

D3 Sustainable Design

Designing for Tomorrow: Seattle University's Holistic Vision at the Sinegal Center for Science and Innovation

Robert McClure, AIA
Design Director
Principal
Page, now Stantec

Justin Shultz, PhD, BEMP
Building Performance Director
Associate Principal
Page, now Stantec



Learning Objectives

- Analyzed how interdisciplinary collaboration influenced building design, programmatic flexibility, and community engagement outcomes.
- Described methods used to integrate local culture, equity, and biodiversity within campus-community design initiatives.
- Identified sustainable design strategies implemented in the Sinegal Center, including envelope optimization, renewable energy integration, and water conservation techniques.
- Evaluated the effectiveness of selected building systems in achieving carbon neutrality, energy efficiency, and occupant comfort.

SEATTLE UNIVERSITY Jim and Janet Sinegal Center For Science and Innovation

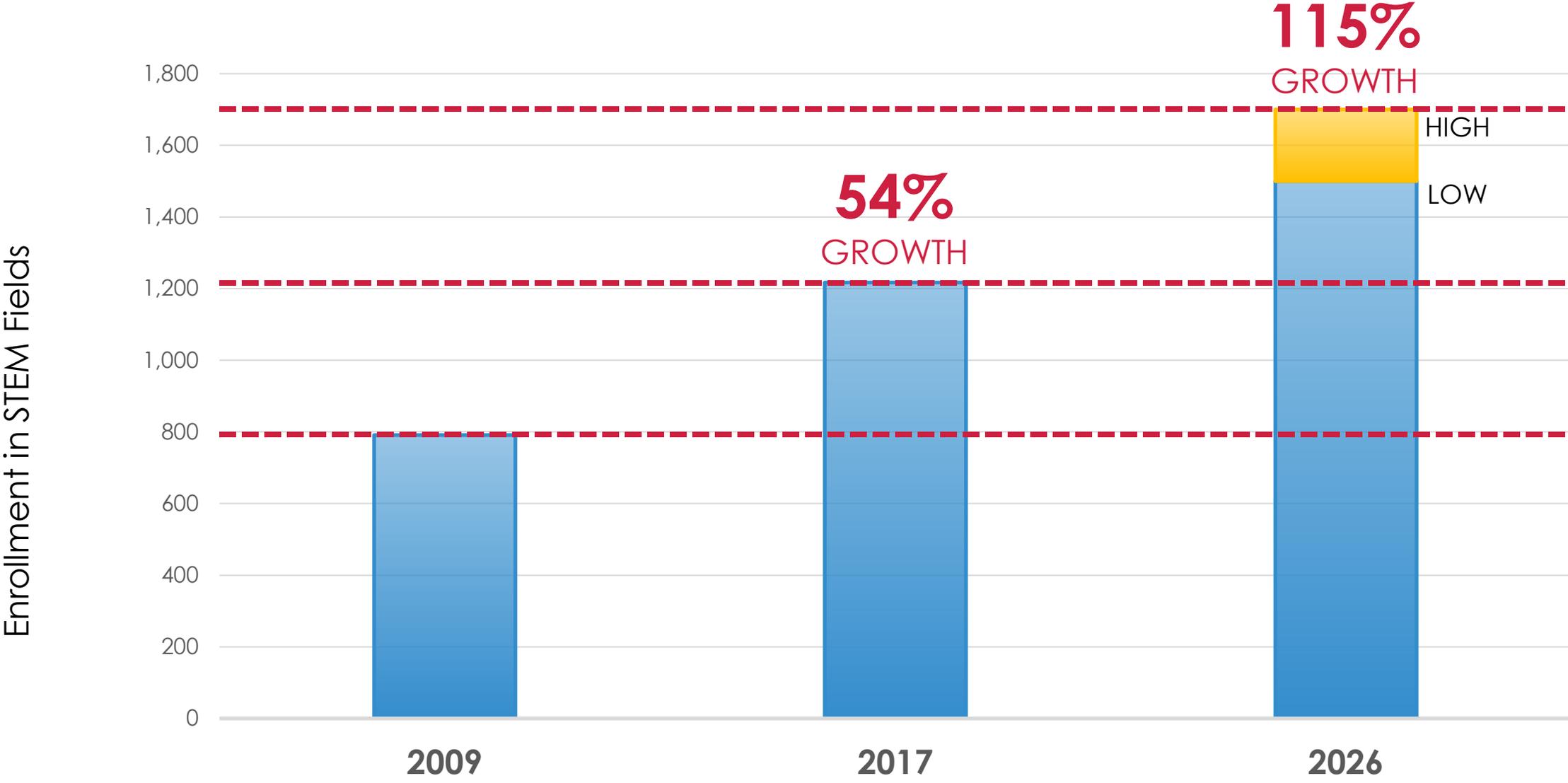
AUDACIOUS GOAL

115% GROWTH
BY 2026

SEATTLE
UNIVERSITY
JIM AND JANET SINEGAL
CENTER FOR SCIENCE
AND INNOVATION

SEATTLE
UNIVERSITY

SEATTLE UNIVERSITY Building as Catalyst for Enrollment Goals







PACCAR







amazon AMAZON COMPUTER SCIENCE PROJECT CENTER



SITE



CAMPUS WALK

12TH AVE

MARIION ST

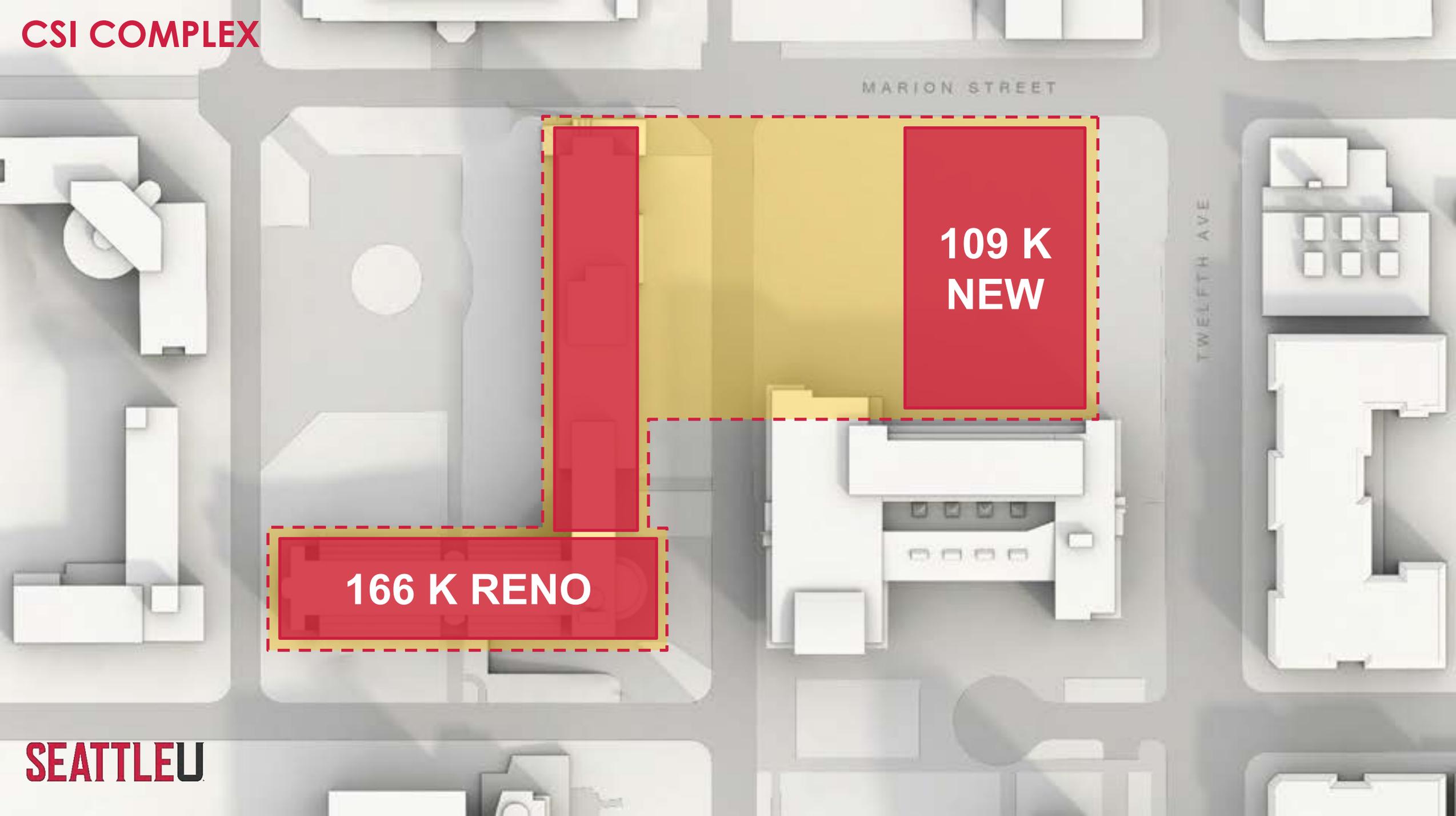


MARION STREET

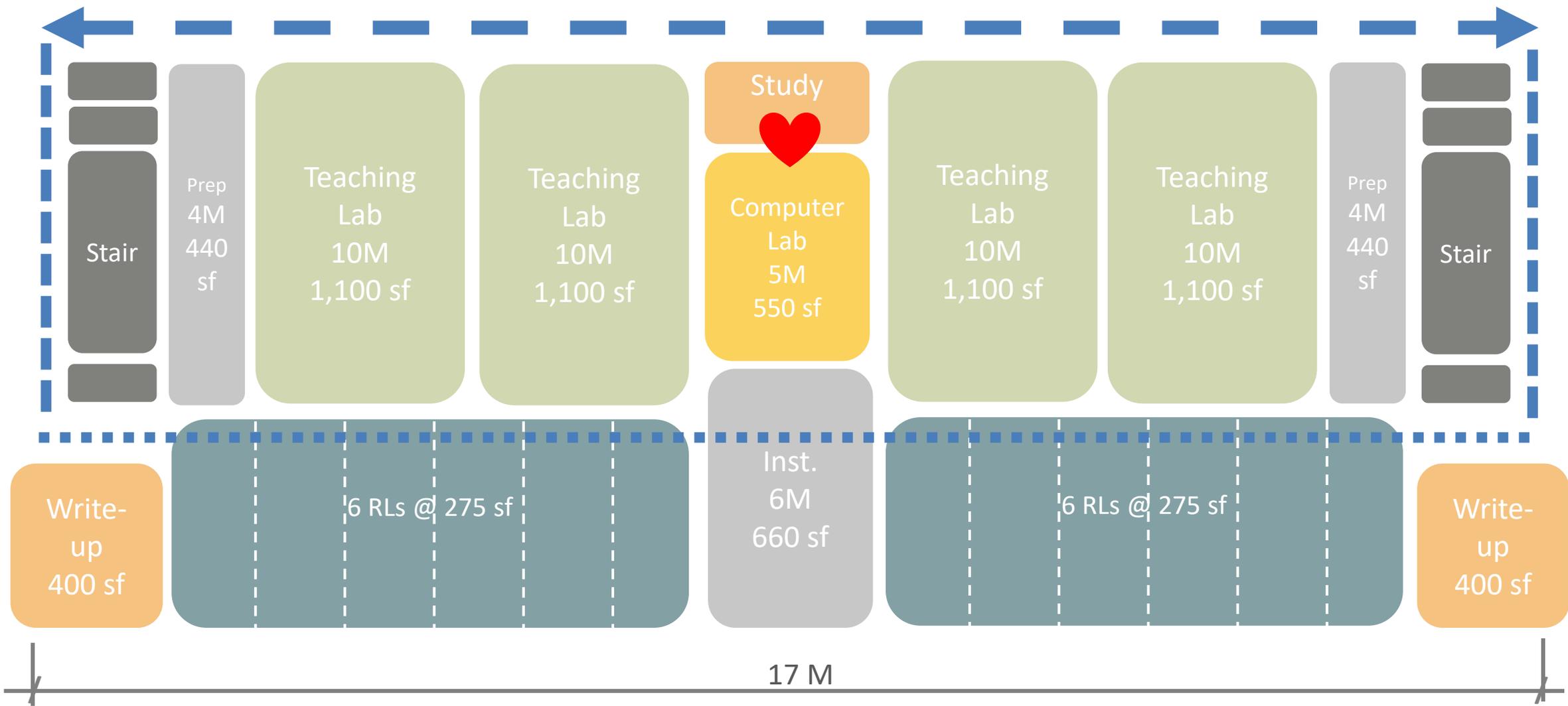
TWELFTH AVE

**109 K
NEW**

166 K RENO



BUILDING BLOCKS



BUILDING BLOCKS



**TEACHING
&
RESEARCH**

OFFICES

BUILDING BLOCKS



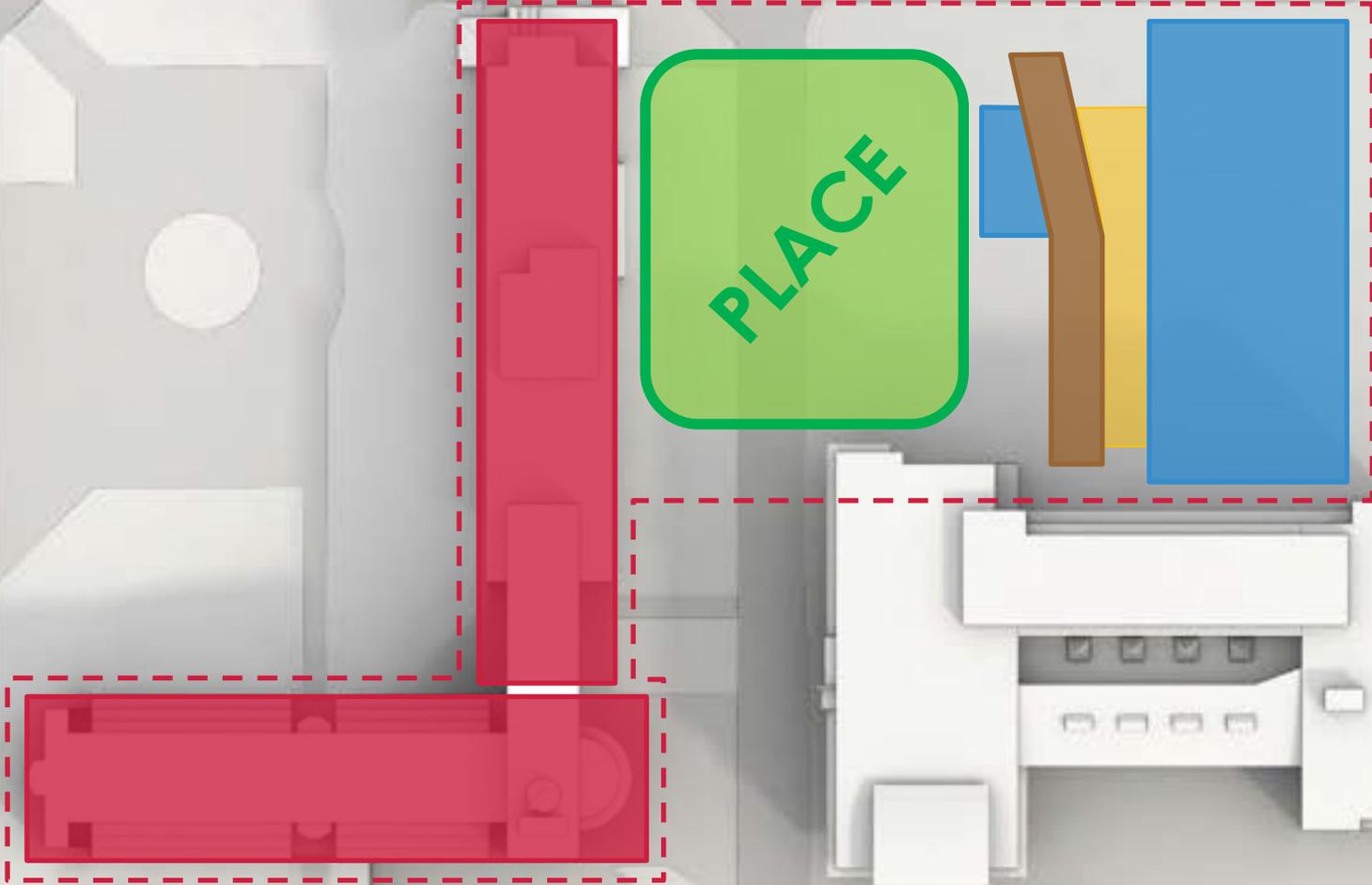
BUILDING BLOCKS

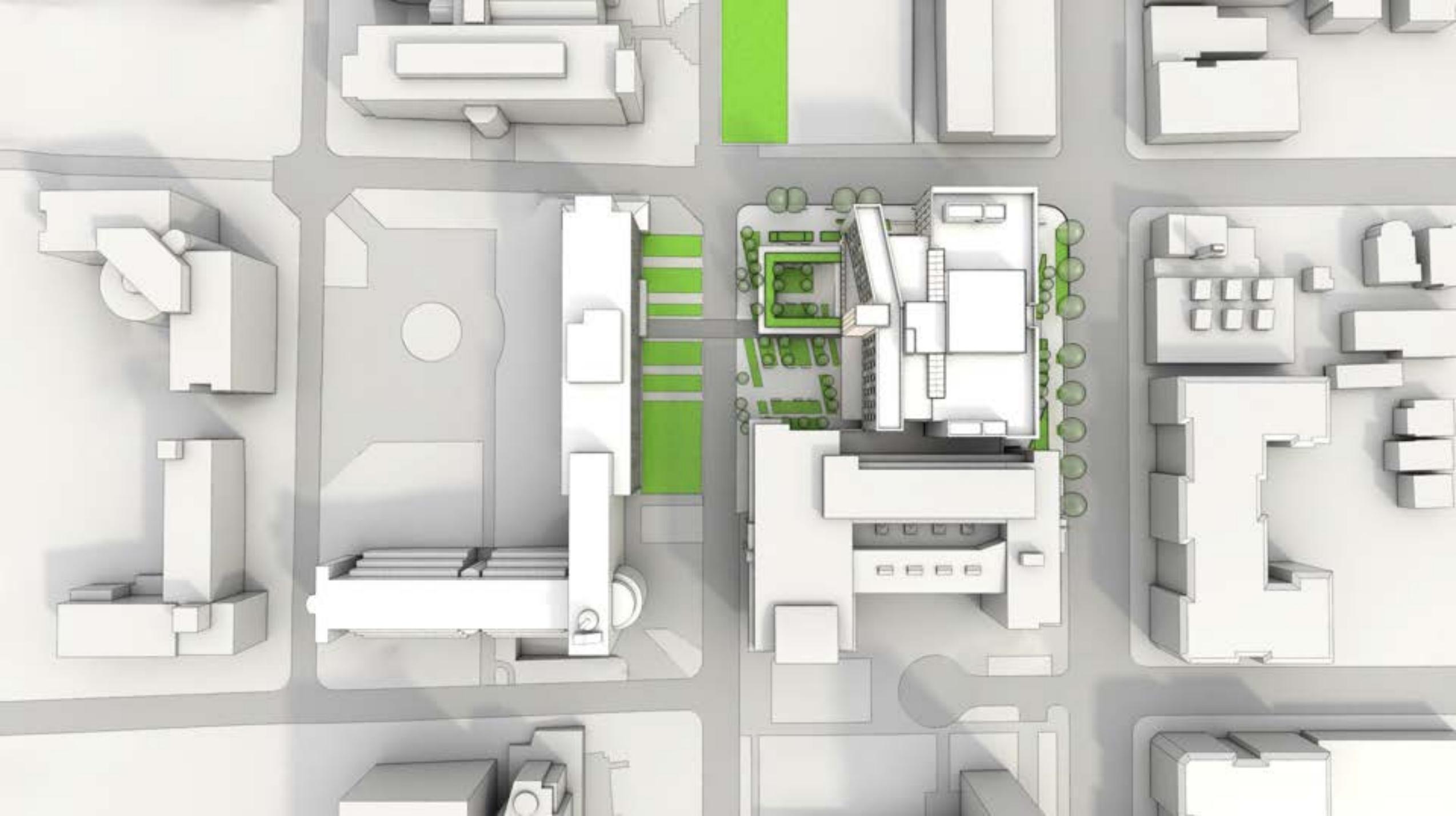


MARION STREET

TWELFTH AVE

PLACE















JIM AND JANET SINEGAL CENTER FOR SCIENCE AND INNOVATION



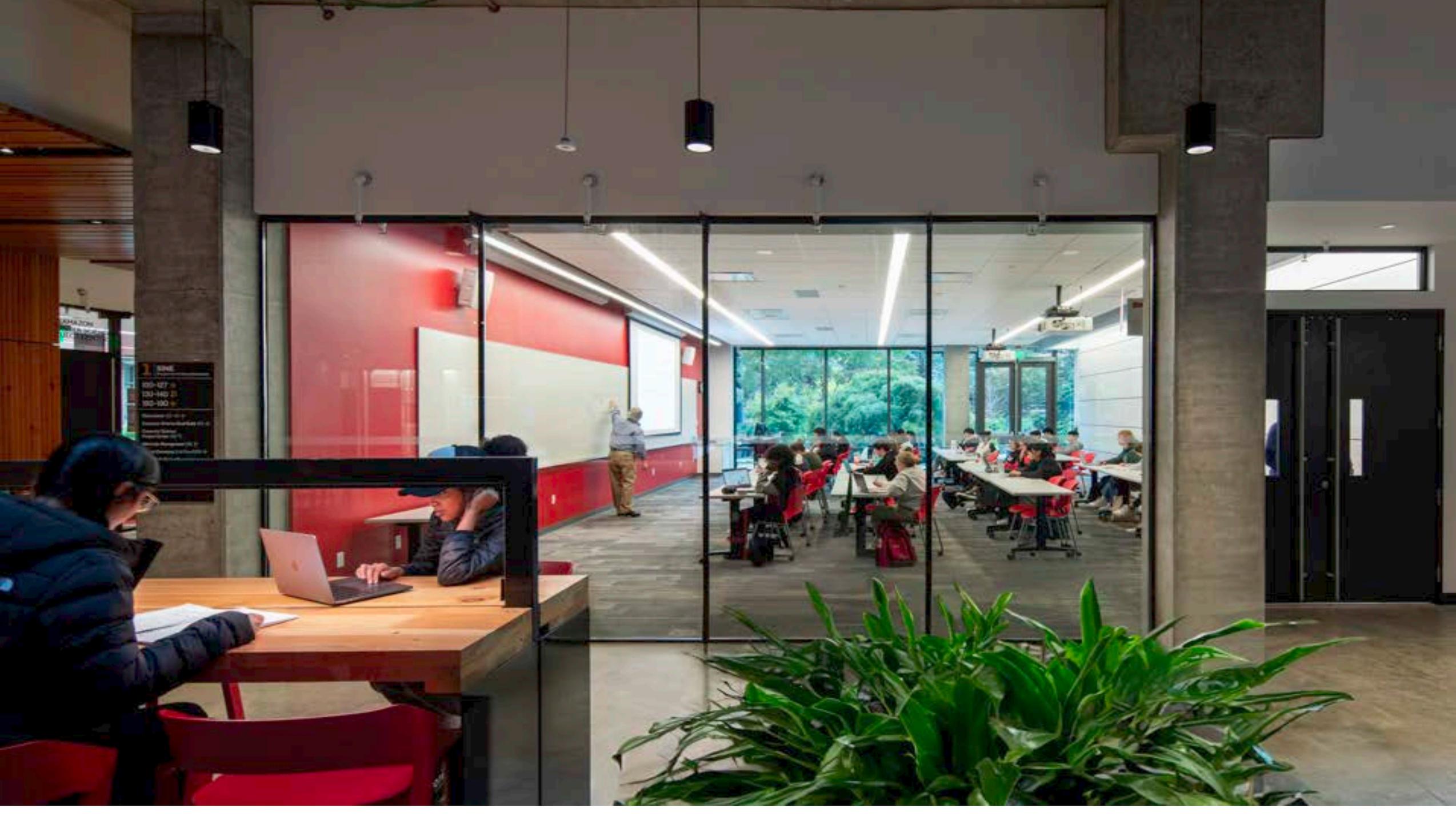






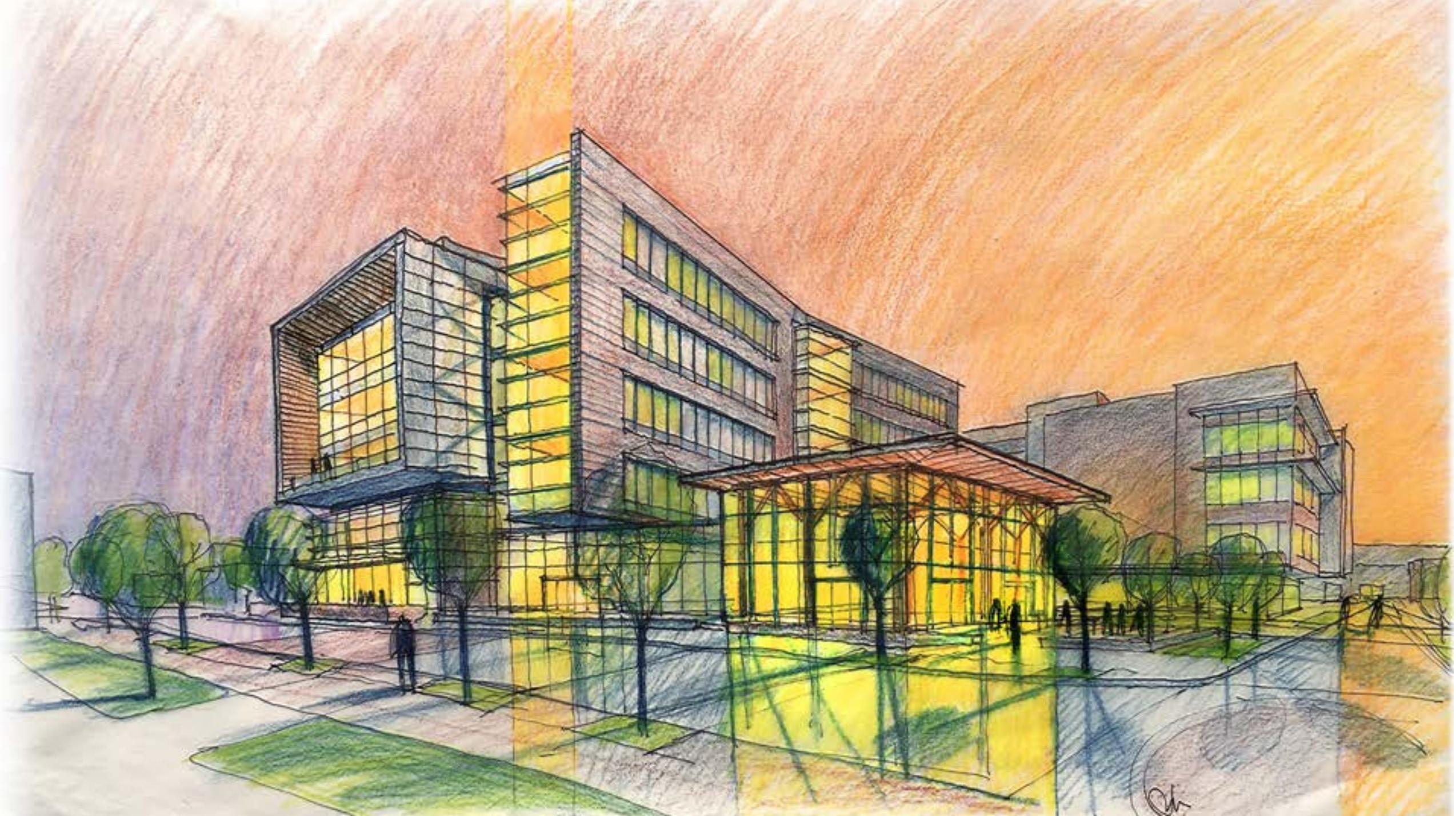
















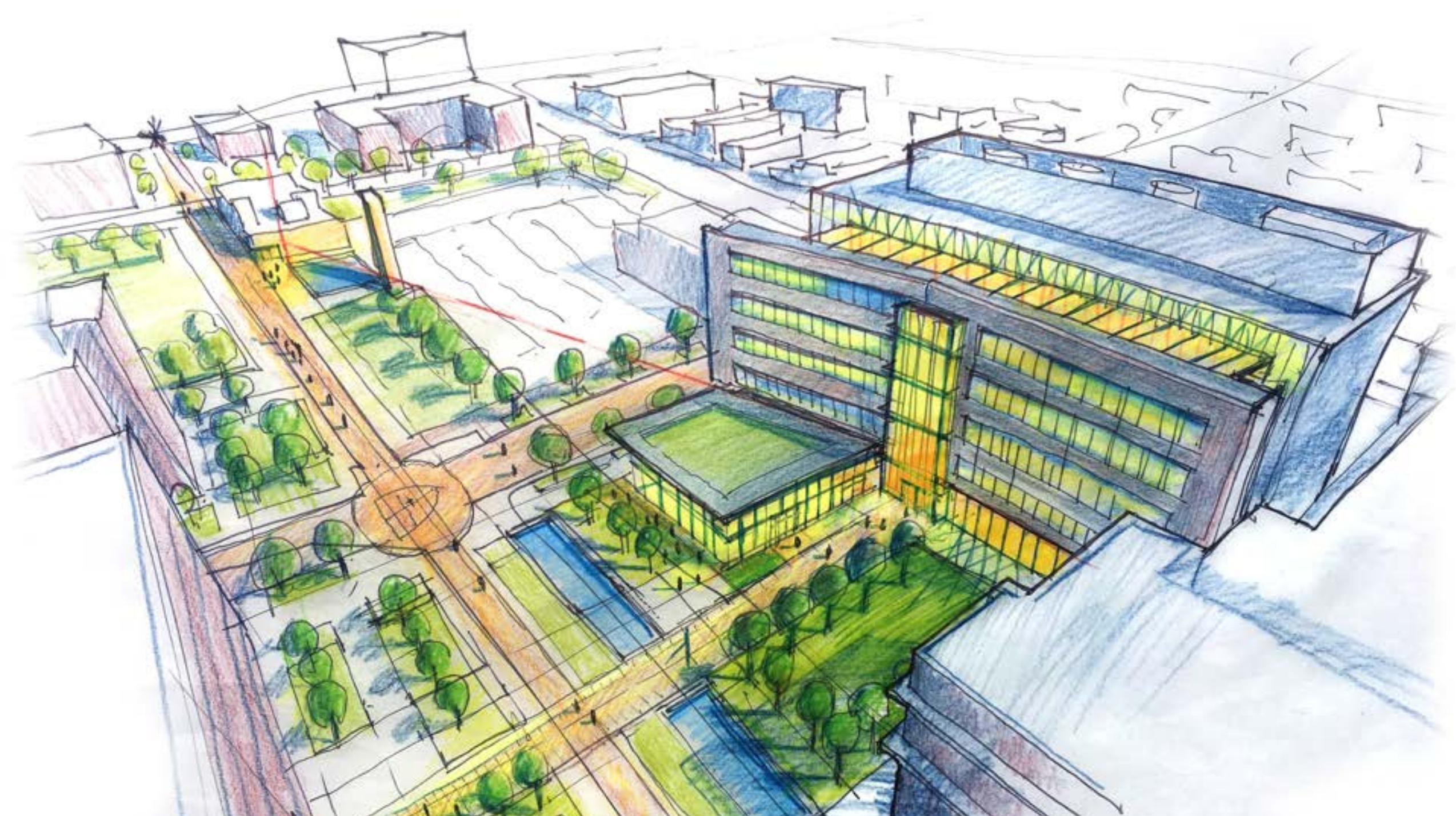






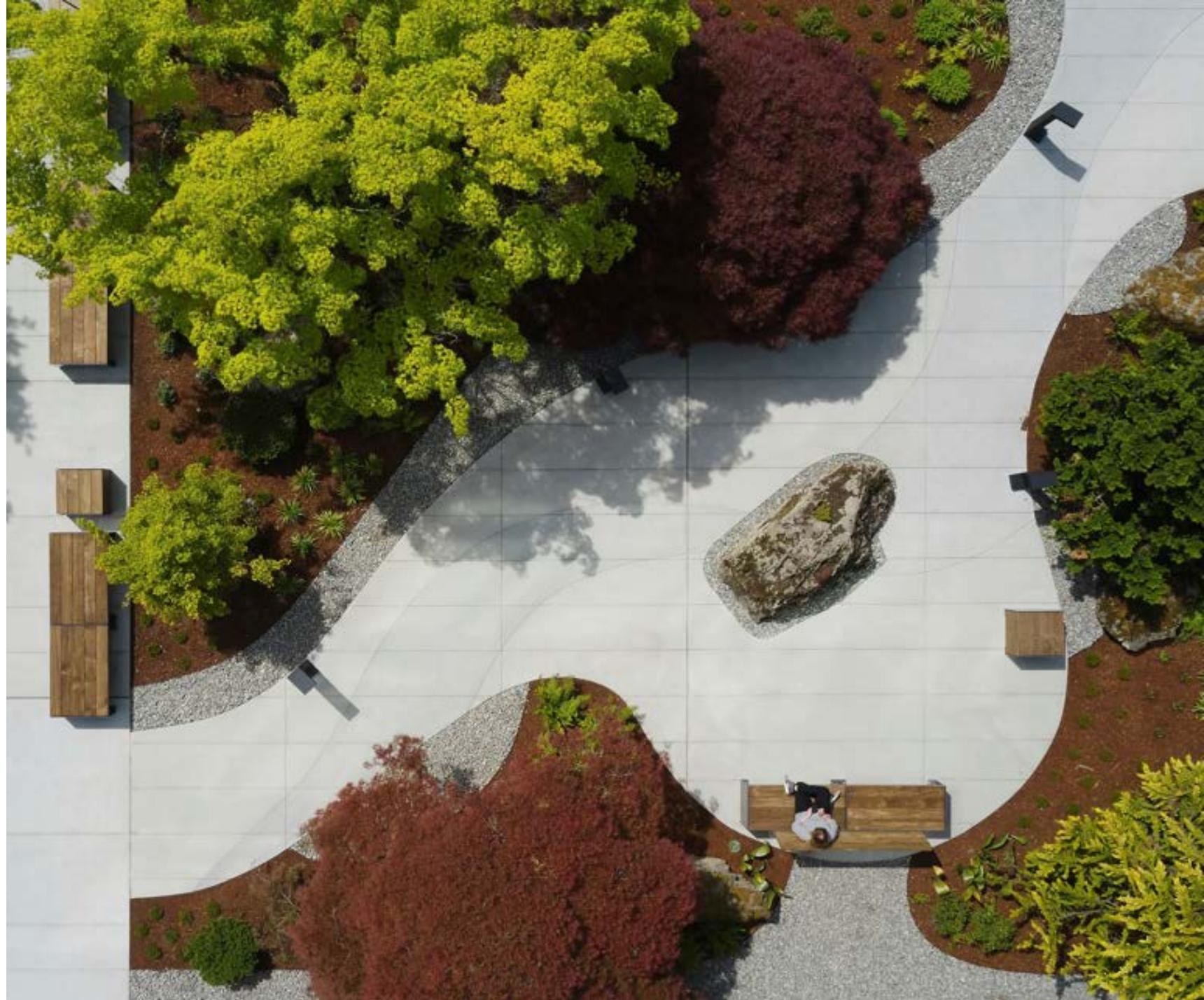








Fujitaro Kubota











- KEYNOTES**
- 1 ACCESSIBLE ROUTE
 - 2 CUSTOM SEATING
 - 3 SEAT STEPS
 - 4 TREES IN GRATES
 - 5 STORMWATER PLANTER
 - 6 MONUMENT SIGN
 - 7 ACCENT PAVING
 - 8 CLASSROOM
 - 9 MAKER SPACE
 - 10 CAFE
 - 11 PROJECT CENTER
 - 12 COMMUNITY ENGAGEMENT CENTER



12TH AVE

LEVEL 1
0 20
N

1 SINE
Specialized for Science & Society

100-127 ←
130-140 ↑
180-190 ↱

Center for Community
Engagement 11 T

Classroom 102 10 10

Public Outreach Room 102 2

Control Room Great Hall 101 1

Workspace 101 1

Research Management 101 1

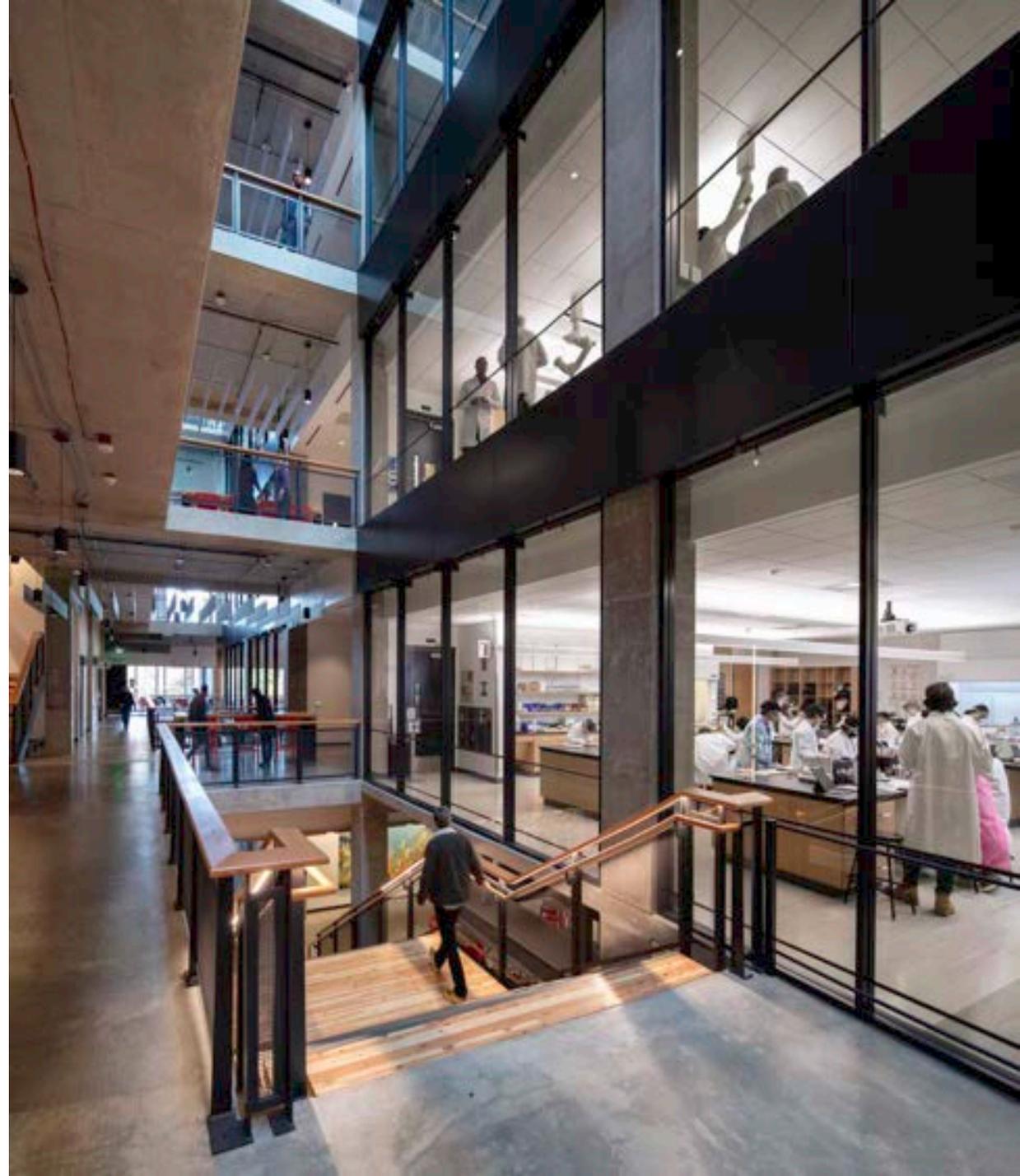
Shared Classroom One Floor 101 1

Professor's Dining Room
101 Floor 101 1

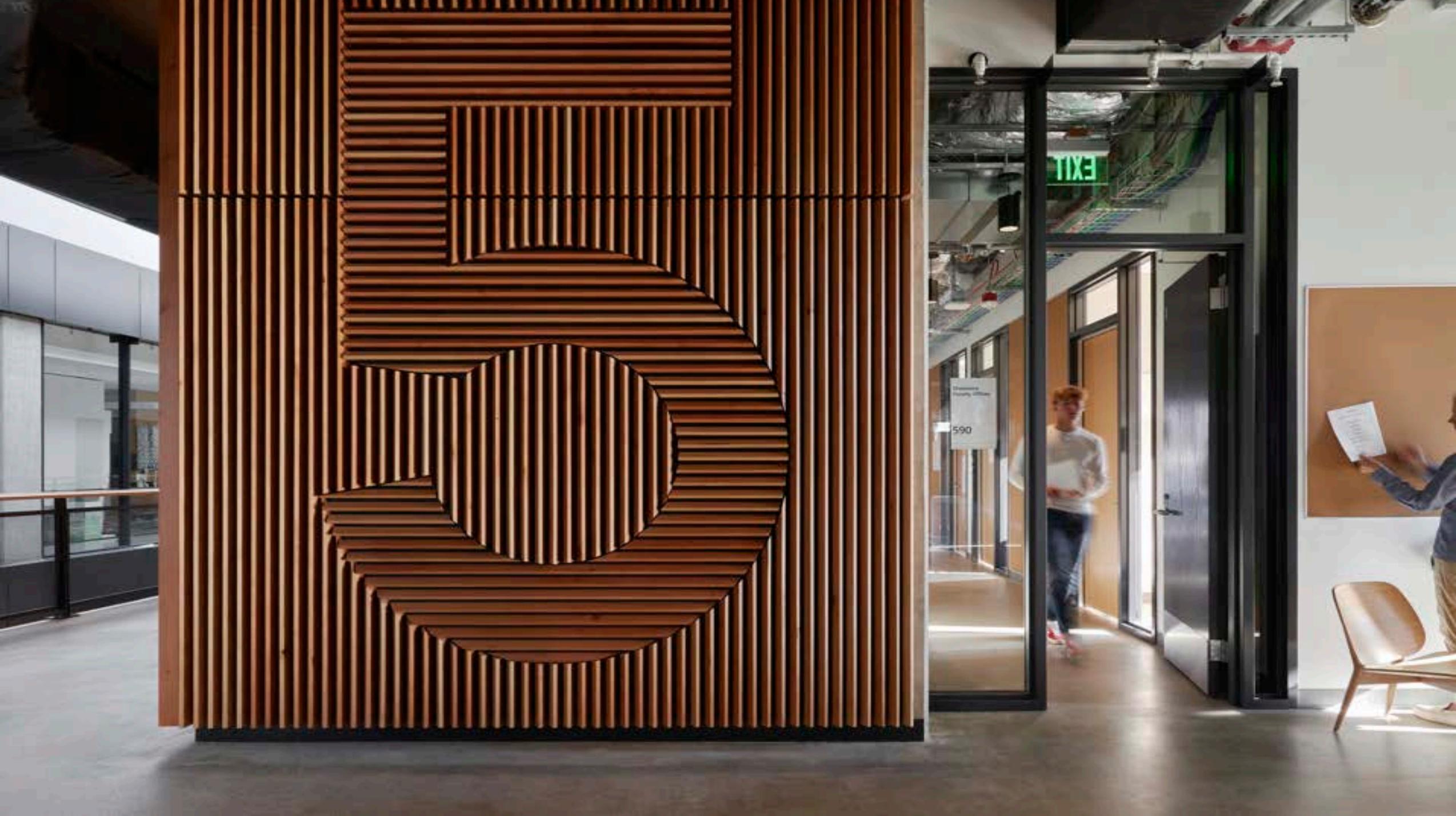
Reception 101







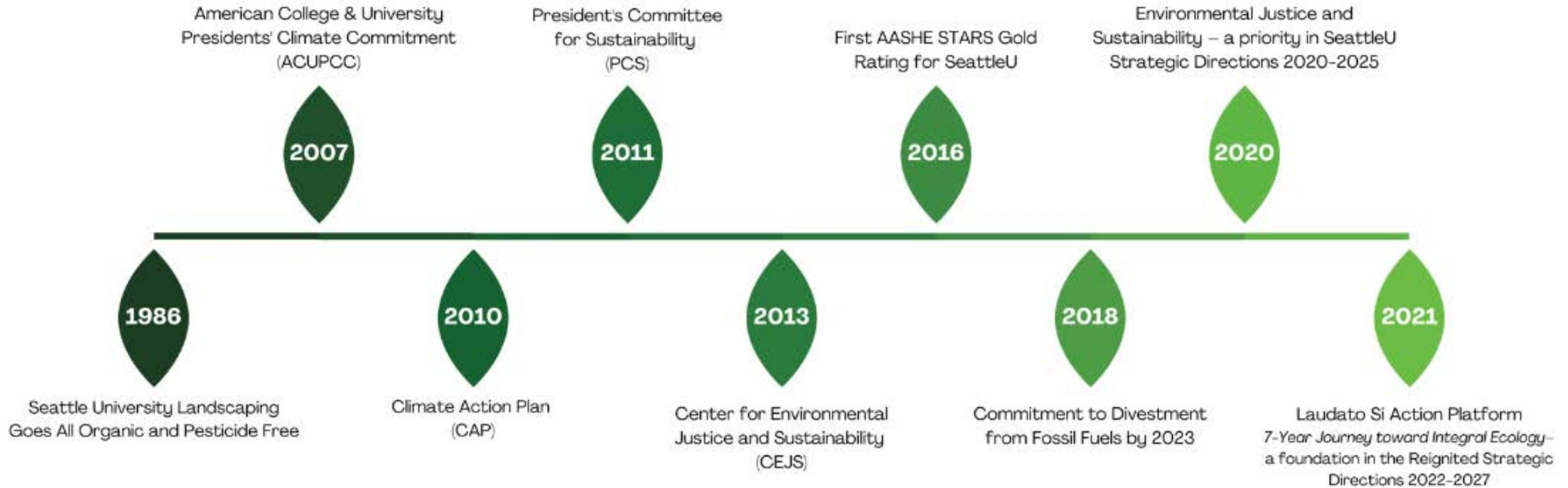






Seattle University's Sustainability & Climate Action

SUustainability Timeline





1st

100% Divested

SU is the first university in Washington state and first Jesuit Catholic university in the country to fulfill this commitment of divestment.



Gold Rating

SU earns highest score in its history in latest Sustainability Tracking, Assessment & Rating System.

Sustainability & Building Performance

Center for Science and Innovation



- LEED v2009 Gold
- 2023 SCUP Excellence Awards
- 2024 Higher Education Interior Design Award



collaborative development with industry partners, flexibility in evolution & use of POE's

adaptable design, resilient infrastructure & sustainable systems that support evolving needs

high-performance envelope, efficient mechanical systems, renewable energy integration & carbon-neutral electricity

bioretention planters for stormwater control & low-flow plumbing fixtures

publicly accessible spaces, showcasing diverse local art & welcoming pathways invite connection

centrally located stairs encourage physical activity & a café that promotes community connection

locally sourced wood, concrete, glass and steel to reduce embodied carbon & ensure long-term functionality

blending indoor/outdoor spaces, native vegetation, salvaged site elements, & pollinator support

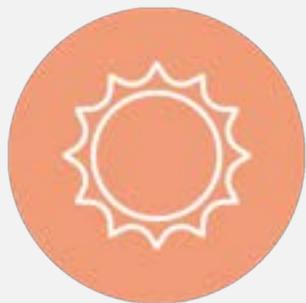
ENERGY EFFICIENCY & DECARBONIZATION

95

energy score

97

operational emissions score



- High-performance building envelope beyond code
- Fossil-fuel-free high-efficiency mechanical systems using air-source heat pump, chilled beams, VRF, and heat recovery
- Low-flow high performance fume hoods
- Rooftop photovoltaic
- Carbon neutral electricity from Seattle City Light

energy savings from ASHRAE 90.1-2007

53%

Building Details Summary

Country:	United States
State:	WA
Zip Code:	98122
Latitude:	47.61 deg
Longitude:	-122.32 deg
ASHRAE Climate Zone:	4C Mixed - Marine
Building Status:	Real Building
Building Gross Area:	111,559 sf
Percent Lab Area:	24%
Organization Type:	Academic: Higher Ed
Predominant Lab Type:	Teaching
Predominant Lab Use:	Combination (Bio/Chem)

Energy Summary

Site Energy Use Intensity:	61 kBtu/sf/yr
Cooling Degree Days (CDD65):	498.3
Labs2Zero Pilot Energy Score:	95

Operational Emissions Summary

Location-Based GHG Intensity:	5.1 kgCO ₂ e/sf
Labs2Zero Pilot Operational Emissions Score:	97
Score If Your Electric Grid Were 100% Clean:	100
Location-Based, Including All Sources:	5.1 kgCO ₂ e/sf
Market-Based:	5.1 kgCO ₂ e/sf

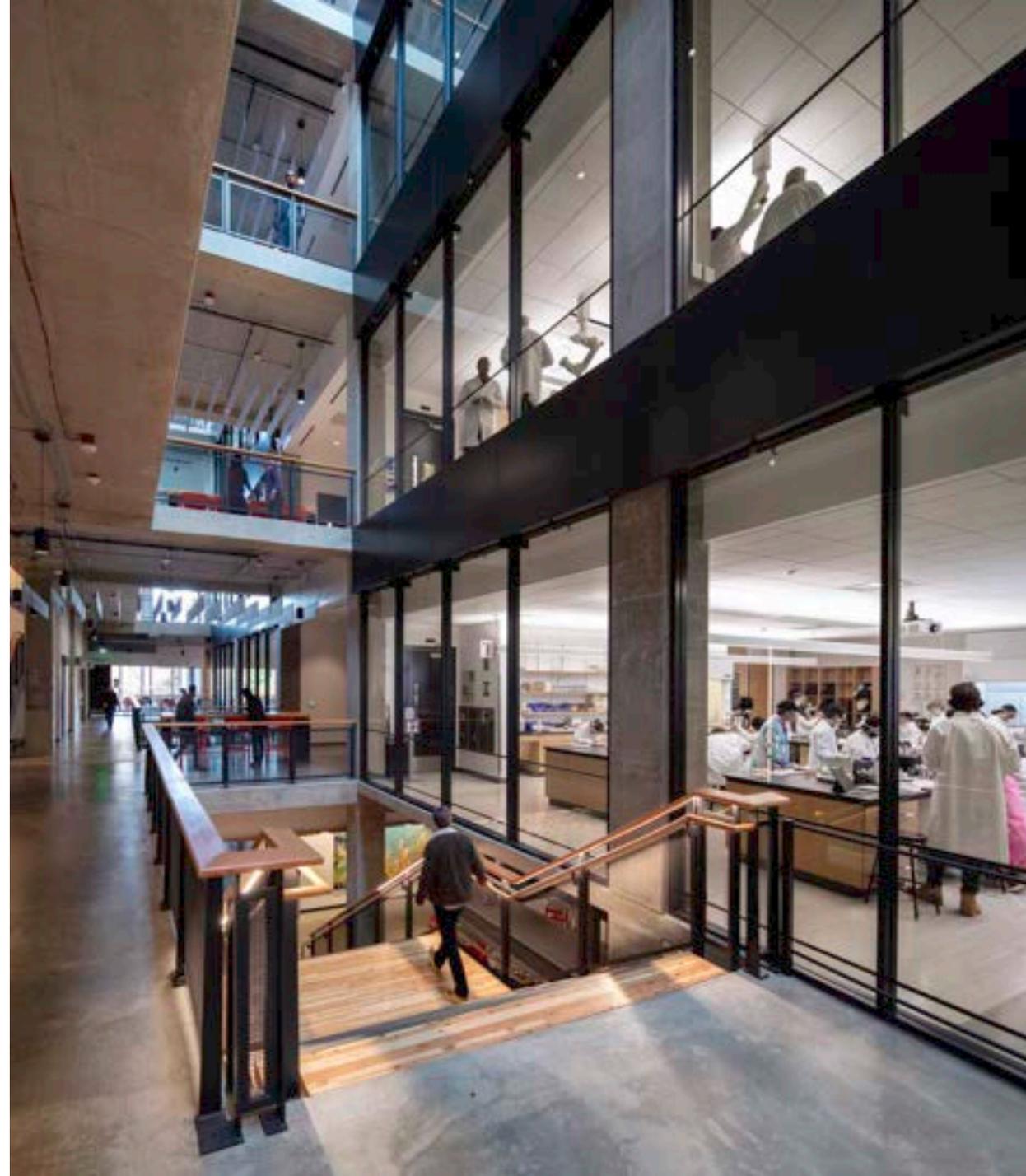
**PLANNING &
BUILDING SYSTEMS
RESILIENCY**

- Flexible floor plans and modulate spaces for evolving education
- Reduced maintenance and operational risks
- Double-piped VRF system ready for future refrigerant changes
- Large ductwork for climate adaptability



WELLBEING

- Expansive glazing fosters transparency, natural light, and views to nature
- Walkways and stairs promote active movement
- Café offers healthy, vegan options





WATER EFFICIENCY

- Bioretention planters mitigate impact of storm events
- Low-flow plumbing fixtures reduce water use by 32%, from LEED baseline
- EPA Water Sense products



reduction in water use intensity

32%



SUSTAINABLE & LOW-CARBON BUILDING MATERIALS

- Materials focused on long term functionality
- Simple industrial aesthetic
- Locally sourced wood, concrete, glass and steel
- 66% waste diverted from landfills
- 12% recycled content
- 52% FSC wood



COMMUNITY, SOCIAL JUSTICE, & EQUITY

- Publicly accessible
- Center for Community Engagement
- Convergence Café
- Community Makerspace
- Art installation from local, BIPOC and Indigenous artists
- Heritage gardens for respite and reflection



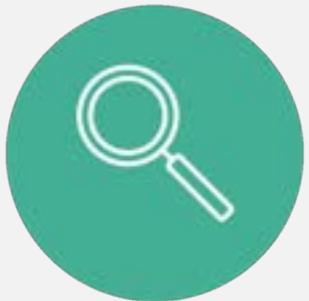
ENVIRONMENTAL HEALTH

- Connection between indoors and outdoors
- Pathways weave between public floor & outdoor gardens
- Native plants
- Salvaged elements from the original site
- Regional pollinator pathway
- Regionally sourced materials



CONTINUOUS IMPROVEMENT

- Spaces address academic and industry needs with input from Amazon & Microsoft
- Spaces designed to foster a sense of discovery
- Building evolves to meet SU community's needs
- Post-occupancy evaluation & performance tracking



Questions

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