

INTERDISCIPLINARY ENGINEERING BUILDING (IEB)

UNIVERSITY OF WASHINGTON

CUCAC Presentation
12 October 2021

 **HENSEL PHELPS**
Plan. Build. Manage.

KIERANTIMBERLAKE

Integrated Design/Build Project Team

Client

University of Washington + College of Engineering

Builder

Hensel Phelps

Architecture

KieranTimberlake

Civil + Structural Engineering

KPFF

Landscape + Site Design

PLACE

Mechanical + Plumbing

Auburn Mechanical + PAE + Burman Design

Electrical

VECA + Sazan

Lab Planning

RFD (Research Facilities Design)

LEED Administration

O'Brien360

Contents

Project Goals

Stakeholder Engagement Process (April-August 2021)

Site Evaluation

Building Massing

Schedule

“The new Interdisciplinary Engineering Building (IEB) facility would provide much needed capacity to alleviate existing space deficits within the College of Engineering and provide student services as well as a “home base” for the freshmen and sophomore classes. The IEB would provide substantial project and curricular space, balanced with research and faculty office areas to support the growth in student enrollment. Engineering education requires space for collaborative, project-based learning; space for this kind of instruction is lacking at the UW. One example is for students’ senior capstone projects, which are designed to holistically combine theory, practice, and design while pairing students with local companies. The program opens doors for employment for graduates and strengthens connections between the University and industry.”

Approval from the Board of Regents (June 2020)

PROJECT GOALS | OPERATIONAL ADVANTAGE

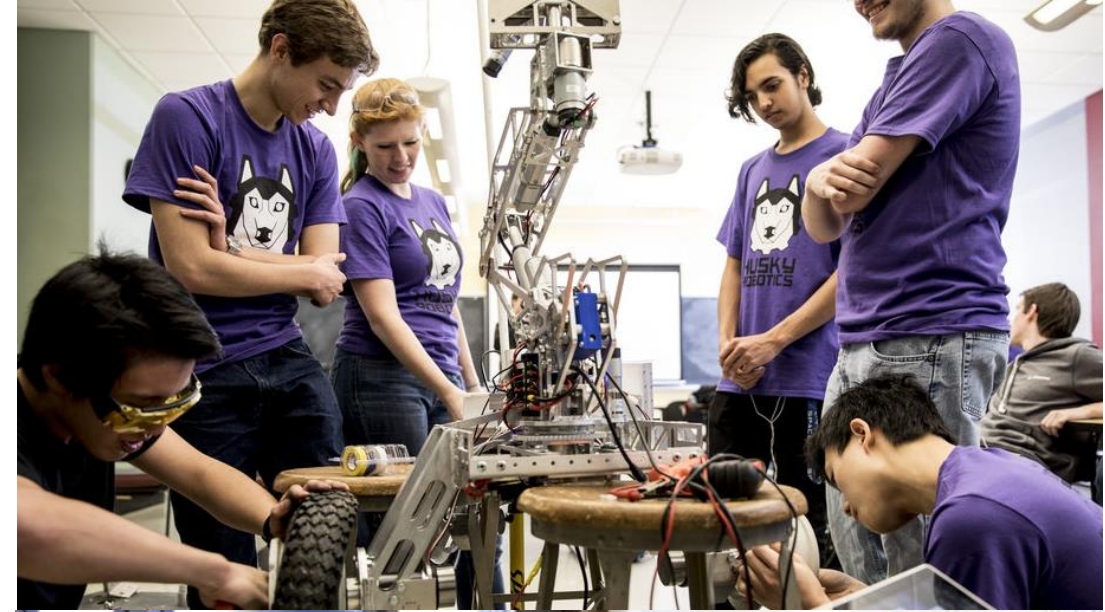
IEB project goals are most succinctly summarized with the 4-part “Operational Advantage” to be gained by the team’s successful completion of the integrated design-build project for the University of Washington and the College of Engineering:

- 1** The IEB will **help the College of Engineering grow in terms of numbers** and to become **more inclusive, collaborative, innovative, and adaptable**, with programs supported by facilities rivaling or exceeding those of our peer institutions.
- 2** The IEB will be an important part of our on-campus student experience and will **serve as a home or “engineering central”** – offering the spaces needed to educate students to solve major societal challenges.
- 3** The IEB will embody our commitment to **providing exposure to the full range of engineering disciplines right away** while supporting project-based learning, interdisciplinary teamwork, improved diversity, and increased partnerships with industry, and more.
- 4** The IEB will **provide a silo-free learning environment that students need to prepare for industry and entrepreneurial careers** in collaboration with fellow students across campus, the new building will relieve pressure on the College’s departmental buildings.



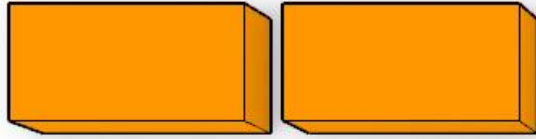
The IEB Stakeholder Engagement Framework goals:

1. Develop a **shared understanding** of the IEB mission
2. Develop **transparency** on the IEB design process
3. Build a common **understanding** of the project's **opportunities, constraints and risks**
4. Develop strategies for **supporting** the goals of all **project stakeholders for:**
 - space types**
 - project requirements**
 - sustainability**
5. Identify who else we **need to hear** from about space types, project requirements and sustainability
6. **Affirm the project goals**, and **verify the target program and building size**

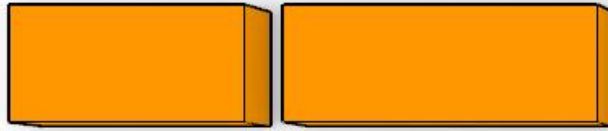


PROJECT SPACE

9,440 ASF



DESIGN / IDEATION STUDIO (x2)
2,178 SF EA. / 4,356 SF TOTAL

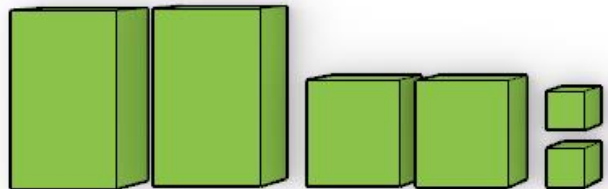


ASSEMBLY & TESTING
2,178 ASF

FABRICATION SHOP
2,904 ASF

CLASSROOM SPACE

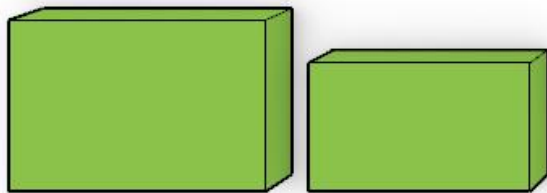
10,990 ASF (25 sf/seat)



60p. ALC (x2)
1,500 ASF EA.

30p. ALC (x2)
750 ASF EA.

STORAGE
240 ASF

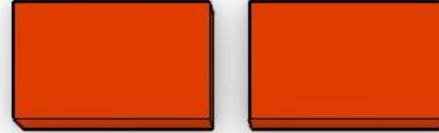


150p. ALC
3,750 ASF

100p. ALC
2,500 ASF

CURRICULAR SPACE

7,990 ASF



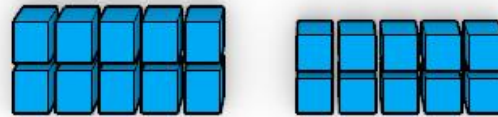
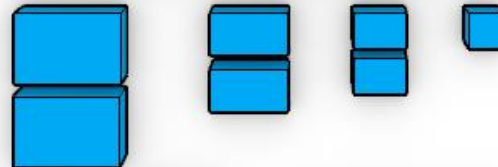
ENGR 210, 220, 230, 310 (x4)
1,815 ASF



STORAGE
726 ASF

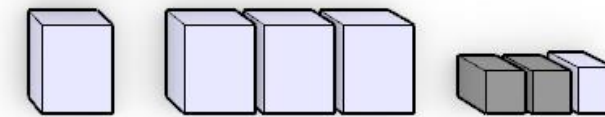
STUDENT SOCIALIZATION

8,100 ASF



STUDENT SUPPORT

5,500 ASF



Design Drivers

COE PROGRAM GOALS

IEB Project Goals
IEB Inclusivity Framework
Welcoming “First Encounter”
Desired Daylight Access
Desired Exterior Access
Desired Adjacencies
Opportunities for Shelling

CIRCULATION & INFRASTRUCTURE

Campus & Local Circulation
Patterns
Existing Buildings
Existing Grades
Utility Tunnel
Phase II Connection

ECOLOGY & LANDSCAPE

Significant Vegetation
Light And Shadow
Seasonal Comfort
Views In and Out

CARBON & ENERGY

Beneficial Solar
Harmful Solar
Daylight Autonomy
Embodied Carbon

BUILDING COST

Volume of Excavation
Façade Area
Roof / Walkable Roof
of Floors
Mech and Structural
Systems
Opportunities for Shelling

Campus Adjacencies

HUSKY UNION BUILDING

STEVENS WAY

UW CLUB

FLUKE HALL

FACILITIES SERVICES ADMINISTRATIVE BUILDING

UNIVERSITY FACILITIES

MASON ROAD

ENGINEERING LIBRARY

JEFFERSON ROAD

ANNEX #1

ANNEX #2

ANNEX 4

BURKE-GILMAN TRAIL

MONTLAKE BLVD NE

LOEW HALL

POWER PLANT

Topography



HUSKY UNION BUILDING

UW CLUB

FLUKE HALL

STEVENS WAY

135'

FACILITIES SERVICES ADMINISTRATION BUILDING

120'

UNIVERSITY FACILITIES

108'

MASON ROAD

ENGINEERING LIBRARY

JEFFERSON ROAD

ANNEX #1

ANNEX #2

ANNEX #4

115'

105'

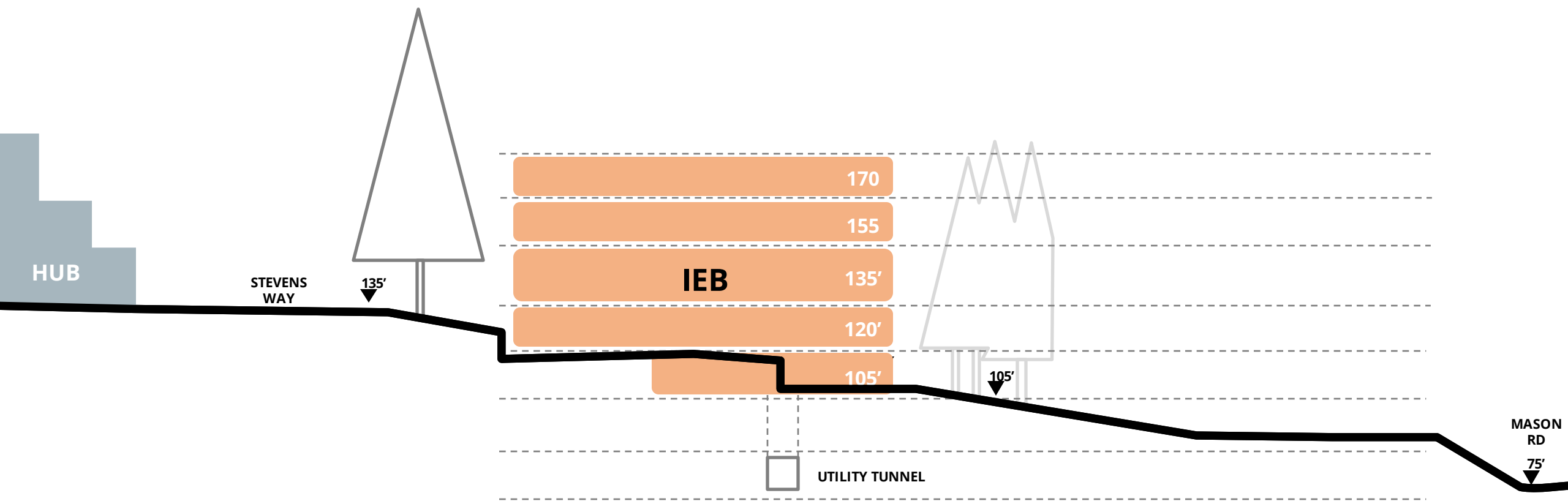
99'

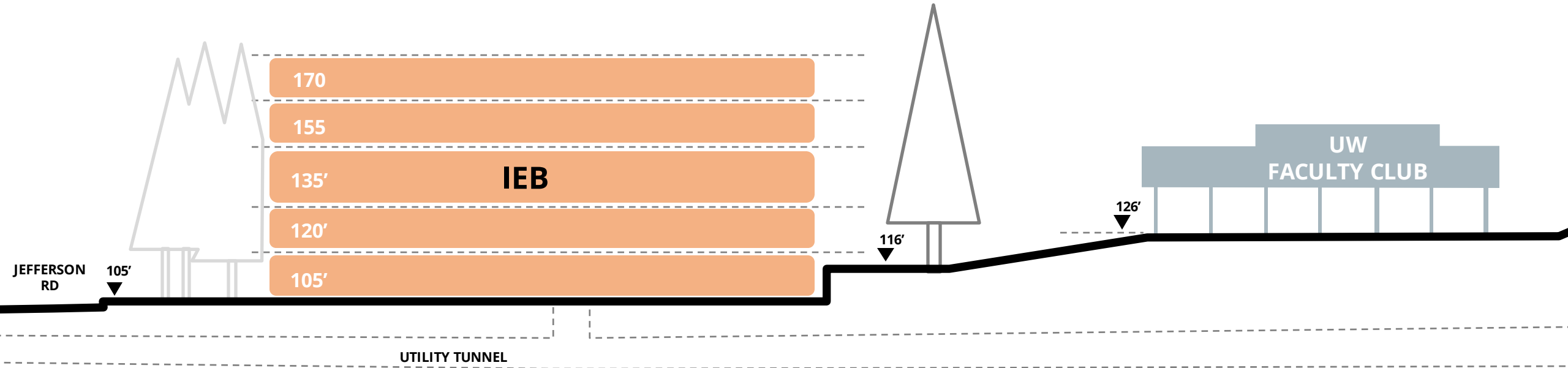
LOEW HALL

POWER PLANT

BURKE-GILMAN TRAIL

MONTLAKE BLVD NE













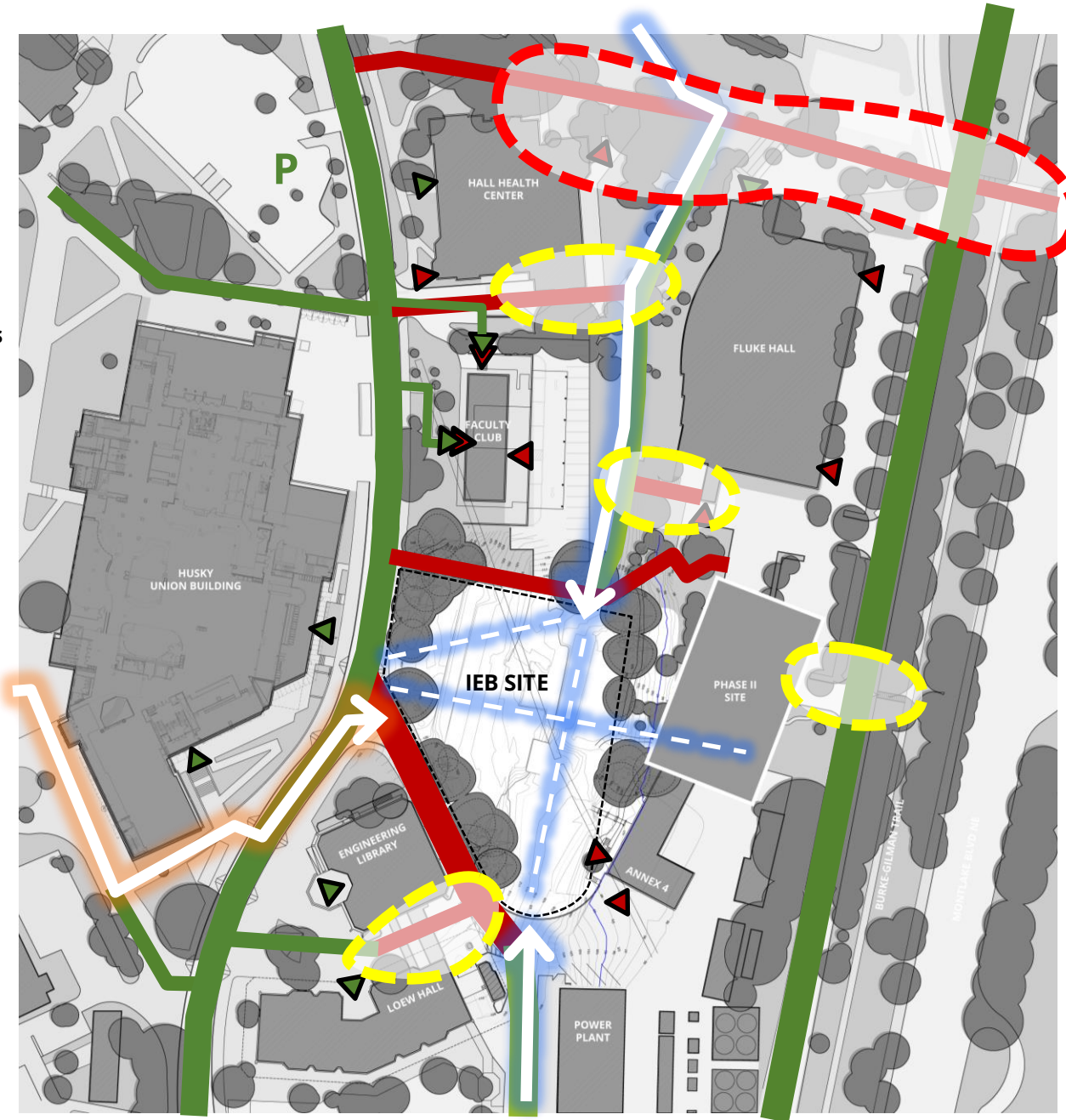
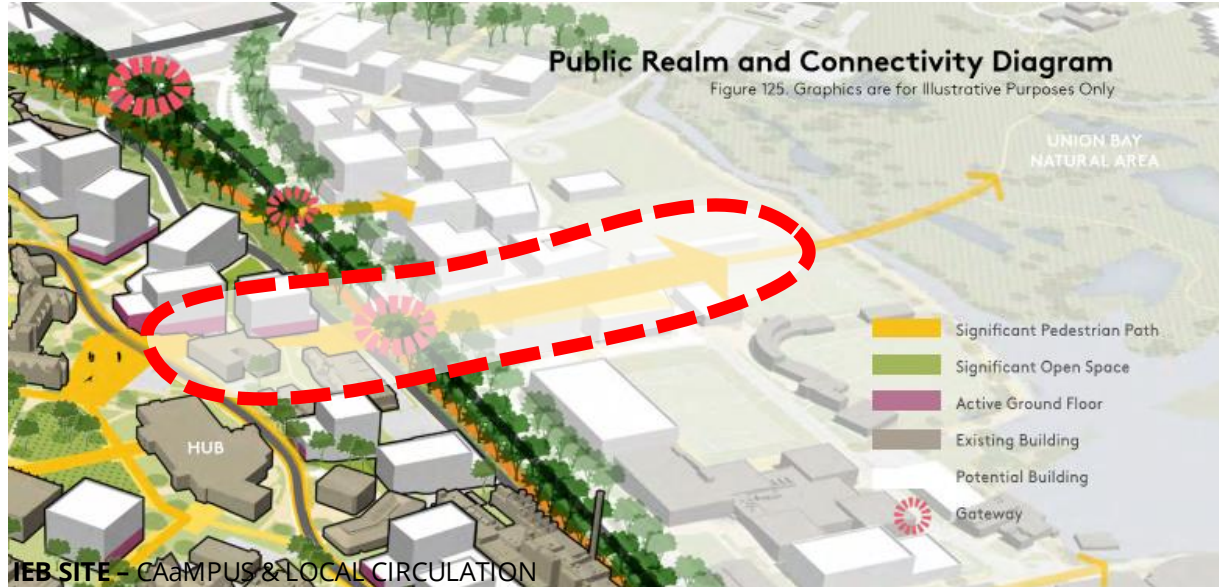


Vegetation



Circulation

-  **Current Primary Site Approach**
For Undergraduate Students
-  **Masterplan Site Improvement**
Anticipated "Significant Pedestrian Path"
-  **Fully Accessible**
Meets ADA code
-  **Partially Accessible**
Parts may not meet the grade requirements
-  **Not Accessible**
-  **Mid-Slope-Path Circulation**
Future Anticipated Pedestrian Corridor
-  **Additional Possible Future Improvements**
To extend accessible access to Mid-Slope-Path
-  **Accessible Entry**
-  **Entry**
-  **Accessible Parking**





EMERGENCY ELEC

MAIN ELEC

LOADING & JANITORIAL

MD

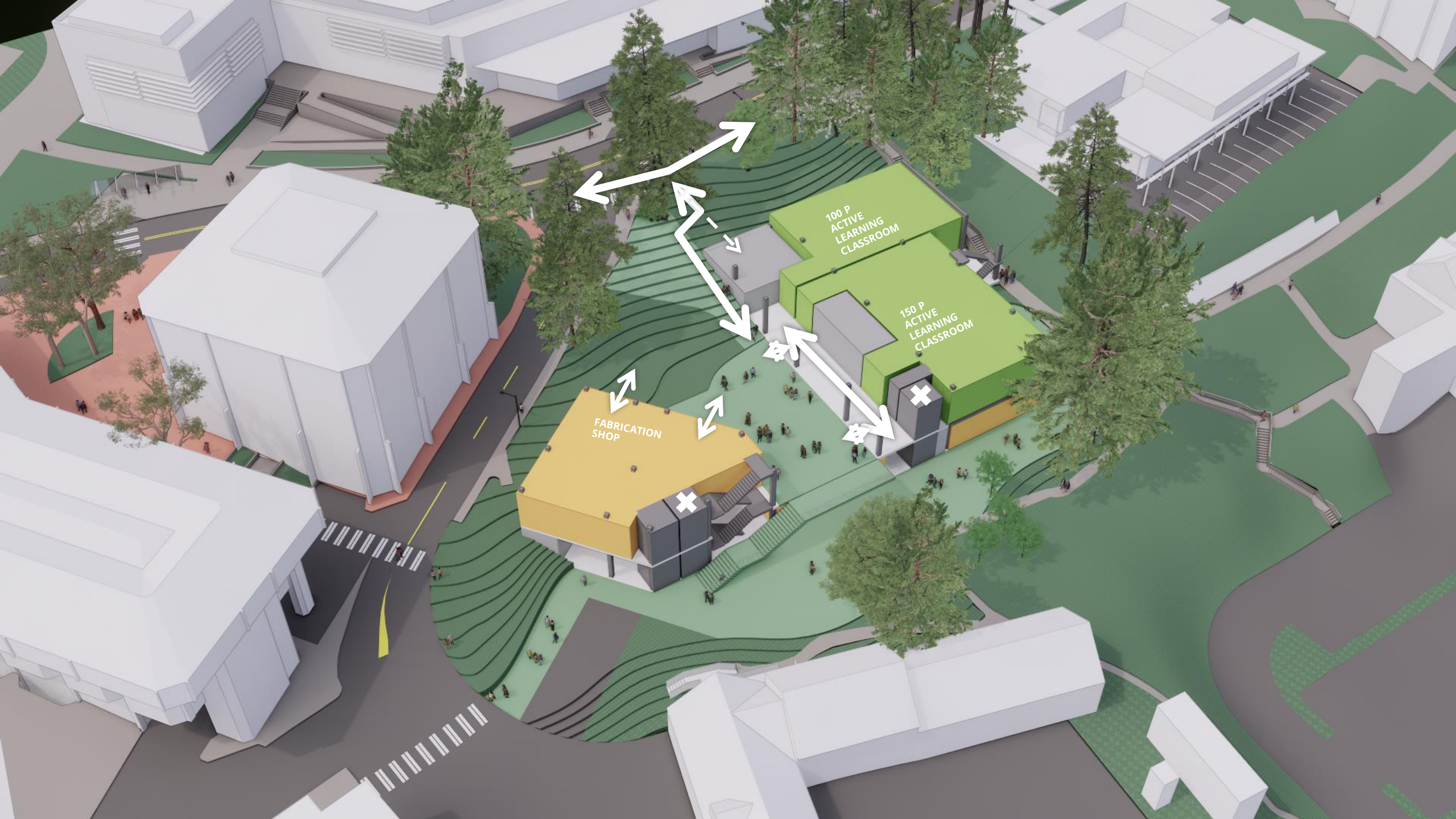
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DESIGN & IDEATION

ASSEMBLY & TESTING

DESIGN & IDEATION

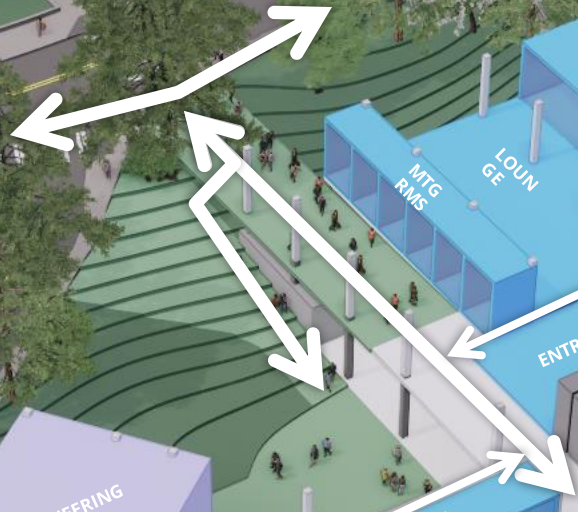
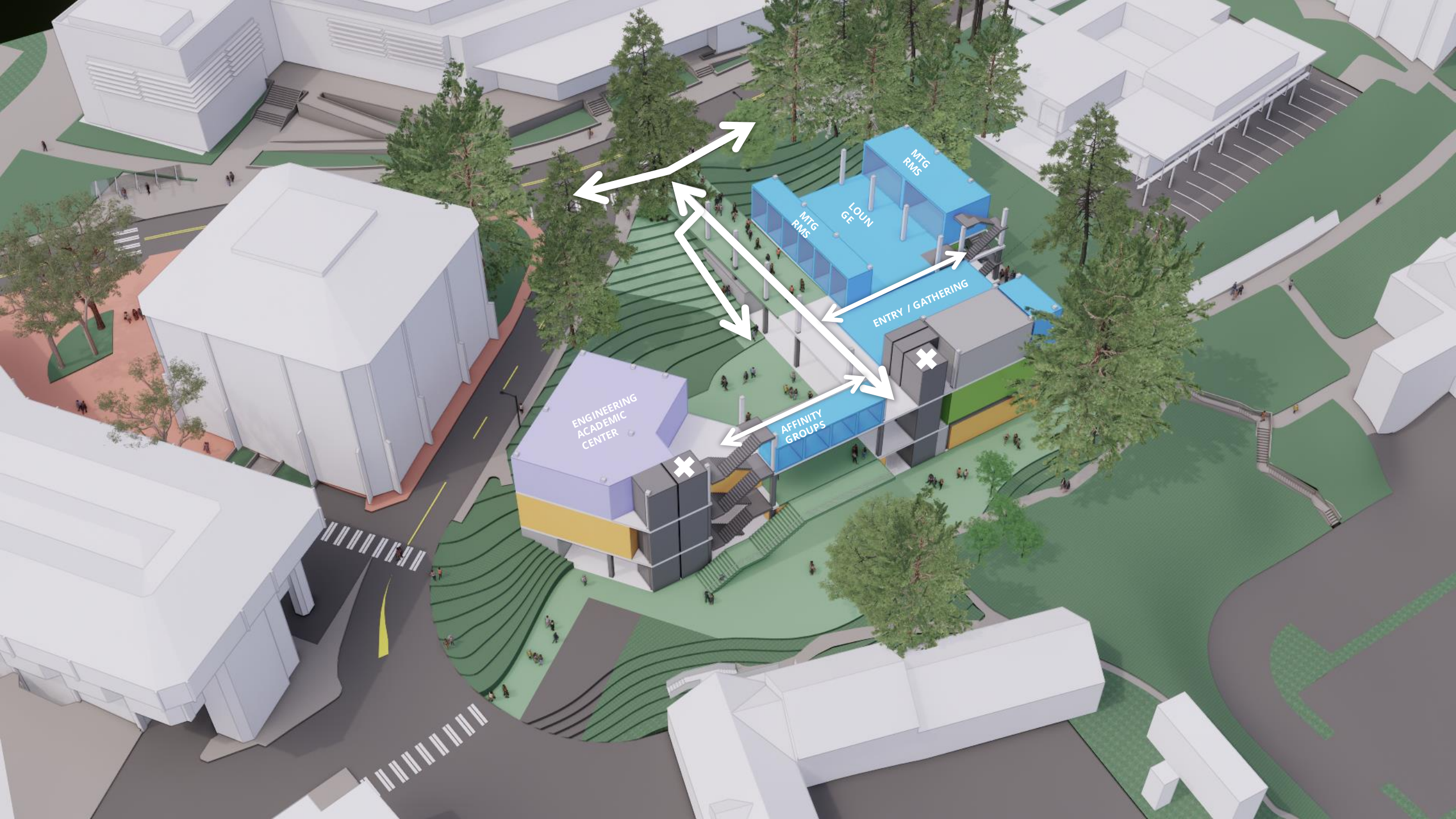
ASSEMBLY & TESTING



100 P
ACTIVE
LEARNING
CLASSROOM

150 P
ACTIVE
LEARNING
CLASSROOM

FABRICATION
SHOP



ENGINEERING
ACADEMIC
CENTER

AFFINITY
GROUPS

ENTRY / GATHERING

LOUNGE

MTG
RMS

MTG
RMS



CURRICULAR

CURRICULAR

60P ACTIVE
LEARNING
CLASSROOM

30P
ALC

30P
ALC

COLLA
B

COLLA
B

AFFINITY
GROUPS



60P ACTIVE
LEARNING
CLASSROOM

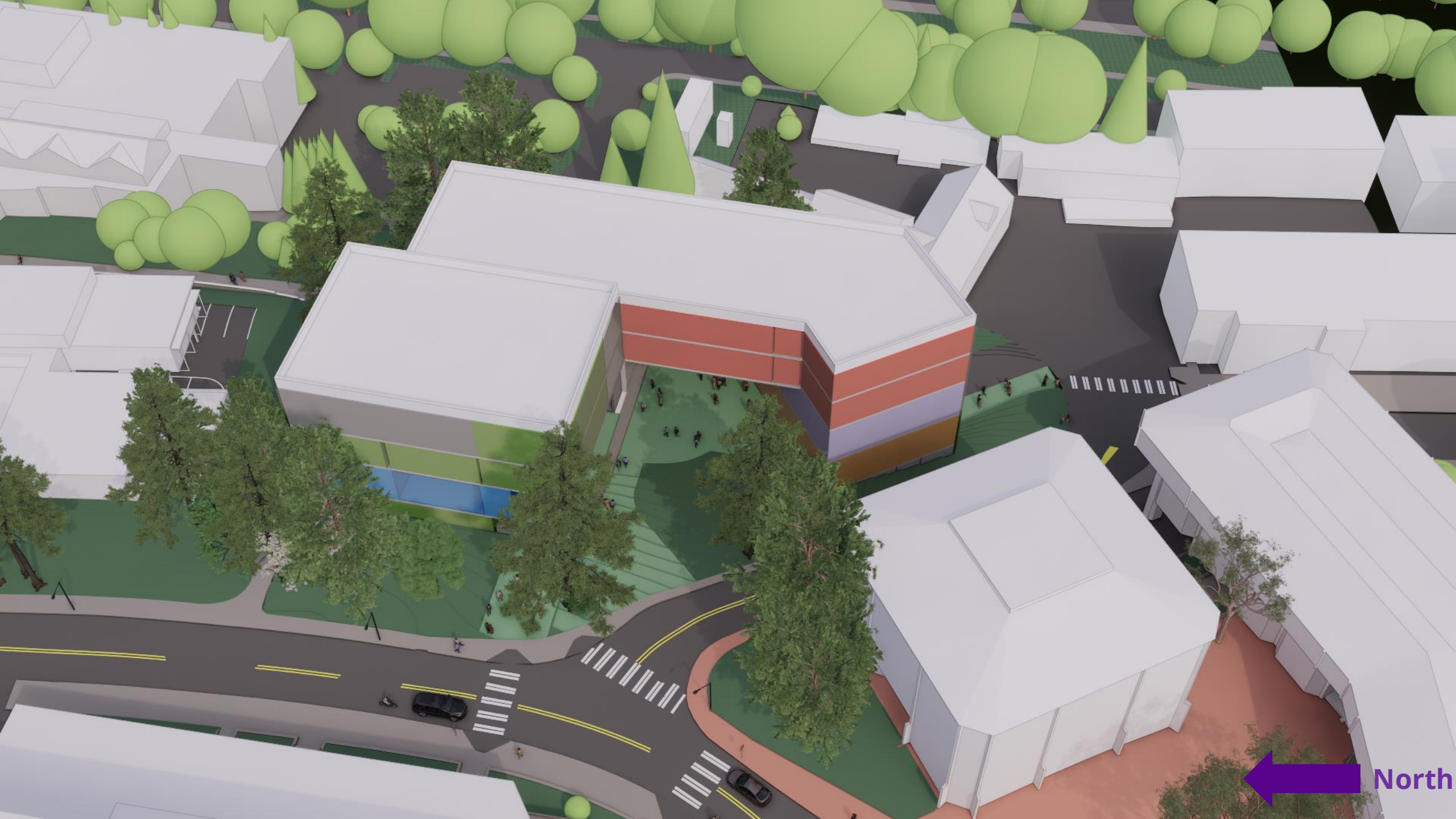
MAIN MECH

STUDENT
SUPPORT
OPEN OFFICES

CURRICULAR

CURRICULAR





North







PORTAL



Landscape/Site Design Concept

Portal + Porch:

- Provide a clear and universal sense of Entry
- Communicate program through exterior site lines and circulation
- Respond to and celebrate existing trees
- Respect existing topography
- Create an opportunity for student gathering and learning
- Integrate stormwater meaningfully with the site and project

The North Edge

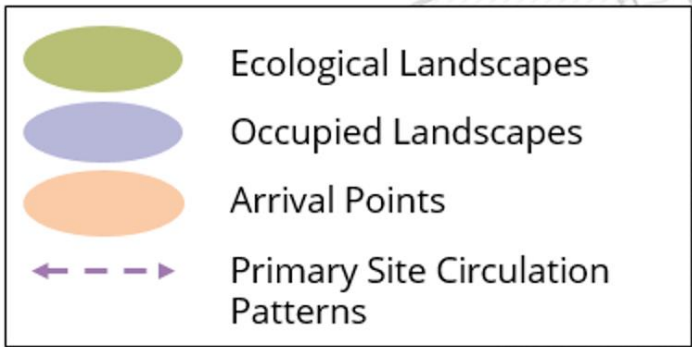
- Establish an approach to east-west circulation that responds to site and campus needs
- Create a landscape interface between the University Club (and parking) and the IEB
- Preserve existing trees (Exceptional Grove and individual specimens)

The Grove + Yard

- Connect North South circulation along a 'mid-slope' path
- Provide exterior connections to the building program
- Celebrate existing woodland character and enhance pedestrian safety

Jefferson Entry

- Provide multifunctional accessible pedestrian entry and service access
- Facilitate north-south connections
- Engage the entire corner for multi-directional circulation roots



Site Development Standards

Table 9. Central Campus Development Sites Spreadsheet

***** Growth Allowance refers to Net New

SITE ID	SITE NAME	TOTAL ENVELOPE GROSS SQUARE FEET	TOTAL MAXIMUM GROSS SQUARE FEET	PERCENT OF ENVELOPE	DEMO GROSS SQUARE FEET****	NET NEW GROSS SQUARE FEET*****	APPROX# OF FLOORS	MAXIMUM BLDG HT LIMIT	CONDITIONED DOWN BUILDING HEIGHTS
C1	West of Memorial Way / N1 Parking Lot	290,000	200,000	69%	68,916	131,084	7	105	
C2	East of Memorial Way / N5 Parking Lot	265,000	135,000	51%		135,000	5	105	70
C3	Mackenzie Replacement / N3 Parking Lot	165,000	145,000	88%	43,099	101,901	7	105	
C4	Intellectual House Phase 2	40,000	5,000	13%		5,000	1	105	
C5	North Campus Housing 1 (Building A)**/**	170,000	110,000	65%		110,000	5	105	
C6	North Campus Housing 2 (Building E) / Haggett Hall Site / N9, 10, 11 Parking Lots **/**	535,000	290,000	54%	206,114	83,886	6	160	
C7	McMahon Hall Site / N13, 14, 15 Parking Lots	600,000	400,000	67%	288,352	111,648	11	160	
C8	Padelford Garage North Site / N16, 18, 20, 21*	315,000	245,000	78%	138,555	106,445	8	105	
C9	Padelford Hall South Site*	185,000	155,000	84%		155,000	8	105	
C10	Padelford Garage South Site*	230,000	145,000	63%		145,000	7	105	
C11	Facility Services Admin Bldg / University Facilities Bldg and Annex 1	120,000	85,000	71%	20,125	64,875	7	105	
C12	Plant Op Annexes 2-6 / University Facilities Annex 2 / C23 Parking Lot	230,000	115,000	50%	18,860	96,140	6	105	
C13	Siea Hall Replacement	145,000	130,000	90%	57,180	72,820	7	105	

Project Schedule

