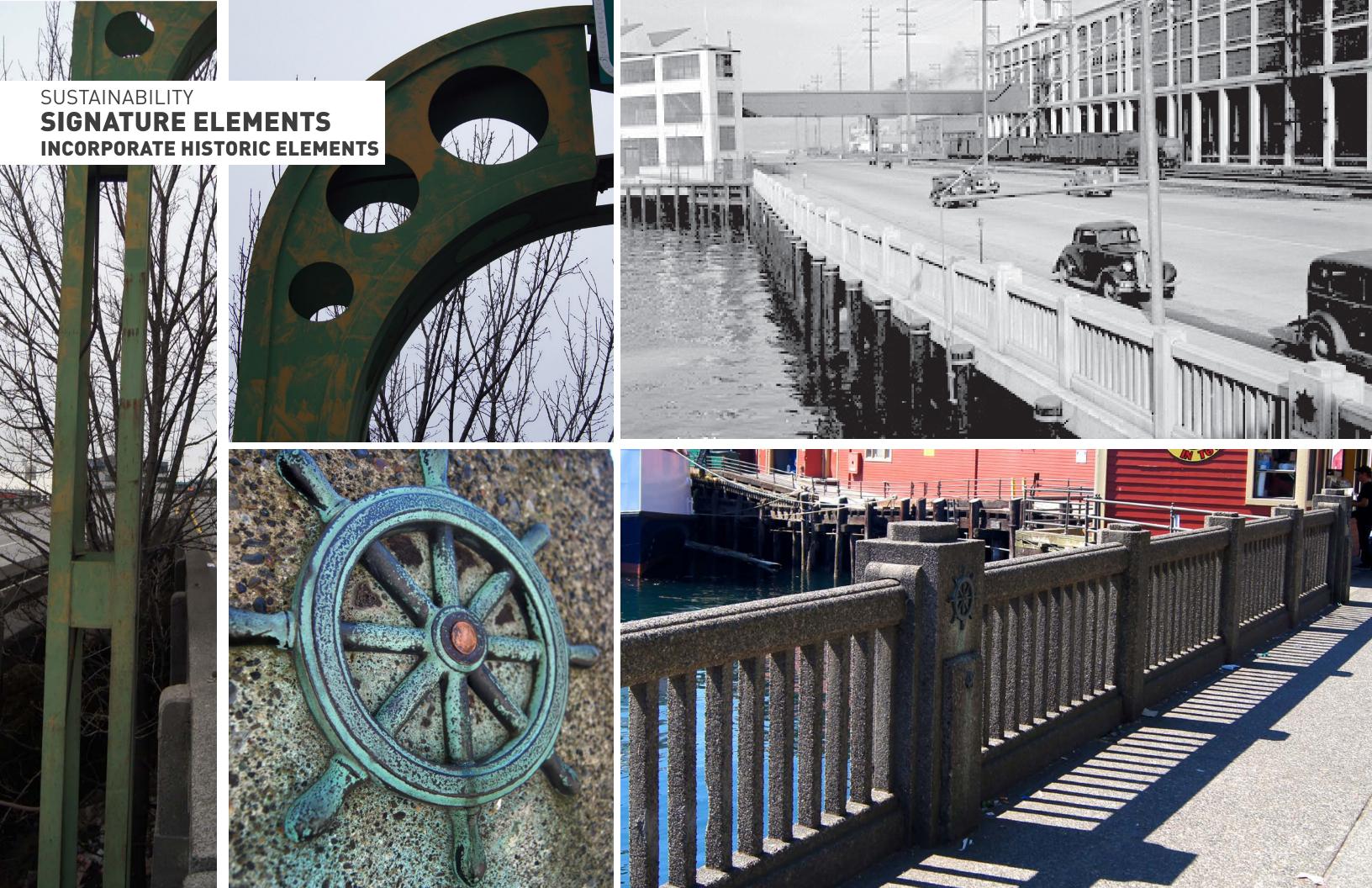
GREEN BUILDINGS WATER, ENERGY AND RESOURCE EFFICIENCY

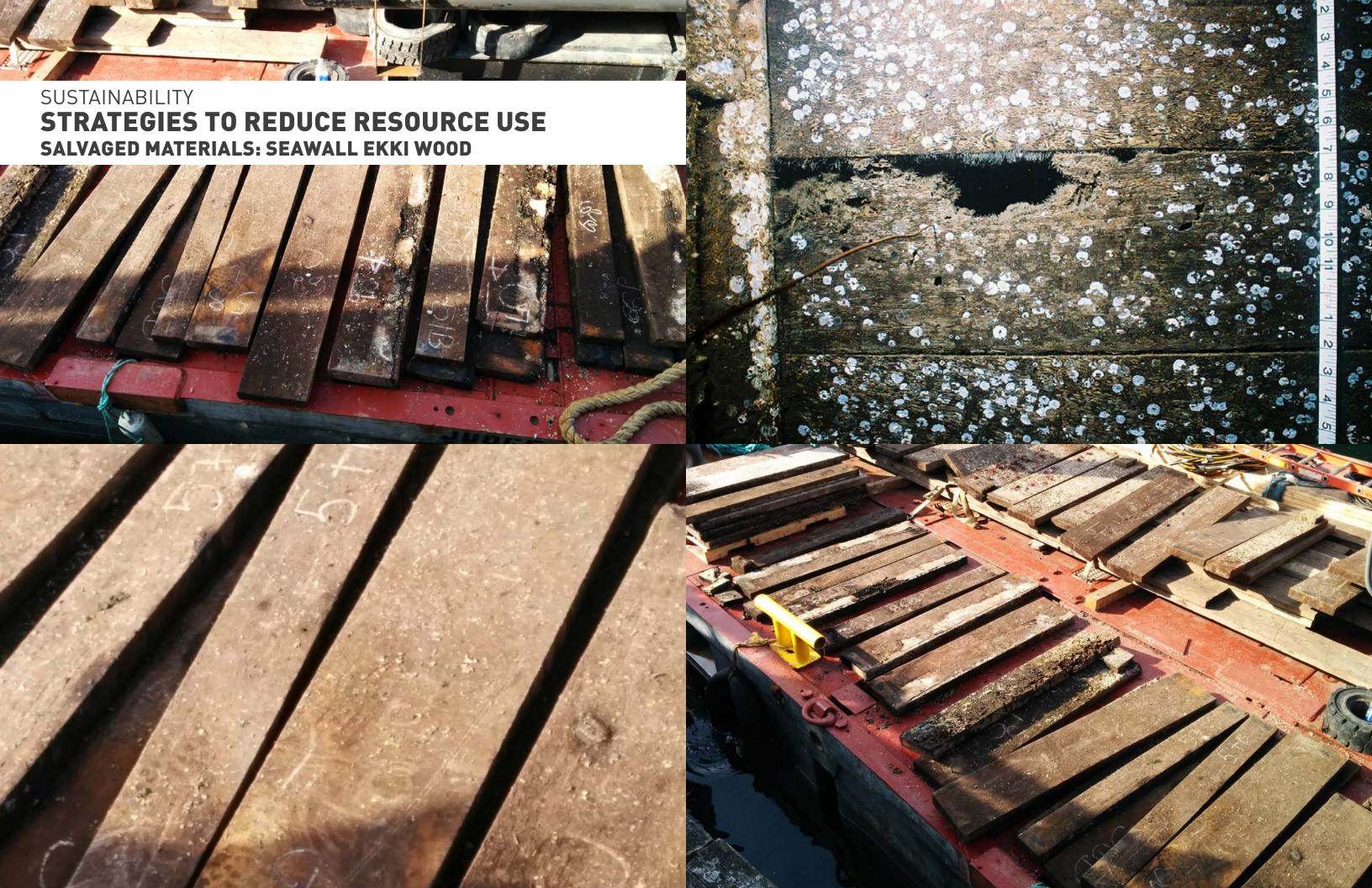
- OLW buildings will be designed and constructed to a LEED Gold standard as a minimum.
- Explore 'greywater' treatment systems a "living machine"
- Explore the potential for these buildings to be true 'living buildings' similar to the Bullitt Center potentially utilizing geothermal wells or solar for heating and cooling needs

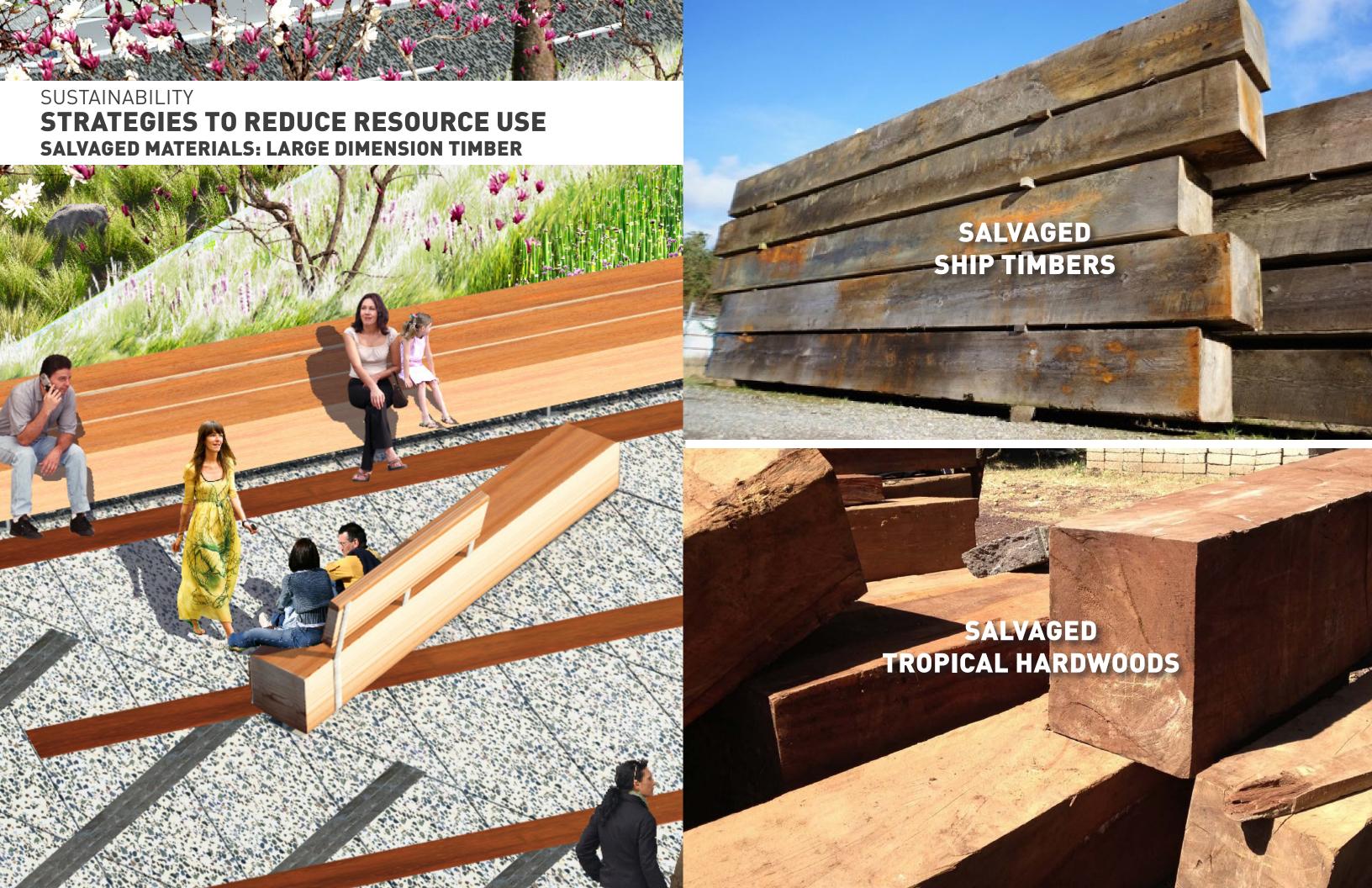
















SUSTAINABILITY STRATEGIES TO REDUCE ENERGY USE LIGHTING

BENEFITS OF LED LIGHTING

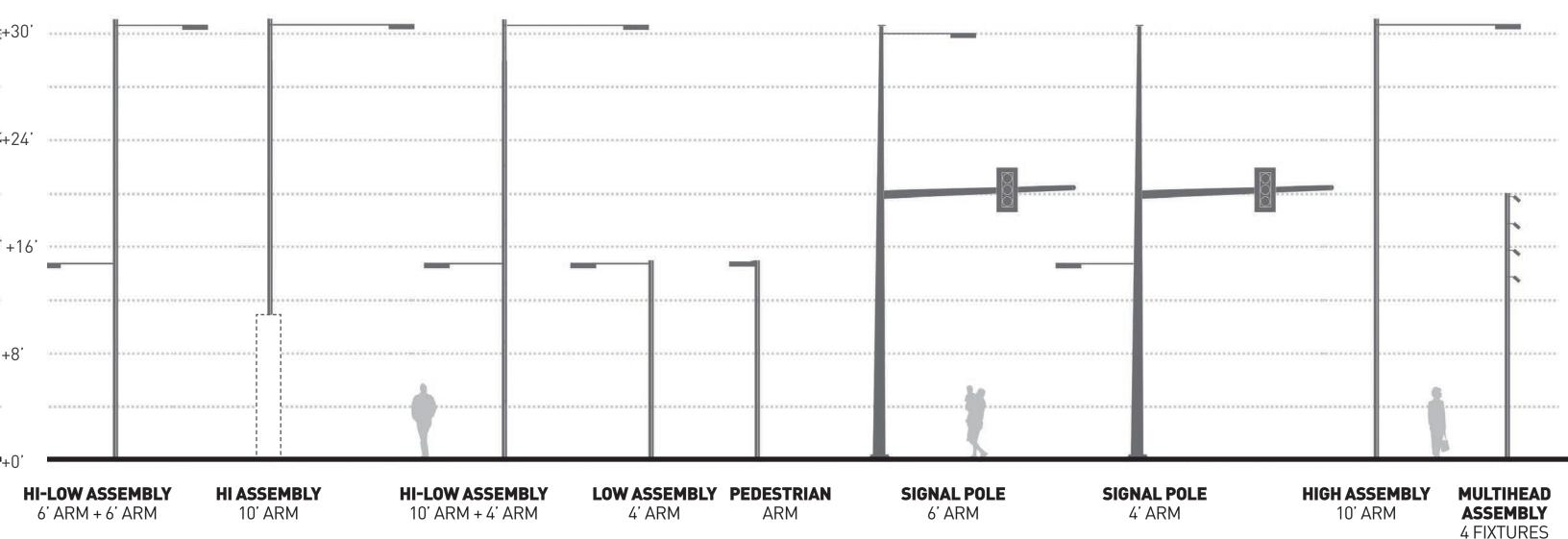
LONG LASTING: 100,000 HRS

LOW ENERGY USE:

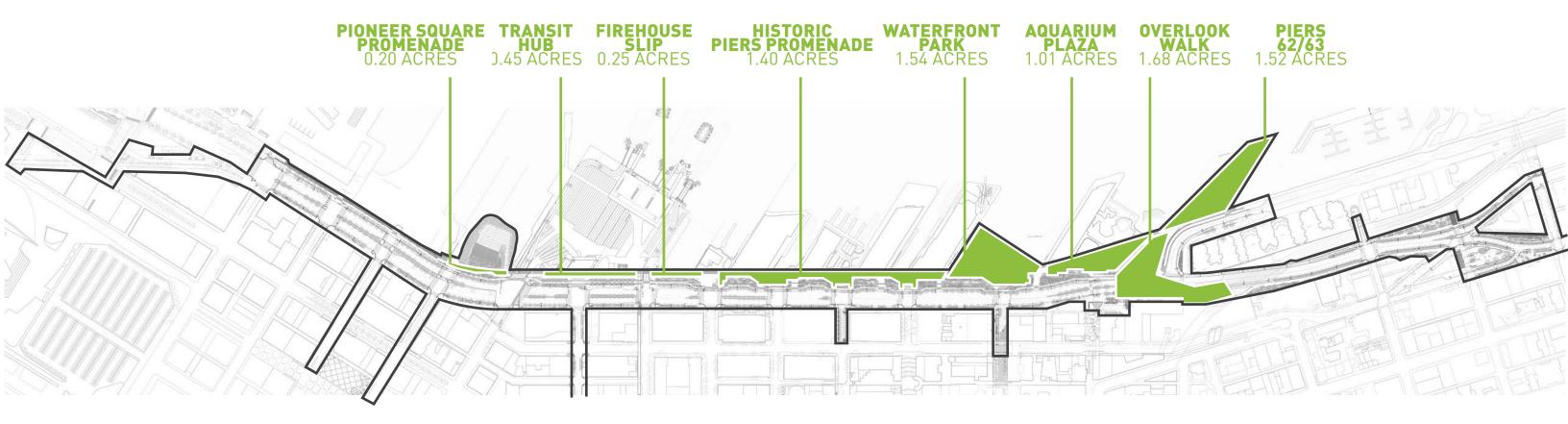
HIGHER LIGHT OUTPUT: LIMIT LIGHT POLUTION:

15% OF AN INCANDESCENT 130% BRIGHTER PER WATT USE DIRECTIONAL LIGHT ONLY

SOURCE: NYTIMES, ROSENTHAL AND BARRINGER2009



A TRANSFORMED URBAN WATERFRONT HUMAN HEALTH AND WELLBEING



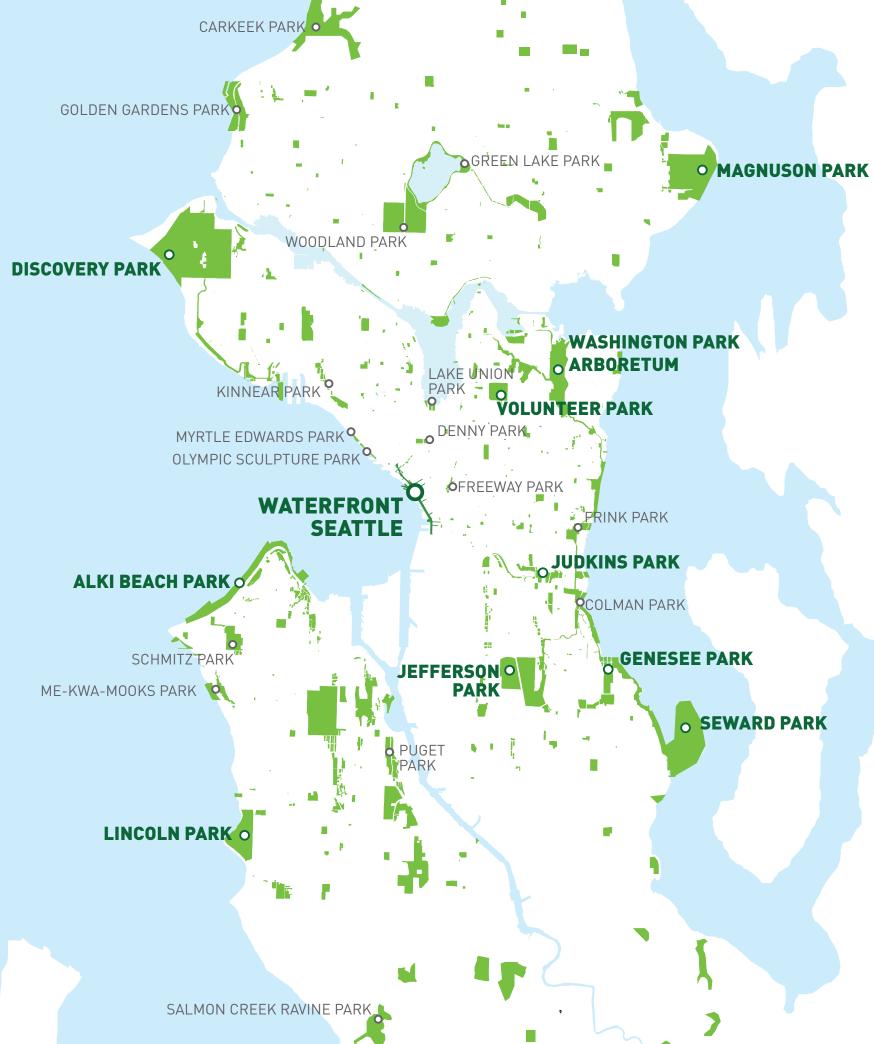
8.1 ACRES OF NEW PUBLIC OPEN SPACES

- PROTECT AND MAINTAIN CULTURAL & HISTORIC PLACES
- PROMOTE EQUITABLE SITE USE
- PROMOTE PHYSICAL ACTIVITY
- SUPPORT MENTAL RESTORATION CONNECTION TO NATURE/ SEASONS/ENVIRONMENT WITH EMOTIONAL AND SYMBOLIC SIGNIFICANCE
- PROMOTES SENSE OF COMMUNITY BUILD + STRENGTHEN TIES AMONG COMMUNITIES, ENGAGE + EMPOWER PEOPLE

- PROMOTES ECONOMIC DEVELOPMENT CONTRIBUTE LARGER URBAN POLICY OBJECTIVES, SUCH AS JOB OPPORTUNITIES, YOUTH DEVELOPMENT, PUBLIC HEALTH, AND COMMUNITY BUILDING
- INCREASES PROPERTY VALUES
- PROVIDE OPTIMUM SITE ACCESSIBILITY, SAFETY & WAYFINDING
- CREATE IDENTITY

SUSTAINABILITY A NEW DESTINATION PARK

LEGEND • SEATTLE PARKS O DESTINATION PARKS



SUMMARY

- 15-ACRES OF TRANSFORMED LAND TO NEW HEALTH AND VITALITY; (NOTE: CORE PROJECT INCLUDING ROADWAY IS 32.41-ACRES)
- 5,000,000 GALLONS OF POLLUTED WATER TREATED ANNUALLY THROUGH BIOFILTRATION;
- 1,600,000 GALLONS OF WATER MANAGED ANNUALLY THROUGH PLANTING AND PERMEABLE PAVEMENT;
- 413 NEW STREET TREES, 431 NEW PROMENADE TREES IN ADDITION TO 124,000 NEW PLANTS INCLUDING 90 DIFFERENT SPECIES OF SHRUBS, GRASSES, BULBS AND PERENNIALS, MANY NATIVE TO THE REGION;
- 4.3 ACRES OF NEW PLANTING AREAS
- 3,500 LINEAR FEET OF NEW SALMON MIGRATORY BENCHES;
- 1.4-ACRES OF NEWLY RESTORED AQUATIC HABITAT;
- OVER 35,000 SQUARE-FEET OF PERMEABLE PAVEMENTS (INCLUDES CYCLE TRACK AND CONTINUOUS STREET TREE PAVERS ON SAND);
- 3 NEW TRANSIT ROUTES WITH IMPROVED LINKAGE AND MOBILITY (SWTP, WATERFRONT TRANSIT, CYCLE TRACK);
- OVER 55,000 SQUARE-FEET OF NEW BUILDING FLOOR AREA, BUILT USING STATE-OF-THE-ART LOW-ENERGY AND GREEN TECHNOLOGY PRINCIPLES (PC-1 IS AN ADDITIONAL 171,778 SQUARE-FEET);
- OVER 5 MILLION NEW VISITORS EXPECTED ON THE WATERFRONT ANNUALLY, BOOSTING LOCAL BUSINESSES, REVENUE AND ECONOMY.



SUSTAINABILITY SUMMARY

- 1 THE NEW ELLIOTT BAY SEAWALL
 - TARGET
 - 3.500 LF OF LPS
 - 1.4 ACRES OF HABITAT BENCHES + SUBSTRATE ENHANCEMENTS
- (2) STORMWATER MANAGEMENT
 - TARGET
 - 6,600,000 GALLONS MANAGED ANNUALLY
- 3 INCREASED TREE CANOPY AND URBAN HABITAT
 - 844 NEW TREES
 - 4.2 ACRES OF SHRUBS, GRASSES + PERENNIALS
- 4 PEOPLE-FIRST APPROACH TO TRANSPORTATION
 - TARGET
 - 1.3 MILES OF DEDICATED BIKE PATH,
 - 2 BIKE SHARE STATIONS,
 - 2 TRANSIT PRIORITY LANES,
 - A WATERFRONT PEOPLE MOVER
- 5 GREEN BUILDINGS
 - TARGET
 - OLW BUILDINGS TO BE DESIGNED AND CONSTRUCTED TO A LEED GOLD STANDARD,
 - EXPLORE GRAYWATER SYSTEMS,
 - EXPLORE LIVING BUILDINGS

- (6) SIGNATURE ELEMENTS
 - TARGET
 - USE NATIVE MATERIALS
 - INCORPORATE HISTORIC ELEMENTS
- (7) STRATEGIES TO REDUCE RESOURCE USE
 - TARGET
 - USE SALVAGED MATERIALS
- (8) STRATEGIES TO REDUCE ENERGY USE
 - TARGET
 - USE LED LIGHTING
 - USE SMART LIGHITNG SYSTEMS
- (9) HUMAN HEALTH + WELLBEING
 - TARGET
 - 8.1 ACRES OF NEW PUBLIC OPEN SPACES

END

SUSTAINABILITY

SUSTAINABLE SITES SCORE CARD SUMMARY

1. SITE CONTEXT

- REDEVELOP DEGRADED SITES
- LOCATE PROJECTS WITHIN EXISTING DEVELOPED AREAS
- CONNECT TO MULTI-MODAL TRANSIT NETWORKS

2. PLANNING

ENGAGE USERS AND STAKEHOLDERS

3. WATER

- MANAGE PRECIPITATION BEYOND BASELINE
- REDUCE OUTDOOR WATER USE
- DESIGN FUNCTIONAL STORMWATER FEATURES AS AMENITIES
- RESTORE AQUATIC ECOSYSTEMS

4. SOIL + VEGETATION

- USE NATIVE PLANTS
- RESTORE NATIVE PLANT COMMUNITIES
- OPTIMIZE BIOMASS
- REDUCE HEAT ISLAND EFFECTS

5. MATERIAL SELECTION

- USE SALVAGED MATERIALS AND PLANTS
- USE RECYCLED CONTENT MATERIALS
- USE REGIONAL MATERIALS
- SUPPORT RESPONSIBLE EXTRACTION, SAFE CHEMISTRY, AND SUSTAINABLE MANUFACTURING/PRODUCTION

6. HUMAN HEALTH AND WELL-BEING

- PROTECT AND MAINTAIN CULTURAL & HISTORIC PLACES
- PROVIDE OPTIMUM SITE ACCESSIBILITY, SAFETY & WAYFINDING
- PROMOTE EQUITABLE SITE USE
- SUPPORT MENTAL RESTORATION
- SUPPORT PHYSICAL ACTIVITY
- SUPPORT SOCIAL CONNECTION
- REDUCE LIGHT/NOISE/AIR POLLUTION
- ENCOURAGE MULTIMODAL + FUEL EFFICIENT TRANSPORTATION
- SUPPORT LOCAL ECONOMY

7. CONSTRUCTION

- 8. OPERATIONS + MAINTENANCE
- 9. EDUCATION + PERFORMANCE MONITORING
- 10. INNOVATION