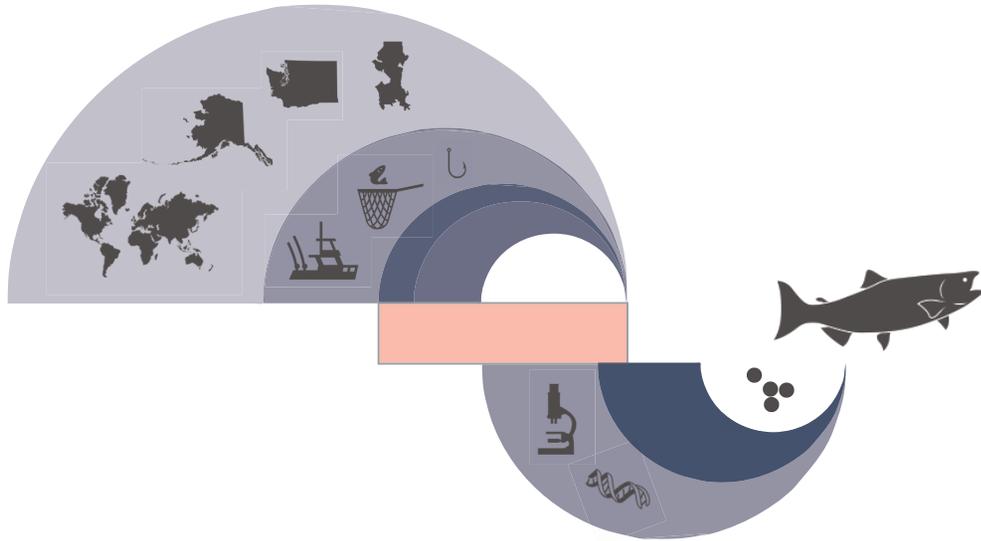


TEAM 2: CONFLUENCE

BY ELIJAH VANTREESE + SOPHIE KRAUSE



A CONFLUENCE OF RESEARCH AND COMMUNITY SPACE ON SOUTH CAMPUS

In looking at ways to reimagine UW's existing salmon homing site, we came upon the concept of looking at the proposal as a form of confluence - defined both ecologically as the junction of two rivers, and conceptually as the process of merging. Our intentions were to create a site that could merge aquatic research practices with publicly accessible and community oriented landscape.

Within our mission of developing, testing, and demonstrating innovative aquatic research practices, we wanted to cultivate responsibly. Not just aquatic urban practices, but also the next generation of aquatic practitioners. Our primary goal for the site was to become embedded in the landscape. Balancing the stakeholders goals of research, education, and outreach with our personal goals of: incorporating green infrastructure and passive geothermal cooling

into the inner workings of the site's operations, preserving precious open space in a rapidly developing campus, and creating a research facility that felt like a public landscape, we started by dropping the footprint of the SAFS building below ground.

Looking to precedents such as the Fisher Pavilion in the Seattle City Center, the idea of a garden solarium structure capable of denoting publicly viewable private space, and the aesthetic of the Mammoth Hot Springs of Yellowstone Park's step like topography - we worked to design a space that felt ecologically hybridized. With a green stormwater corridor, pedestrian plaza area, research solarium, green roof viewing platform, and waterfront deck area, we imagine a research landscape that feels like a community hotspot.

By incorporating partitionable research space, our goal was to allow for aquatic research practices throughout the year, salmon oriented or not. We increased the SAFS flexible research space to 21,000 sq. ft., complete with programmable conference rooms and outreach classrooms, in an effort to bring back the legacy SAFS has held on campus for the past 60 years.

In a world where hatcheries and other aquatic fishery practices are in trouble, and homing in an urban world has become a gauntlet for all of Puget Sound's species, we envision this proposal as a way for aquatic research practices to merge with publicly accessible and community-oriented education. A confluence of research and community space on South Campus at the University of Washington.

HATCHERIES TODAY: HOMING IN AN URBAN WORLD

HOMING IN AN URBAN WORLD

In 2012, Washington allocated over \$56.7 million in capital funds for statewide hatchery improvements. Research is required to inform policy, develop hatchery reform measures, and implement best management practices.

HATCHERY STATISTICS

- 75% of salmon caught in Puget Sound and 90% of salmon caught in the Columbia River originate from hatcheries
- WA Department of Fish and Wildlife now operates 83 hatchery facilities contributing over \$1 billion to the State's economy
- Concerns about physical barriers and interbreeding have led to reviews estimating that facility renovations now exceed \$150 million

LONG LIVE THE SALMON

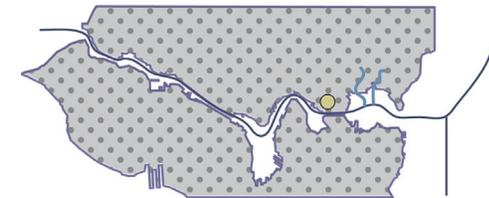
"Salmon are the canary for the health of our collective waters, and a symbol of our ongoing connection to the environment and each other."

Our Vision: A sustainable Northwest with a growing human population, a thriving economy, and strong, flourishing salmon runs.

- Long Live the Kings



Figure 1. Mossyrock, one of the 1,166 dams in WA



- UW Hatchery Site
- Modeled Presence
- Documented coho and Chinook Streams
- Chinook: Threatened, Accessible
- Coho: Species of Concern, Accessible

Figure 2. Salmon Scape Map Data

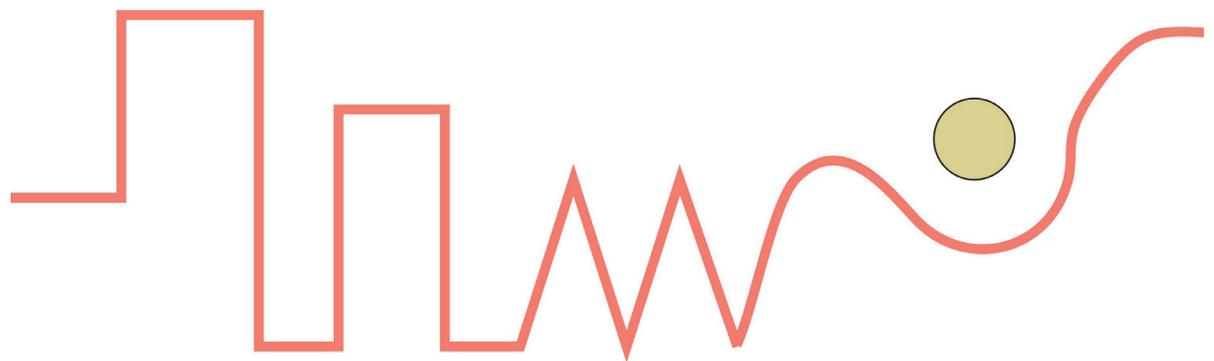


Figure 3. Conceptual Diagram: Softening the Urban Gauntlet

- UW Hatchery Site
- Post 1916 Land Mass
- Pre-Colonization Coastline
- Urban Infrastructure

ENGINEERING A NEW SHIP CANAL AND URBAN WATERFRONT

Adapted from the Burke Museum Waterlines project, this graphic shows how much Seattle has engineered its waterfront through infrastructure development during the past century. The Hiram M. Chittenden Locks, or Ballard Locks, in addition to the Fremont and Montlake Cuts, represent urban infrastructure salmon must now learn to navigate.

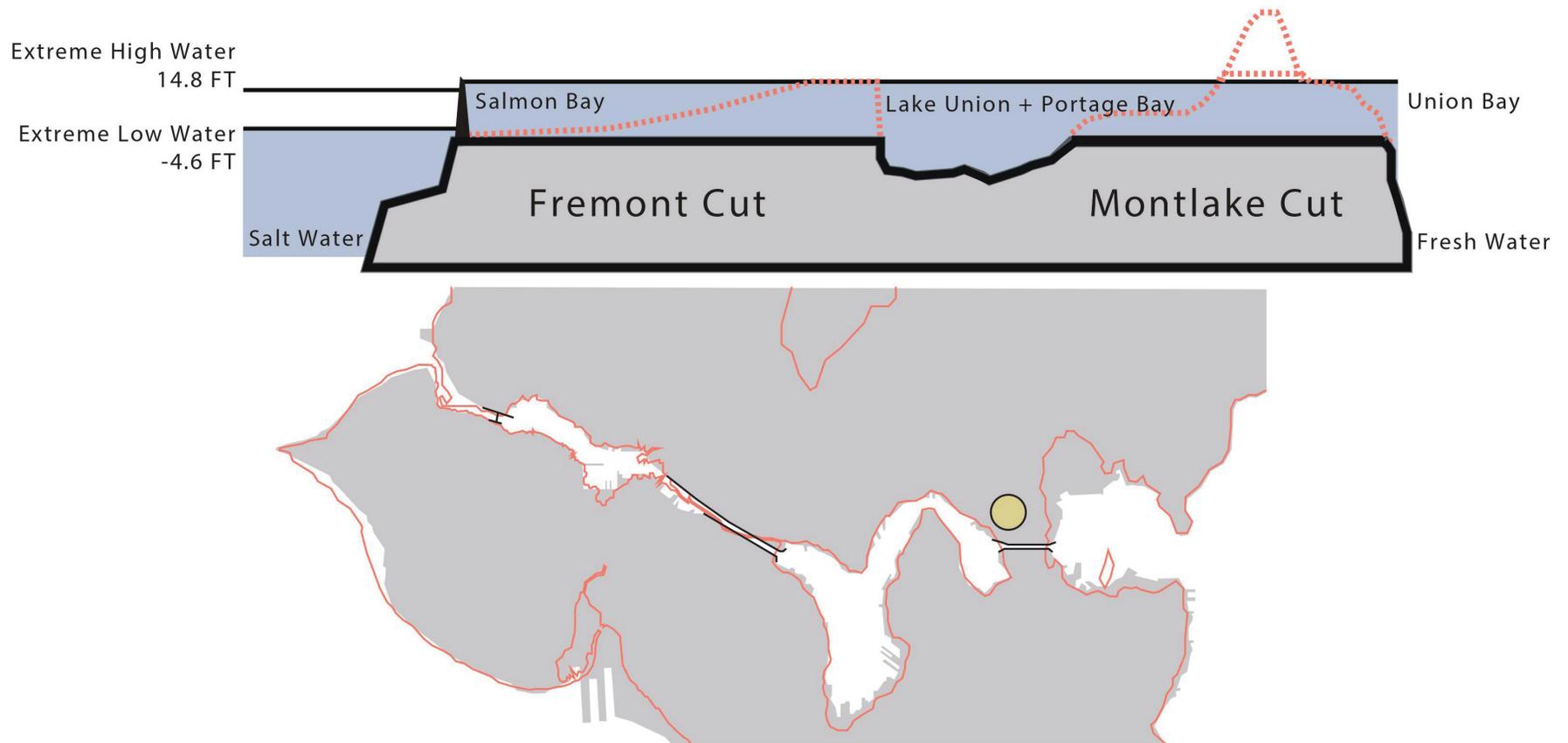


Figure 1. Pre and Post Ship Canal Construction

OUR MISSION + VISION

OUR MISSION

To develop, test, and demonstrate innovative aquatic research and hatchery designs capable of transitioning our urban aquatic operations of today, to the productively viable, ecologically hybridized, and culturally sustaining operations of tomorrow.

OUR VISION

To cultivate responsibly - from aquatic urban practices to the next generation of aquatic practitioners - while working to improve existing hatchery facilities and aquatic research practices throughout Puget Sound.

RESEARCHING

Goal 1: Researching the environmental, economic, and cultural intersections between aquaculture operations and urban waterfronts, in ways that encourage the development of forward thinking applications and methodologies.

SHOWCASING

Goal 2: Showcasing the effect of these evolving best management practices, and the productive potential of urban aquaculture systems as they relate to public education, outreach, and sentiment.

ADVANCING

Goal 3: Advancing the shared efforts of all involved parties, which collectively all want and work for a complicated yet simple concept - more healthy salmon in increasingly healthy watersheds.

IMPLEMENTING

Goal 4: Implementing measurable research findings, in ways which work to creatively reform and redefine our aquatic research facilities, in an effort to structure a more cohesive platform between production and conservation.

INVESTIGATING

Goal 5: Investigating today's relationship with our urban aquaculture operations, in ways that responsibly work to meet tomorrow's demands.

HONORING THE SAFS LEGACY

1913: US Bureau of Fisheries notes to the American Fisheries Society that there is no higher education institution in the US which offers training in fisheries-related subjects.

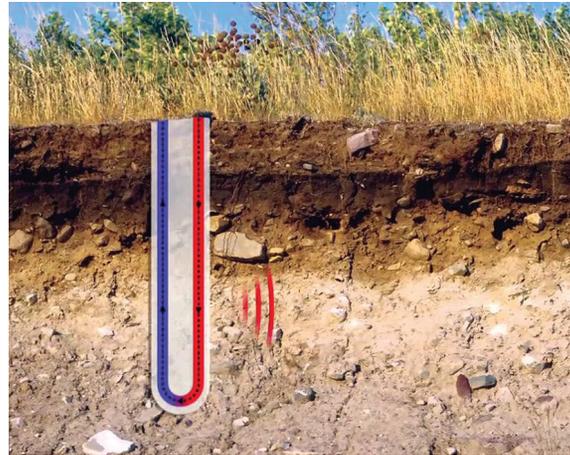
1915: The UW College of Fisheries was born, the first Fisheries College in the US. Its academic focus was on fishery products and cannery management.

1958: Fisheries Research Institute (FRI) moves to the newly established College of Fisheries. FRI was formed as a result of growing concern over dwindling Alaskan salmon resources. FRI researchers set up field study sites studying the biology of salmon in Bristol Bay, expanding their scope of research.

2000-2015: SAFS's foci evolved from seafood technology and processing methods to environmental studies, fish propagation, and aquaculture. Conservation and restoration of ecosystems and studies of the effects of environmental change on fisheries was added as well, leading to the name change to SAFS in 2000.

OUR GOALS FOR THE SITE: EMBEDDED IN THE LANDSCAPE

RESEARCH
EDUCATION
OUTREACH
COMMUNITY AREA
OPEN SPACE
PASSIVE ENERGY USE
GEOTHERMAL COOLING
GREEN INFRASTRUCTURE



Passive Energy Use and Geothermal Cooling



Preserving Open Space in a Developing Campus



Green Infrastructure (Xeroflor Canada Inc.)



Preserving Public Space

- Proposed S52 and S53 buildings adjacent to site
- Historic Portage Bay Building
- Waterfront Trail
- Connective Corridor

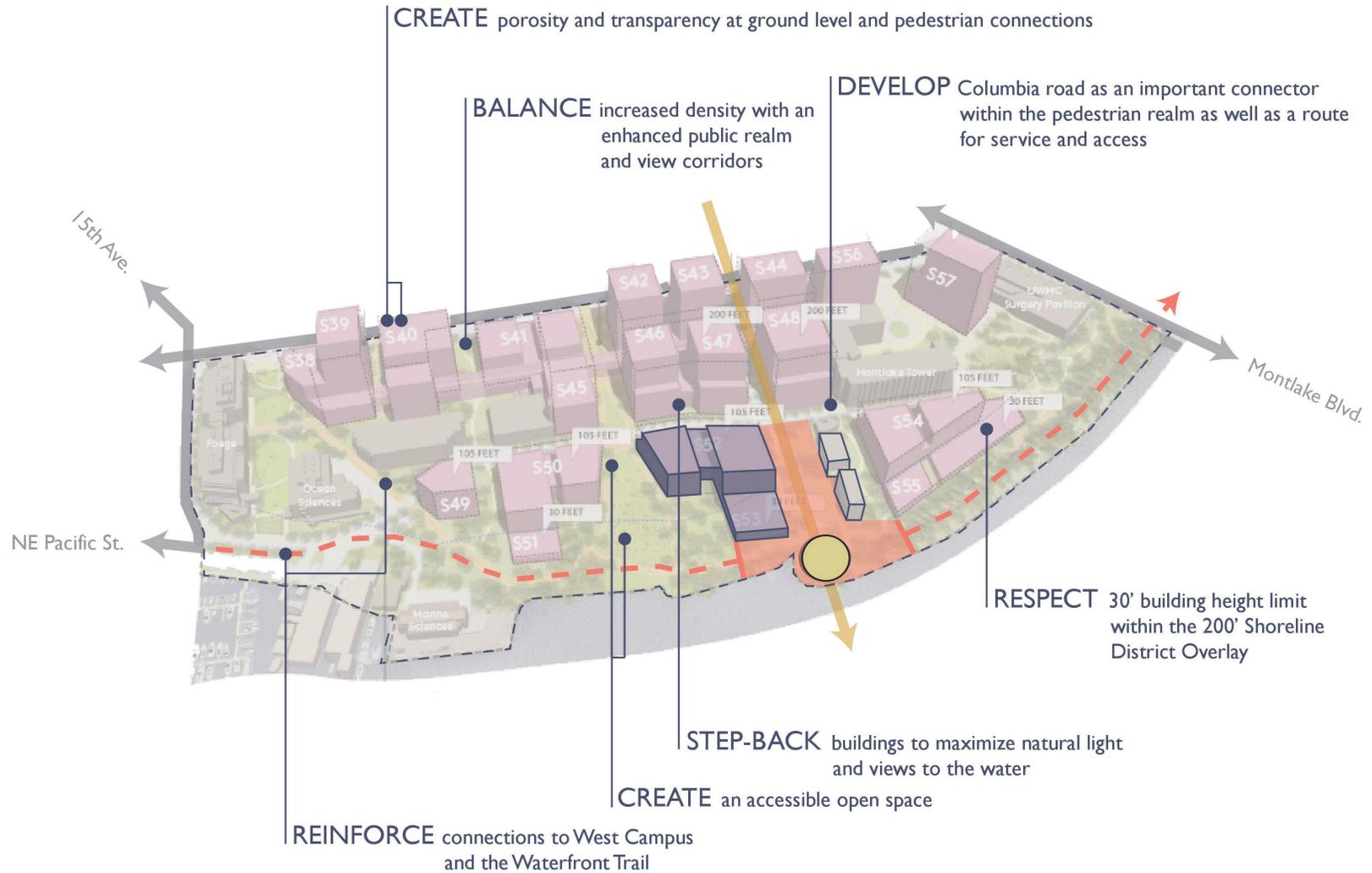
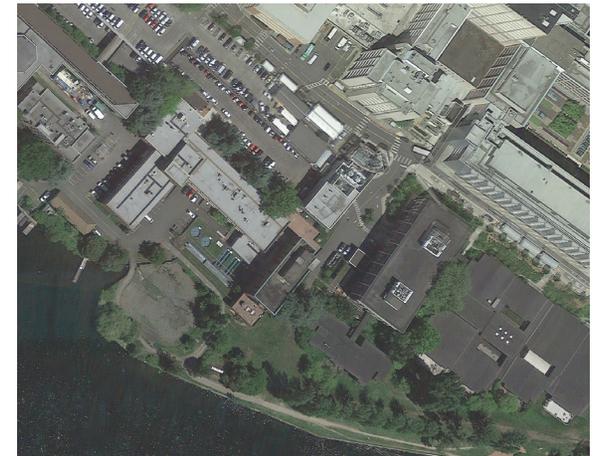
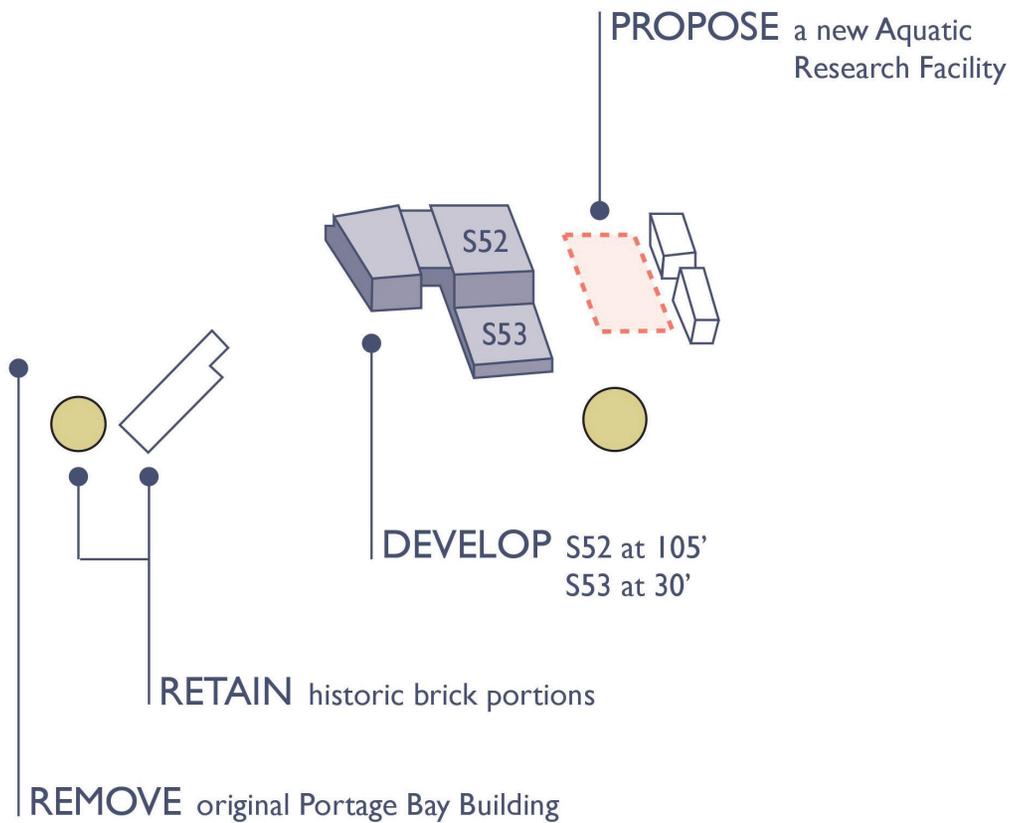


Figure 1. Developing within the 2018 UW Seattle Campus Master Plan for Zone L



Existing SAFS Site and Hatchery Facility

AREA IN TRANSITION

As the 2018 UW Seattle Campus Master Plan unfolds, the original Portage Bay Building is scheduled to be removed, with its historic brick portions set to be retained. Buildings directly adjacent to the site are scheduled to be zoned at 105' outside of the shoreline setback, and 30' within.

PRECEDENTS AND CONCEPTS



Figure 1. Fisher Pavilion Building in Seattle City Center

FISHER PAVILION

The Fisher Pavilion in the Seattle City Center is a prominent example of how landscape architects and building architects can work together to maximize programmatic elements within increasingly precious open space in our downtown city centers.



Figure 2. Garden Solarium

GARDEN SOLARIUM

As a research facility, it is important to denote privately and publicly accessible space. A solarium provides private research to be publicly viewed, helping facilitate the SAFS mission for outreach and education.



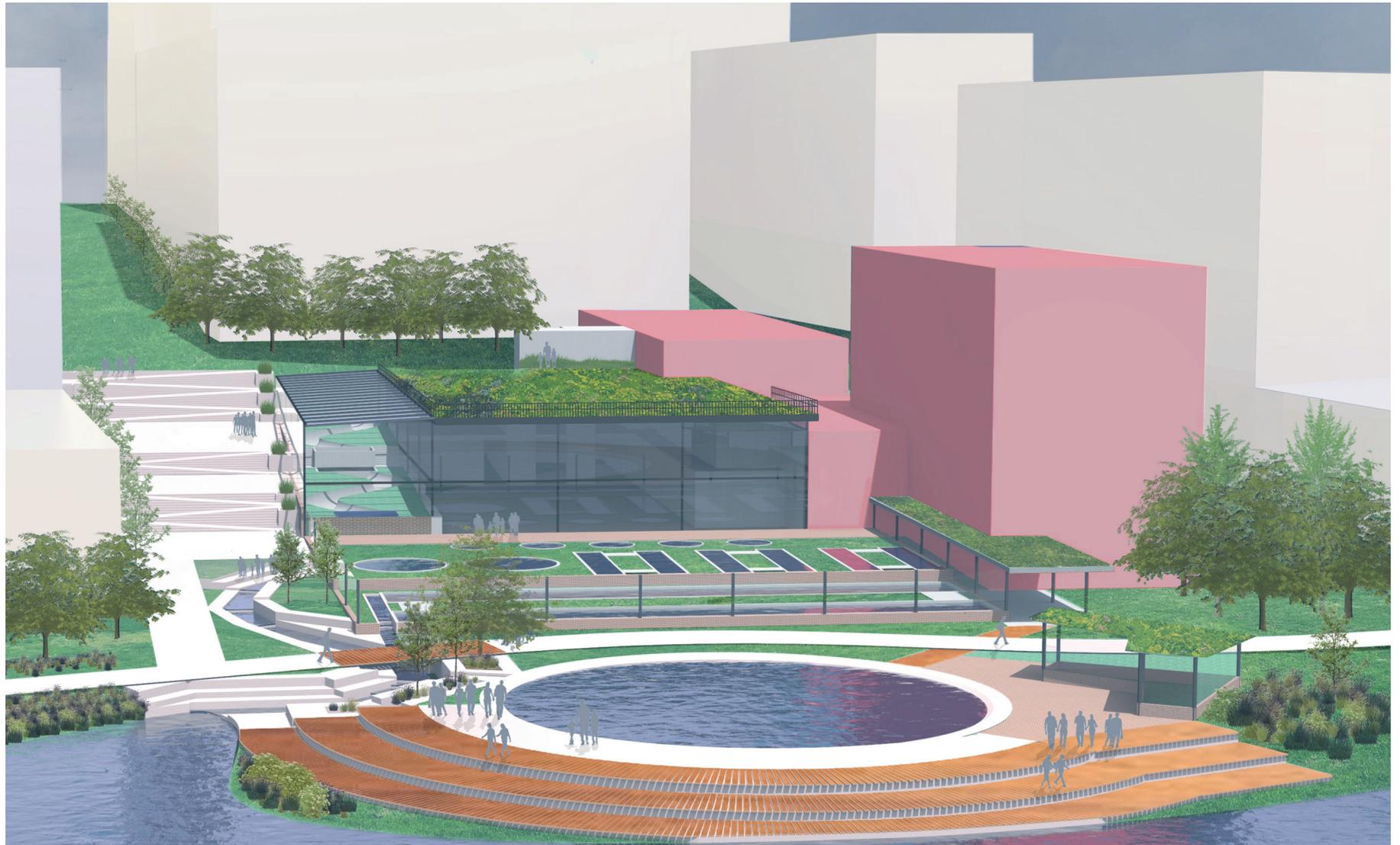
Figure 3. Mammoth Hot Springs in Yellowstone Nat. Park

MAMMOTH HOT SPRINGS

In an effort to create a publicly accessible and naturally hybridized outflow portion of the site's fishway, we looked to the topography of the Mammoth Hot Springs in Yellowstone National Park.

EXPERIENCING THE SITE

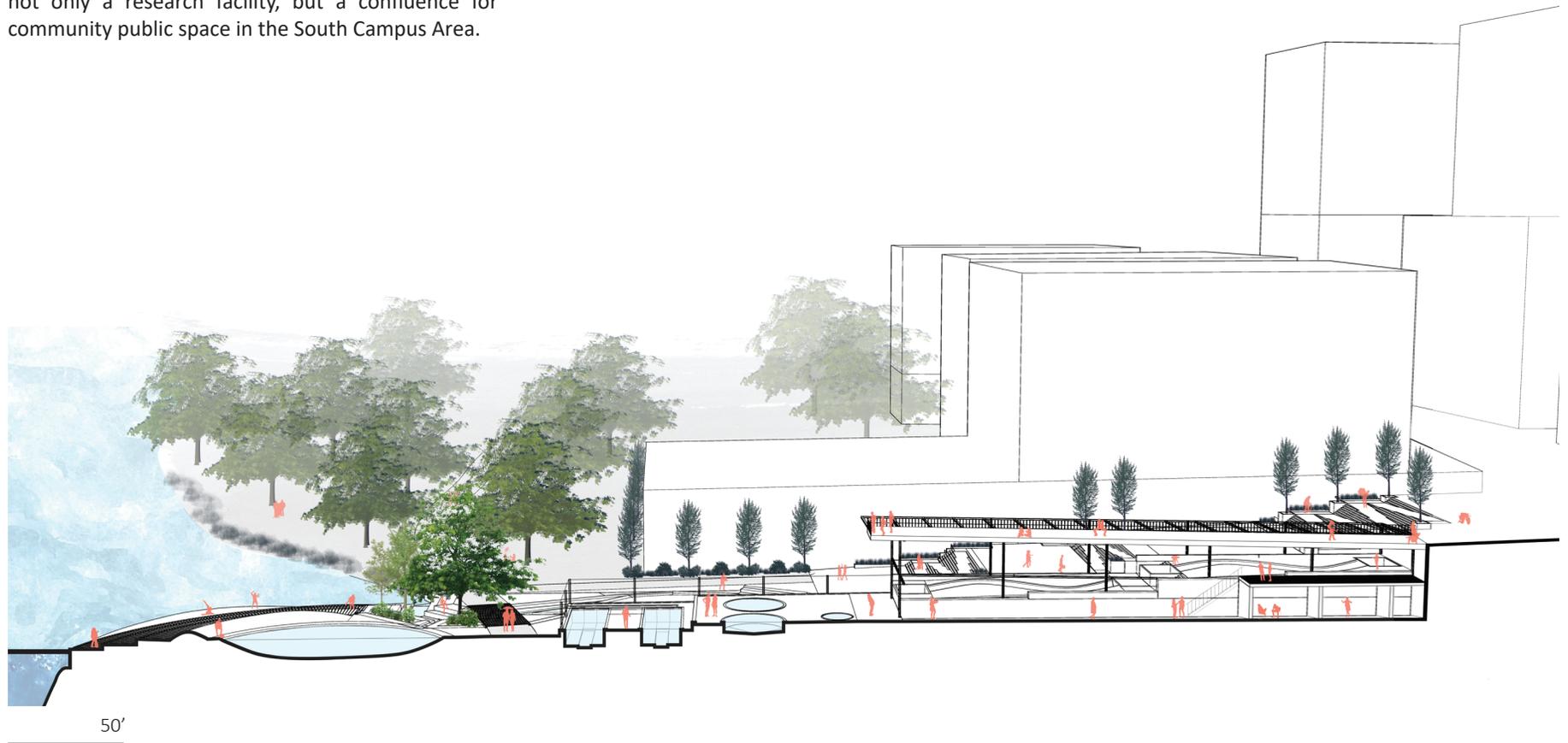
Bird's Eye View



DIAGRAMMATIC SECTION

EMBEDDING RESEARCH INTO THE LANDSCAPE

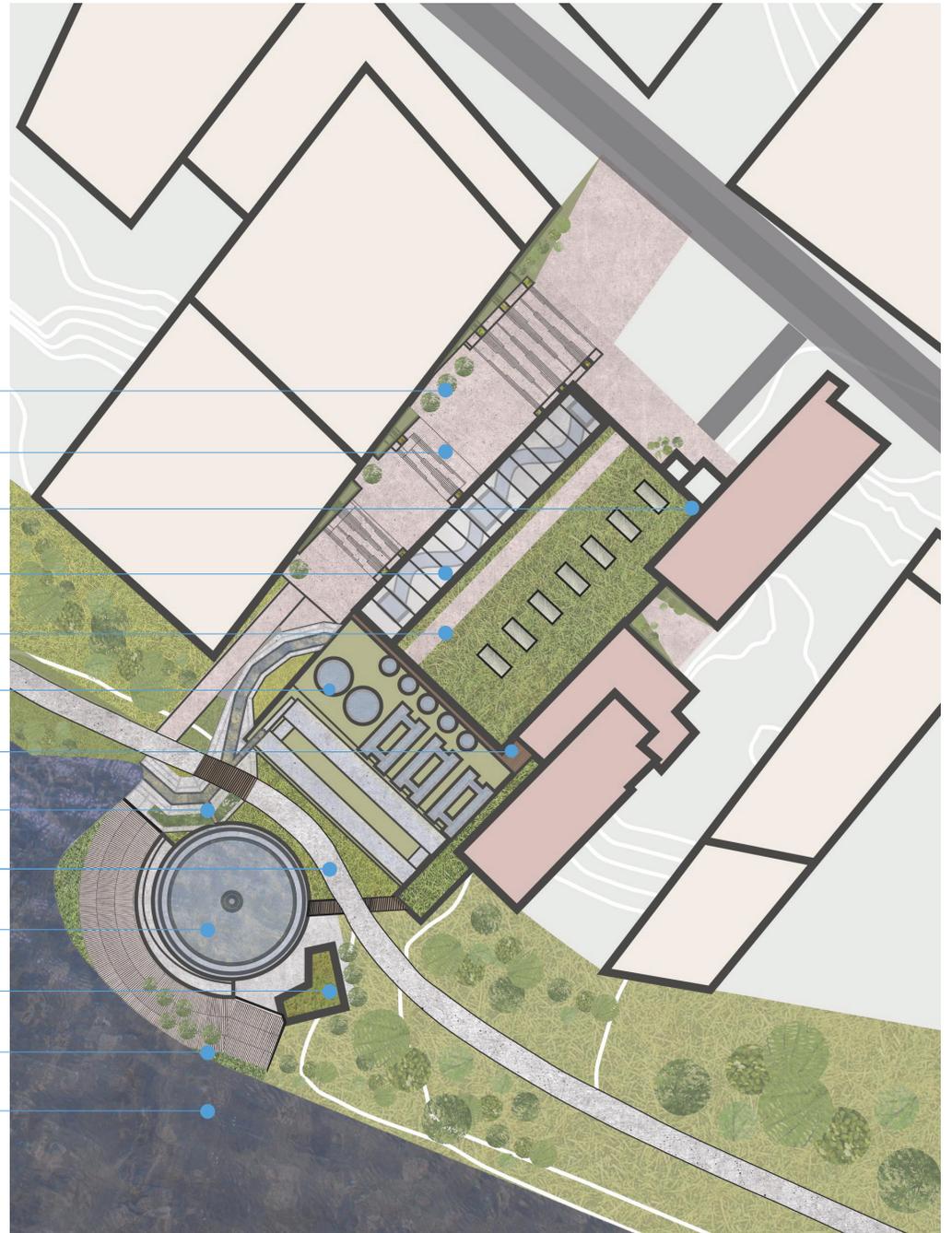
By dropping the footprint for the SAFS new Aquatic Research Facility into the landscape itself, this proposal works to preserve precious open space in a rapidly developing campus. As building heights are zoned to increase, this improved site for SAFS represents not only a research facility, but a confluence for community public space in the South Campus Area.



SITE

- Proposed adjacent developments
- Historic Portage Bay Buildings
- Columbia Road
- Native Planting Areas

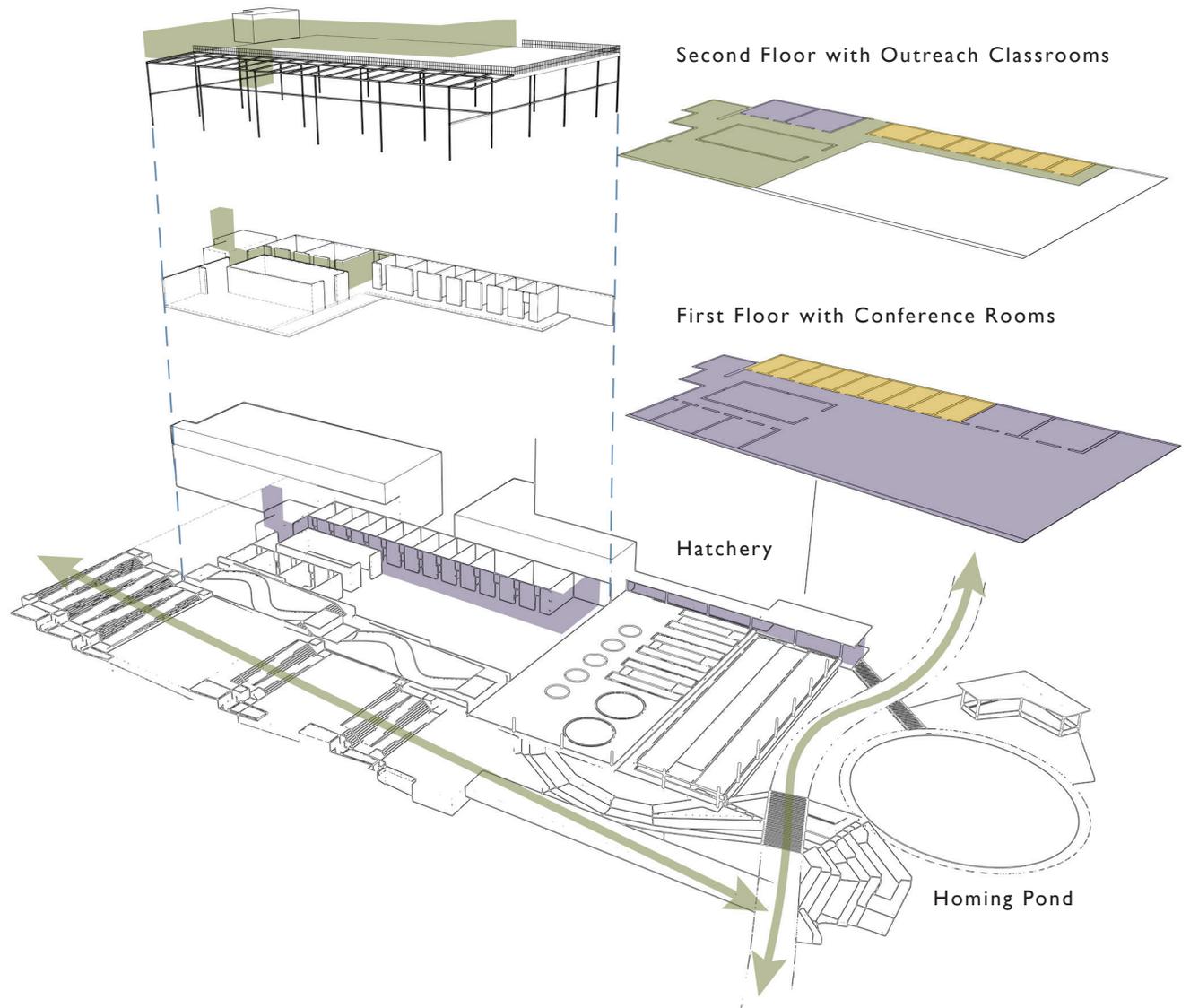
- Green Stormwater Corridor
- Pedestrian Plaza
- Freight Elevator + Water Storage
- Research Solarium + Artificial Stream
- Green Roof + Viewing Platform
- Retrofitted Hatchery Equipment
- Processing Corridor
- Fishway + Ladder Access
- Waterfront + Utility Trail
- Homing Pond
- Re-Circulating Pump House
- Waterfont Deck
- Montlake Cut



21,000 SQ. FT. OF FLEXIBLE RESEARCH SPACE

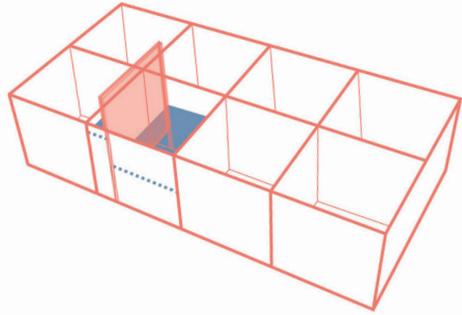
Green Roof + Viewing Platform

- Public Access
- SAFS Programming
- Additional Office Space



PARTIONABLE RESEARCH

- Privately Accessible Research
- Publicly Accessible Research



Research Solarium + Artificial Stream

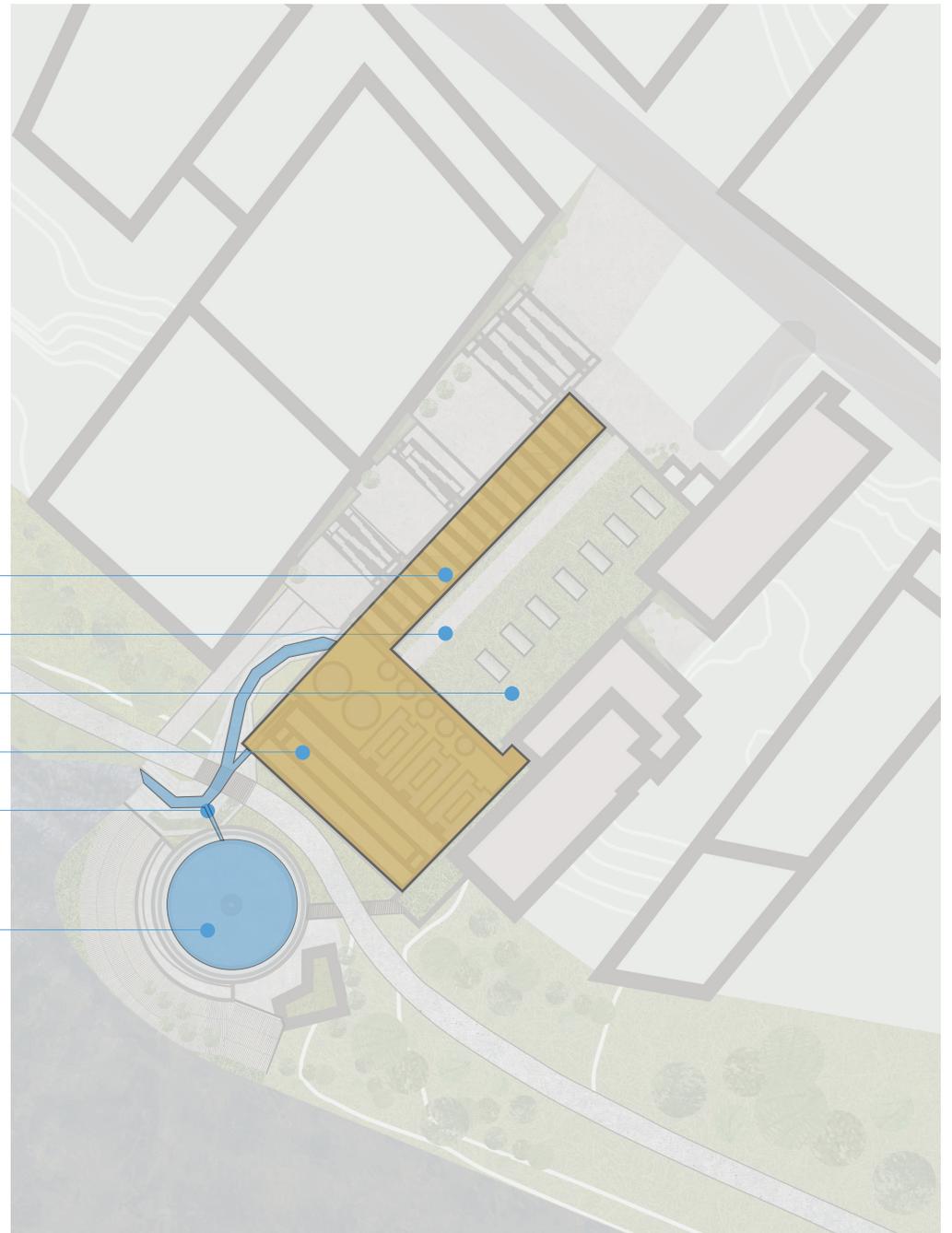
Green Roof + Viewing Platform

Incubation Rooms + Food Storage

Retrofitted Raceway

Fishway + Ladder Access

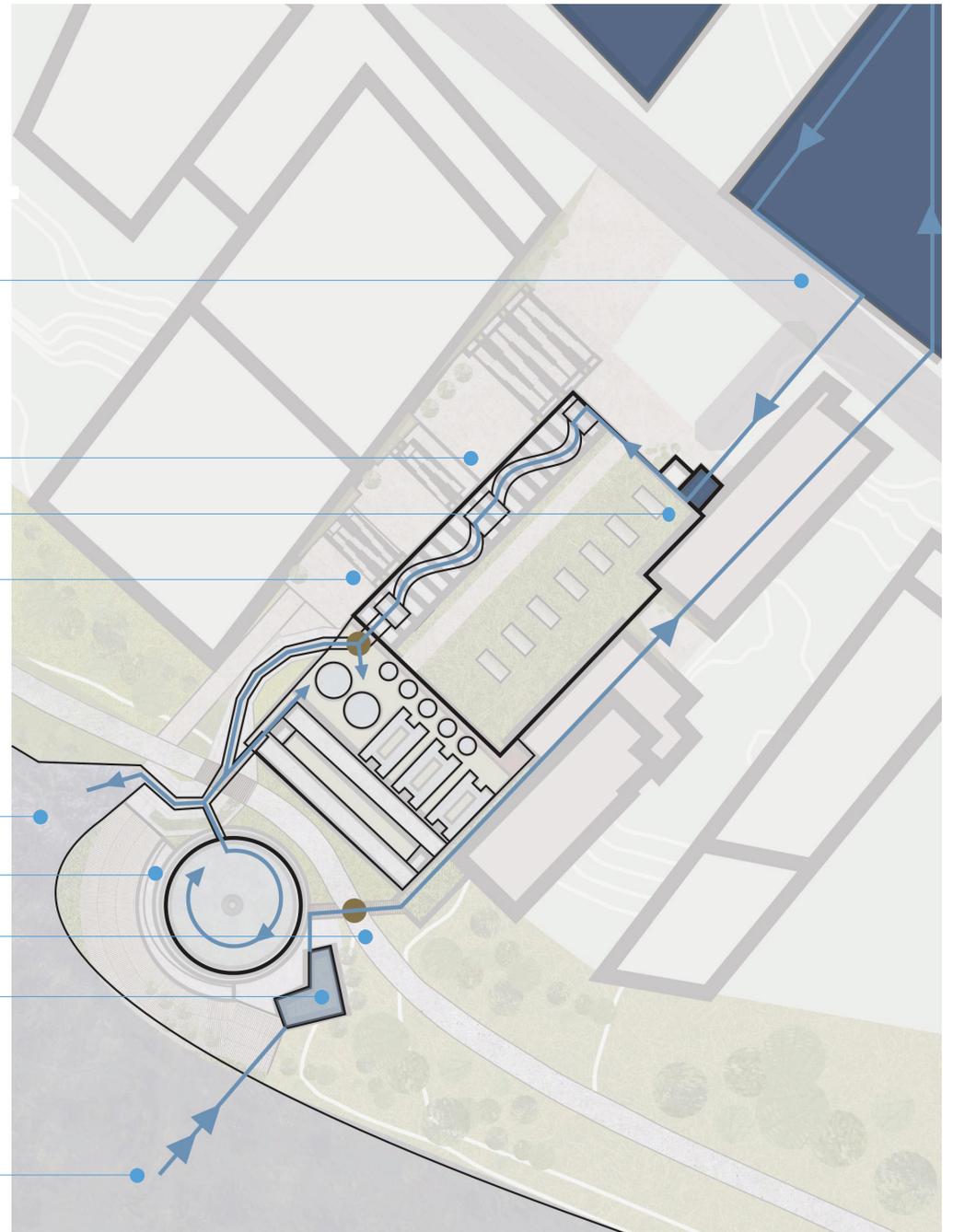
Homing Pond



HYDROGRAPH

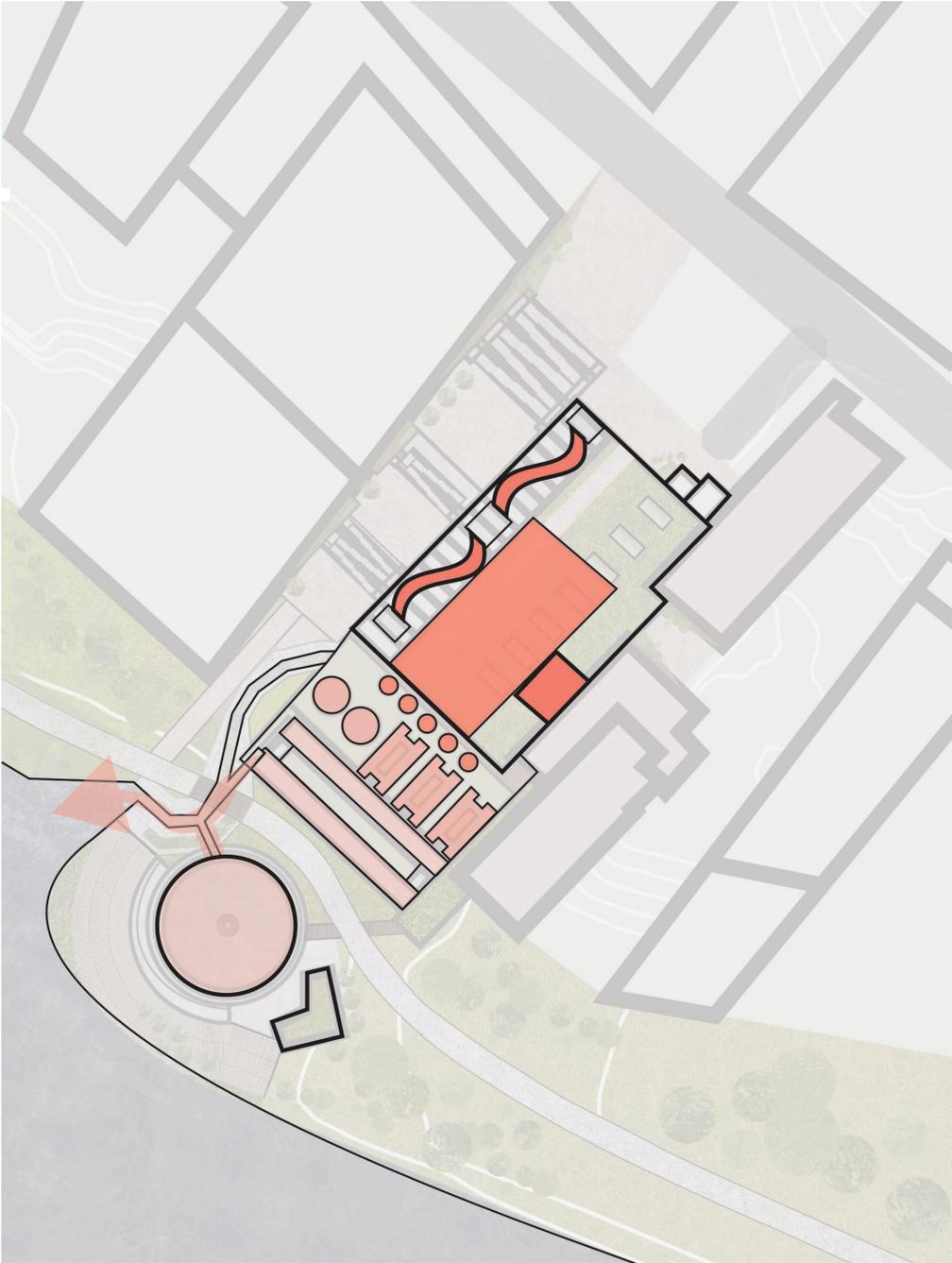
- Chilling
- Water Route
- Clarifying Area
- Direction of Flow

- Underground Geothermal Chilling
- Water Sent through Artificial Stream
- Chilled Water Storage
- Underground Clarification Treatment
- Water Passes through Hatchery Equipment
- Water Exiting through Fishway and Ladders
- Water Circulating through Homing Pond
- Underground Clarification Treatment
- Re-circulating through Pump House
- Sourcing Water from Lake Washington



SALMON MOVEMENT

- Incubating + Rearing
- Smolts
- Juveniles
- Imprinting + Returning



ACCESS

- Truck and Utility Access
- Utility Passageway
- Entrance
- Exterior Pedestrian Pathways
- Interior Pedestrian Pathways

Utility Entrance from Columbia Service Road

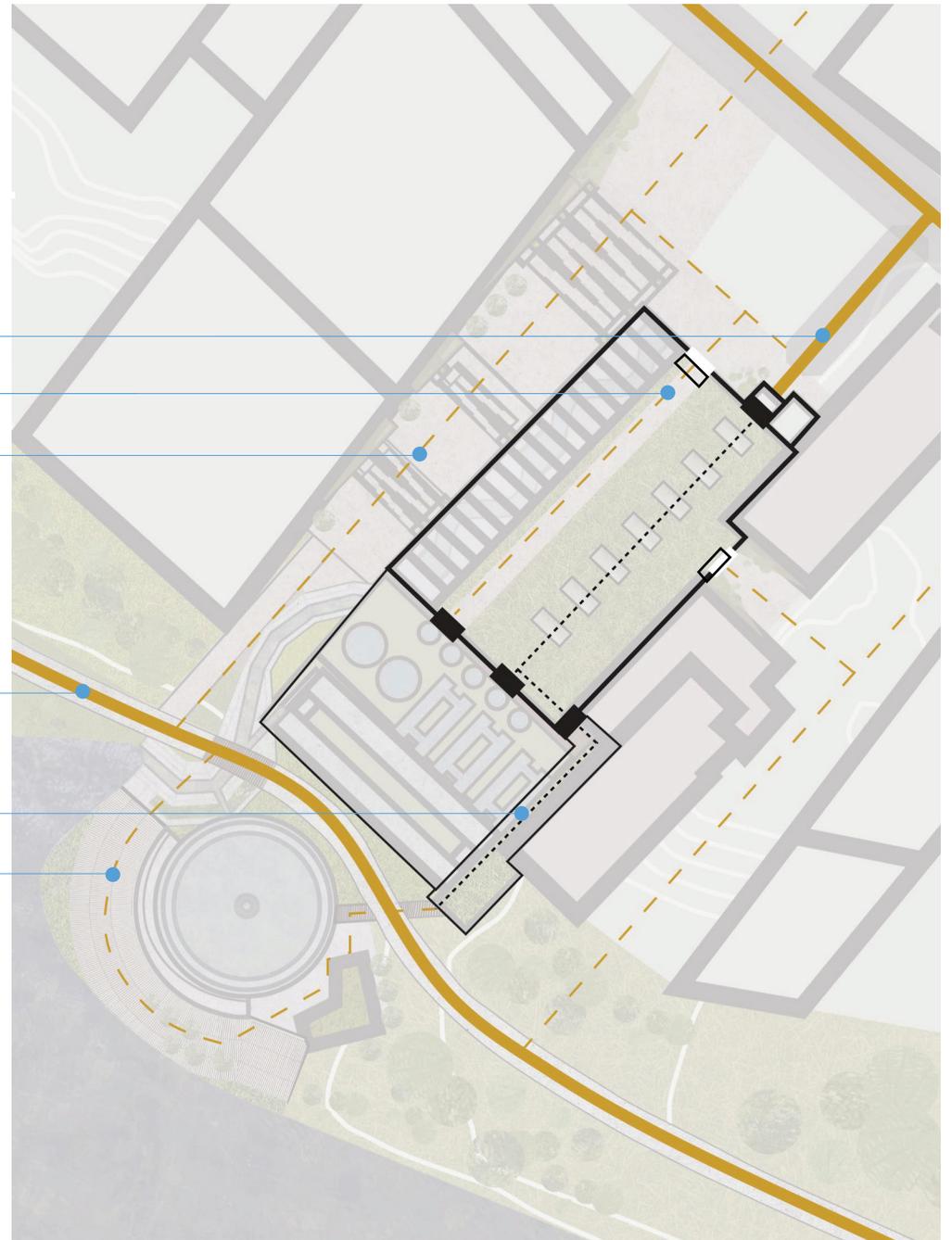
At-Grade Roof Entrance

Connective Corridor to Campus

Waterfront Trail

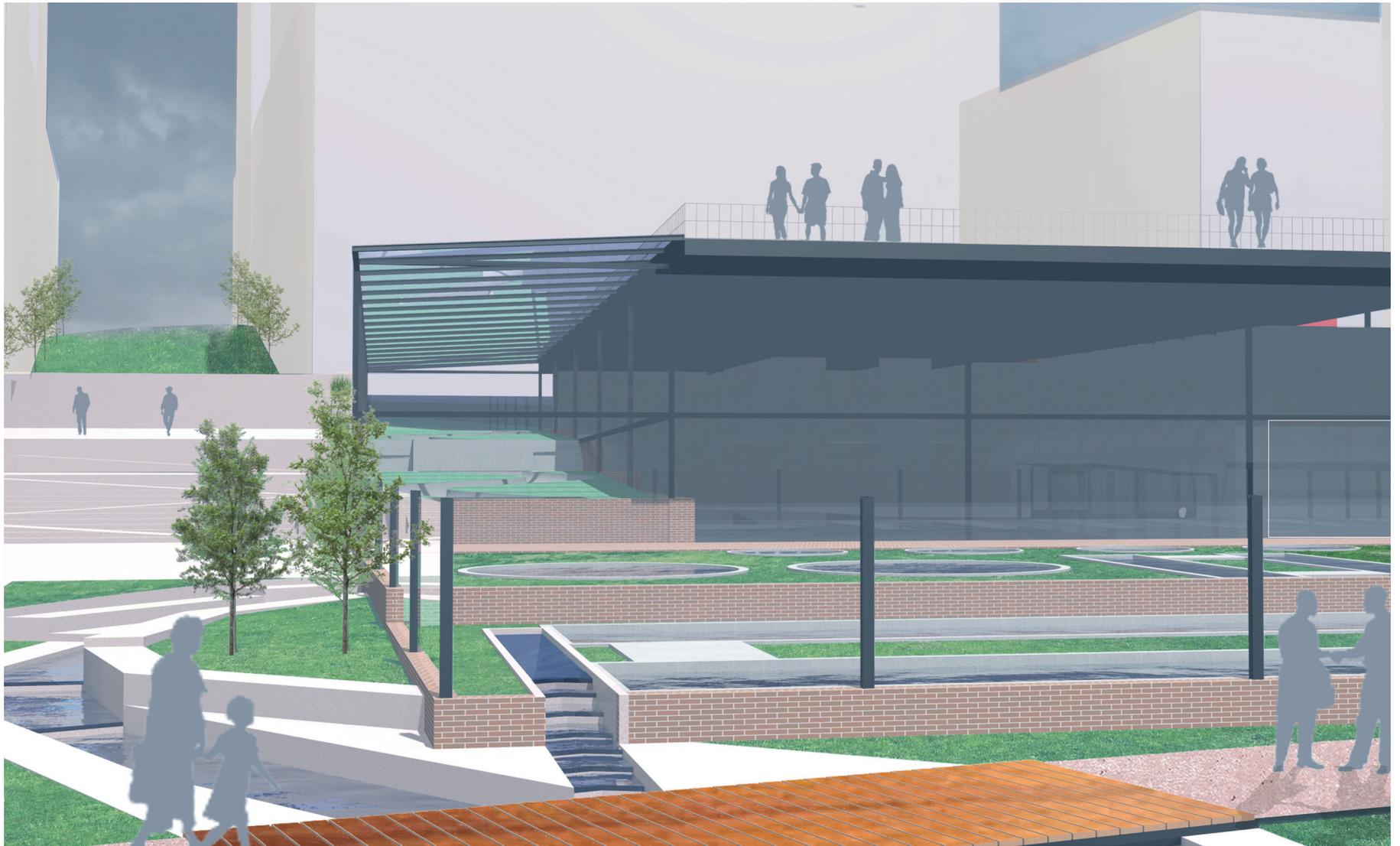
Processing Corridor

Waterfront Decking



EXPERIENCING THE SITE

Walking over the fishway.



EXPERIENCING THE SITE

View looking south from the green roof.



EXPERIENCING THE SITE

View while walking east on the waterfront trail.

