





UNIVERSITY OF WASHINGTON LIFE SCIENCES BUILDING **EARLY DESIGN GUIDANCE SUBMITTAL**

UNIVERSITY of WASHINGTON

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DPD PROJECT NUMBER 3019713

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1. Project Overview

PROGRAMMING

The new 190,000-square-foot Life Sciences Building and its 20,000 square feet of greenhouses will be the new home to 40 principal investigators and their staff. The 4 typical lab floors will each have 10 principal investigators with private and open offices, open lab, large and small support rooms, and fume hood alcoves. Each floor will also have conference and break rooms to foster collaboration.

The open and welcoming first floor will house a café to support both faculty and students, while an accessible outdoor roof deck will provide southern views over the greenhouses. A loading dock supporting building, animal care and greenhouse functions will sit at the east.

The basement 1 will house animal care and mechanical spaces while aligning with Kincaid Hall via an underground tunnel. Basement 2 will have growth chambers to support the Department of Biology's increasing need for space.

SITE ANALYSIS

The site has four zones around the Life Sciences Building that are programmatically, functionally and aesthetically different.

To the west is the "porch" between the existing Kincaid Hall and the Life Sciences Building, which will be activated by students and faculty as they traverse between the buildings and throughout the campus. The Burke-Gilman Trail on the southern edge provides an opportunity for off-campus visitors to experience the project as they pass by.

At the east of the site is the existing "woodland", an area of dense greenery that will engage the greenhouses, with a secluded path to the T-Wing bridge that connects the Main and South Campuses. Lastly, the Stevens Way canopy to the north has a row of exceptional Deodar Cedars that creates a tranquil buffer zone between the two parts of campus.

MASSING

The building's massing is established by a zoning height of 105 feet, or 5 floors above grade, which is of similar scale to Kincaid Hall and other nearby buildings. With the site sloping 15 feet from north to south, the south elevation will reveal 6 floors. The upper 4 lab floors have a separate mass that will allow the first floor to breathe and be transparent.

Massing strategies for each elevation break down the heaviness of the building, which will further attract pedestrians and enable levels of interaction on a smaller, more intimate scale.





PROJECT GOALS

MEMORABLE building and landscape that is enduring, leading into the future OPEN & WELCOMING public space CONNECTIONS with the Life Sciences Communitty CONTRIBUTION & COMPLETION to the campus master plan ENHANCED CONNECTIVITY to the main campus STATE OF THE ART functioning science building RECRUITMENT & RETENTION for the department of biology EDUCATION AND RESEARCH facility OPEN AND COLLABORATIVE labs for students and faculty LEED GOLD MINIMUM and 2030 Energy Challenge INTEGRATIVE PROJECT MANAGEMENT to meet program, design and budget objectives



2. Context Analysis

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SITE AERIAL



VIEW FROM KINCAID OVER EXISTING GREENHOUSES

VICINITY





2. FROM PACIFIC STREET























4. WOODLAND PATHS









1. KINCAID HALL, ADJACENT BIOLOGY BUILDING



2. CURRENT GREENHOUSE, BUILT IN 1948

CIRCULATION THROUGH THE SITE

As the Campus developed over time, several building orientation and circulation patterns have emerged. The origins of the main Campus consists of three (3) main axis that radiate from Red Square. The arrangement of the first Campus buildings, courtyards, and circulation paths build from each axis in a parallel and perpendicular manner. As the Campus grew, it extended laterally out to the natural bluff that surrounds the Main Campus. Stevens Way sits on the top of the bluff, creating an edge and transition point that establishes a second 'outer core' geometry where Campus buildings and circulation paths have a relationship to the meandering nature of Stevens Way, in combination with the variation of the natural topography. On the South Campus, a third geometry relates to the topography and orientation along Pacific Street, as well as connections to Lake Washington and Portage Bay. Most buildings in the South Campus align with Pacific Street, and this geometry sets up in the internal courtyard and circulation patterns.

The Life Sciences Building site has the opportunity to become a key piece of the Campus that strengthens the pedestrian connections between the Main and South Campus, as well as the opportunity to become the hub for the department of Biology due to its central location to the buildings that support the program.





MAIN CAMPUS INNER CORE



MAIN CAMPUS OUTER CORE



- Primary campus axis generally oriented to grand vistas
- Formal gothic grid orthagonal to axis

- Buildings oriented to the slope
- Informality in building and pathway layout topography is the primary drive

→ →

ACCESSIBLE ENTRY NON-ACCESSIBLE ENTRY

- Parallels Pacific Street
- Feels like barrier in several locations to campus-wide circulation
- Waterfront access is a strong desire/ opportunitty for campus
- Health Sciences connection is a strong desire for the new Life Sciences Building

3. Existing Conditions

The project site has a number of existing conditions that create both constraints and unique design opportunities for site and building program.

- Existing Grading: There is an average of fifteen feet of grade change from north (high point) to south (low point) across the site. This physical condition makes it challenging to maintain existing building connections into the Kincaid Building, and to provide future cross connections to the Life Sciences Building. The need to provide fully accessible pedestrian circulation/connections on the east and west edges of the site provides even more challenges. The University of Washington's Master Plan identifies the pedestrian corridors that link Stevens Way to the Hitchcock Bridge and Stevens Way to the T-Wing Bridge, as critical connectors that link the Main Campus to the South Campus.
- Existing Trees: This site hosts several exceptional trees. Of the 87 trees surveyed, 43 are exceptional based on City of Seattle tree evaluation standards. Protecting and maintaining as many existing trees as possible is an important project priority; however, it does pose significant challenges in siting the building and outdoor program areas.
- Bus Shelter Art Zone of Influence: The existing bus shelters located at the northeast corner of the site are part of the UW Art Master Plan. They combine together with the Stevens Way Deodar Cedars and the existing Woodland area on the east edge of the site, to create the Art Zone Area of Influence. This area is one of the most special places on the Campus, and the combined experience of the Cedars, Woodland, and Art needs to be protected, maintained, and enhanced.

 Burke-Gilman Trail: The trail is an existing major pedestrian / bicycle corridor that serves UW staff and students, and connects the University to the larger surrounding community. When designed and programmed properly, it will create educational opportunities for all Burke-Gilman Trail users. For example, they can view the activities inside the greenhouse as they move along the trail. The future plan to widen the trail may constrain the building footprint to the north, and the elevation difference down to Pacific Street limits the space available for shifting the trail to the south. The future BGT design should focus on pedestrian and bicycle users. Service and emergency vehicle access will be limited.



EXISTING SITE CONSTRAINTS OVERLAY











ZONING SUMMARY





SITE PLAN

Address: 3747 West Stevens Way NE

King County Parcel: University of Washington Property

Zone: MIO-105-MR

Site: 21C listed in University of Washington Master Plan -- Seattle Campus

Rooftop Features: Partially concealed mechanical 15ft above parapet







WINTER SUN & WIND - 12.21 2PM

SUNRISE - 7:55AM SUNSET - 4:20PM

SUMMER SUN & WIND - 06.21 2PM

SUNRISE - 5:12AM SUNSET - 9:11PM

4. Design Guidelines

















Gilman Trail.

There are (4) site zones that have been identified as potential site/landscape program areas. Moving clockwise around the site, these areas are referred to as: 1) Stevens Way Canopy, 2) Woodland 3) Burke-Gilman Trail, and 4) The Porch. Each of these areas must be programmed in a manner that contributes to the overall Campus experience and enhances the existing character in this





special part of the Campus.

1. STEVENS WAY CANOPY

The Stevens Way Canopy straddles the adjacent roadway in two parallel rows of exceptional Deodar Cedars. They extend east and west of the project site, creating a true pacific Northwest Evergreen Canopy experience that is unique to the Campus, and beloved by the sudents and staff.

2. WOODLAND

The Woodland area on the eastern portion of the site is an existing, densely landscaped area with exceptionaly large trees, lush understory, and pedestrian paths that link Stevens Way to the T-Wing Bridge and Burke-

3. BURKE-GILMAN TRAIL

The Burke-GIIman Trail is a high-use pedestrian-bicycle corridor that accomodates thousands of users per day and establishes the southern edge of the project site. There are plans to widen the trail, which needs to be accomodated in the future design.

4. THE PORCH

The Porch is the space between the existing Kincaid Hall and the future Life Sciences Building. It is an important route withine the Campus, providing a vital link between the main and south campuses. It is also an area envisioned to become and important space for Campus and Department use, circulation, activity, and engagement.

1. STEVENS WAY CANOPY



STEVENS CANOPY ZONE



The Stevens Way Canopy creates a landscape experience unique to the Campus. The Landscape design/program should celebrate the exceptional canopy of Deodar Cedars, and promote engagement between the landscape and building program by maximizing views out toward the campus and in toward the building. The program goals should focus on maintaining the Stevens Way pedestrian and vehicular circulation, protecting the Bus Shelter Art Zone of Influence, and creating intimate places for people to sit beneath the canopy of Cedars.



EXISTING CONDITION



PRECEDENTS





WOODLAND ZONE



EXISTING CONDITION



PRECEDENTS

The Woodland is an area where the existing landscape conditions offer a wonderful opportunity to enjoy a beloved place on campus. In a recent study performed by the University of Washington, students and staff rated this area as a favorite Campus landscape.

Future design and programming on this edge of the site should build from the existing conditions, expanding and strengthening the woodland character by pulling it towards the LSB building and the Burke-Gilman Trail. Within this landscape, there are opportunities to work with the topography to create intimate seating areas, a fire-pit, and small event spaces for campus and Department use.

The project needs to maintain clear, accessible, and safe circulation from Stevens Way to the T-Wing bridge. The loading dock and access road from Garfield Lane will need to be delicately designed and coordinated to ensure compatibility of uses, and address safety concerns at the pedestrian path - access road cross over point.



3. BURKE-GILMAN TRAIL



BURKE-GILMAN TRAIL ZONE



The Burke-Gilman Trail is a tremendous resource bringing thousands of regional users through the campus and by the site on a daily basis. Its planned expansion will accommodate increased capacity from the future light rail station, and will bring the new Greenhouse to the edge of the trail, forming a very important edge to the site.

A primary program goal should focus on providing touch-points along the Burke-Gilman Trail/Greenhouse interface, to engage people by letting them see what is going on inside the Greenhouses as they pass by. The transparency of the Greenhouses will promote interaction between the exterior and the interior program areas, making education accessible and visible in both directions.





PRECEDENTS

3. THE PORCH



PORCH ZONE





PRECEDENTS

It is important for the Porch to function first as a key Campus space and connector linking the Main Campus to the South Campus. It should also function for the needs of the Department of Biology, providing exterior program areas and a connection between Kincaid Hall and the Life Sciences Building.

Within this guiding framework, the Porch offers opportunities to provide flexible seating areas, a variety of event spaces, spill-out area for a café with clear, accessible, and dynamic circulation from Stevens Way to the Burke-Gilman Trail and on to the South Campus. The Porch should allow for people to engage in various social activities. It also offers an opportunity to express the culture and core DNA of the Department of Biology through design in a material and experiential way. The Porch area should be designed to explore and celebrate the work that is going on in the buildings, and express the core foundation and education of Life Sciences.

During the Pre-Design phase, several options for landscape character, universal accessibility, and experience, were explored for the Porch space. The design typology that 'Topography Rules' should be carried forward into Schematic Design. Building from this typology, the site design should follow the character of the natural Woodland landscape along Stevens Way, where buildings and circulation respond to the signature sloped conditions of this area of Campus. The topography will cascade down from Stevens Way, and circulation, terraces, and program will be woven into the landscape embracing the natural topography.

ARCHITECTURAL CHARACTER

Situated in a conflux transitioning between the natural landscape and the urban fabric, the future Life Sciences Building is envisioned to be an integration of warm, natural and tectonic materials to capture the spirit of the Department of Biology. A significant degree of transparency will be maintained to activate the public spaces and make the educational platform engaging and accessible.

A performative exterior facade is to be incorporated not only to optimize energy and daylighting control, but to create a seamless dialogue with the rest of the campus while distinguishing itself as a connector of the University of Washington's Main and South Campus.









PRECEDENTS







UNIVERSITY OF WASHINGTON, SCHOOL OF MEDICINE PHASE 3.1

UNIVERSITY OF WASHINGTON HUSKY UNION BUILDING

5. Site Development

This site is host to numerous significant and mature trees. Saving and protecting as many trees as possible is an important project goal. The protection priority shall be given to the following trees:

- Deodar Cedars along Stevens Way
- Giant Sequoia(s) on the east edge of the site
- Brockman Tree Tour
- One-of-a-kind trees (protect to remain or transplant)
- 'Exceptional' trees per Seattle DPD Directors rule 16-2008
- Stevens Way Forest area should protect and emphasize the Deodar Cedars. Landscape design should utilize this space to engage UW community with LSB programs.
- The Woodland area shall protect and maintain the Bus Shelter Art grove. The Landscape should not only protect, but also enhance the experience and safety, as well as providing a new connection route to the Life Sciences Building.
- The Porch area should emphasize and connect to larger campus circulation between Kincaid Hall and the Life Sciences Building. The spaces should be designed to enhance circulation movement, encourage gathering, and provide opportunities for Department of Biology events.
- The Burke-Gilman Trail (BGT) area is a major existing pedestrian / bicycle connector within and beyond the UW community. Greenhouses will be located on the north edge of the trail. Landscape design should provide opportunities to educate and engage UW and greater BGT community to the Life Sciences program. Transition between the North-South campus connector through the Porch area and BGT should be designed carefully for safety.



EXISTING CONDITION



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PLANTING PLAN





WALL CHARACTER IMAGES







ACCESS & CIRCULATION



6. Concept

PROGRAMMING

This new Life Sciences Building of 167,630 square feet and 20,000 square feet of greenhouses will be the new home to 40 principal investigators and their staff. The typical lab floors, which are floors 2 to 4, will each have 10 principal investigators with private offices, open offices, open lab, large and small support rooms, fume hood alcoves, and cold rooms. Additionally, each lab floor will have supporting conference rooms and break rooms to encourage collaboration and engagement.

MASSING

The building's massing is established by an allowable zoning height of 105 feet, allowing for 5 floors above grade, which is of similar scale to Kincaid Hall and of other buildings on this portion of the campus. With the site sloping 15 feet from north to south, the southern elevation will accomodate 6 floors. The upper 4 lab floors have their own mass and identity that will allow the first to be transparent, porous, and engaging.

The placement of the one-story greenhouses and headhouse on the southern border along the Burke-Gilman Trail will give an appropriate scale to the pedestrians and break down the overall building mass as seen from the south. The western mass of the building engages the "porch" and will have a scale that relates to the 5-story Kincaid Hall, but will also provide a smaller grain and scale for pedestrians once they are within the "porch".

The eastern massing has the single-story greenhouses and headhouse that wrap around from the south, which will continue to give the appropriate scale and allow the building loading to be hidden but still engaged.



PROGRAM REQUIREMENT

LEVEL 1-5





FINAL MASSING







 \bigotimes SOLAR EXPOSURE STUDY



HEADHOUSE ROOF DECK CONCEPT RENDERING



CURRENT GREENHOUSE CORRIDOR



GREENHOUSE SOLAR MASSING STUDIES

GREENHOUSE

With the Life Sciences Building established on the northwest portion of the site, the greenhouses and headhouse massing placement was driven by four factors. The premier solar exposure was evident along the southern boundary of the site which is established by the Burke-Gilman Trail. Locating the greenhouses along the trail will give us great solar exposure but also activate and connect with the thousands of trail-users per day. The headhouse will sit between the greenhouse and the basement, aligning at the same elevation. With the greenhouses and headhouse aligning at the same elevation. With the greenhouses and headhouse located on the southern portion of the site, the loading enters directly into the first floor lab area and is accessed from the east.





VISUAL+SPATIAL CONNECTIONS

Site = Corridor + Node

Movement Corridors



Intersections

Ecotone = Natural + Technological



The site sits at a conflux of elements: the bustling Burke-Gilman Trail and the University, the old world grove of cedar trees and the public corridor of Pacific Street. The sense of forward movement and innovation is palpable, as the site serves as both a passageway and hub while connecting the natural landscape with innovative research. The architectural concept is largely driven by this dialogue between nature and technology, the public and the institution, the past and the future.





ECOTONE



SCIENCE IS A GATEWAY

Gateway to

- Main Campus South Campus
- Knowledge
- The Future

CONNECT

Connections to...

- Students and faculty
- Life Sciences community
- Main Campus



ENGAGE

Engaging...

- Public Campus University District
- Greenhouse Labs Office
- · Faculty Students Staff

MASSING ALTERNATIVES



MASSING ALTERNATIVE 1 - SLIDE

MASSING ALTERNATIVE 2 - WEAVE

MASSING ALTERNATIVE 3 - FOLD

MASSING ALTERNATIVE 1 - SLIDE



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Two sliding bars create a sense of movement that break down the scale of the south facade.



MASSING ALTERNATIVE 2 - WEAVE



VIEW FROM HITCHCOCK BRIDGE





Four woven bars create a response to the movement corridors of the site while providing suble shadow lines that breaks the scale of the massing.



SOUTH ELEVATION



CHARACTER IMAGES

SOUTH ELEVATION DETAIL

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SOUTH FACADE SECTION

MASSING ALTERNATIVE 3 - FOLD





A heroric facade that responsds to the scale of pacific street.



STUDIES



STUDIES











