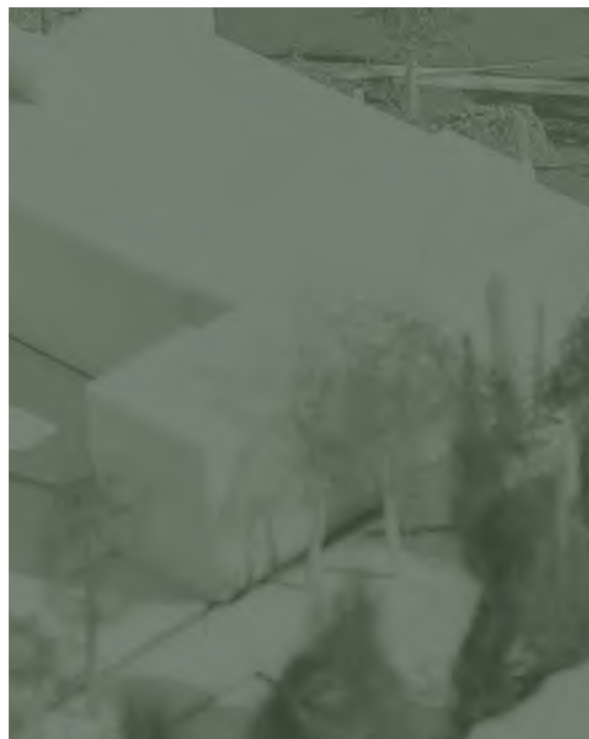


EXHIBIT' A' - MASTER PLAN



**University of Wyoming**  
Lewis Street Master Plan

July 2019





**Project Description**

**Worksession #3**

Preferred Design &  
Design Guidelines

**Worksession #2**

Design Options

**83**

**Cost Estimate**

**Worksession #1**

Analysis & Ideas

**49**

**11**

**115**



# Project Description

## Overview

In January 2019, Sasaki began work with the University of Wyoming to create a 20-year vision for the future development of the university – the Master Plan. In conjunction with the Master Plan, Sasaki was also retained to accelerate a portion of the Master Plan, the landscape design for the pedestrianization of Lewis St., transforming the changing northern campus street from a vehicular corridor to a pedestrian and open space corridor, and connecting the campus in a new way. In addition to a preferred concept design, Sasaki, under the oversight of the Exterior Design Aesthetics Committee (EDAC), created a set of general design guidelines for the corridor, ensuring that future construction in the area adheres to the vision and principles set forth by the Lewis St. Master Plan. It is this preferred design, set of guidelines, as well as documentation of the design process that can be found in this report.

The concept design for the corridor generally encompasses the area from 9th St. to 15th St. and from Bradley St. to the northern edge of Prexy’s Pasture between existing campus buildings.

The goal of the future design is to promote pedestrian connectivity through the creation of a new landscape experience in the campus core that addresses connectivity challenges and anticipates future housing and dining on the eastern end of the corridor. Within this goal is the inherent need to close Lewis St. and side streets to car traffic and transit, changing the complexion of the corridor and the ways in which it is used. The long-term idea, in conjunction with the Master Plan, is to move university buses and transit to the north on Bradley St. The future design imagines a wide multi-use walkway meandering through the campus, maintaining pedestrian, emergency vehicle, and service vehicle access. In addition to this walkway, the design will create a series of outdoor rooms along the corridor that are used in a variety of ways, responding to the adjacent buildings and their uses.

## Process

The design process for the Lewis St. Master Plan lasted four months and consisted of two in-person meetings and one WebEx meeting with the EDAC. Powerpoint presentation, sketches and drawings, and a physical model were all used to facilitate meetings. Kicking off the process was a listening and scoping exercise with key University of Wyoming and Sasaki personnel. From there, a comprehensive inventory and analysis phase commenced, taking into consideration any aspects of the existing site and architectural features along Lewis St. Next was the creation and development of multiple landscape design concepts considering the key analysis takeaways and arriving at a preferred scheme for continued refinement. Refinement of the preferred concept came next and the creation of a landscape framework that will inform general design guidelines for the corridor. Finally, a cost estimate for the design was provided for the committee.

## Master Plan Integration

The Lewis St. Master Plan – the design principles, landscape design, and design guidelines – integrate seamlessly with the University of Wyoming Master Plan. The concepts that are drawn as part of this study are identifiable and evident in the concepts and graphic representation of the Master Plan and vice versa, achieving a goal of creating a unified design between projects.

Given that the Lewis St. Master Plan was completed prior to the completion of the campus Master Plan, some assumptions needed to be made in order to facilitate this design process knowing that in the future, some of these assumptions may change. This required flexibility in the design of the new pedestrian corridor, which has been considered and can be seen through this project’s phasing strategy. Phase 1 (as illustrated on pages 92-93) is planned to be implemented in the short term, while the design of the pedestrian corridor seen in Phase 2 (pages 94-95) is contingent on the design of the new student housing at the east end of the Lewis St. corridor, per House Bill 293. Further discussions regarding housing, dining, and parking are underway at the time of the completion of the Lewis St. Master Plan. For the purposes of the Lewis St. Master Plan, the following long-term assumptions are made (all future buildings assumed to be four stories tall):

- 300+ beds on the block between Lewis and Bradley, 13th and 14th St.
- 350+ beds and dining on the block between Lewis and Bradley, 14th and 15th St.
- 450+ beds on the existing Wyoming Hall and parking lot site
- 400+ beds on the existing parking lot site east of Half Acre Gym
- Renovate McWhinnie Hall for student life purposes

## Design Principles

Five key principles guide the physical design of the pedestrian corridor. These design principles are unique to the Lewis St. corridor pedestrianization and unify the design and may act as a high-level benchmark for measuring the success of the design.

### 01

#### Prioritize Pedestrians & Bicycles

Uphold ideals of human comfort and experience through the elimination of car traffic, the placement of pedestrian-oriented amenities, the promotion of universal design principles, and the minimizing of interference from service and loading activities to the pedestrian experience.

### 02

#### Design for the Local Climate

Consider year-round as well as day/night comfort throughout the corridor with a special emphasis on protecting against local harsh winter conditions. Design primarily for the wind by creating westerly windbreaks at strategic points. Design secondarily for the sun by keeping the path and open space activity in the sun where possible.



## 03

### Take Cues from the Local Landscape

Imbue the design with local patterns and textures to create a unique place that could only be found at the University of Wyoming. Ground the design in the University, City, and County heritage and context through the implementation of native tree and plant species to create a maintainable and meaningful place.

## 04

### Broaden the Function of the Boulderscape

Extend the footprint of the newest identity-contributing landscape on campus and deploy it in new ways within the pedestrian corridor. Consider utilizing the boulderscape as special seating elements both in fields and as retaining elements, as a surface to highlight stormwater management, and artistic elements, highlighting the unique qualities of the stone.

## 05

### Rethink How Open Space is Used

Create a landscape to serve the entire university community (academics, research, student life) through the consideration of how the landscapes can be used and programmed seasonally at multiple scales (S, M, L, XL). Reinforce the connection of the landscape to adjacent buildings by celebrating main entries and approaches.





**Worksession #1**  
Analysis & Ideas

# University of Wyoming Lewis Street Master Plan

## Worksession #1 Analysis & Ideas 03.25.19



SASAKI



## What We Heard

### Summary

1. Meandering pathways with spruce
2. Anticipate transit on Bradley St.
3. Extend the Boulderscape
4. Connection to FLS east of McWhinnie
5. Create a park between 12<sup>th</sup>-13<sup>th</sup>
6. Eliminate traffic on 10<sup>th</sup>-14<sup>th</sup>
7. Flush condition – no curb
8. Planting interest and diversity
9. Create a new identity (incl. name)



Looking east from 9<sup>th</sup> St. intersection

As a primer to the project, the EDAC shared nine goals for the future of the Lewis St. corridor. This vision jumpstarted the design and each goal served as a measurable goal for the success of each meeting as well as the overall landscape framework.

# Historical Context

Lewis Street has changed before: original plat, extended to cemetery



## Maps and Plans Illustrating the History of Lewis St.

The identity of Lewis St. has changed before. In the original plat of the City of Laramie, Lewis St. was only developed two blocks east of 9th St, stopping at the base of the hill leading up to the city cemetery. The boundary of the University of Wyoming was Fremont St., two blocks south of Lewis St., meaning that Lewis St. was solely a city street. In 1920, the city and the university had grown to the point where Lewis St. had become the northern edge of the campus from 9th St. to 15th St. – half city street, half university edge. The first plan for the University of Wyoming in 1924 reflects this edge nature of Lewis St. and creates a simple

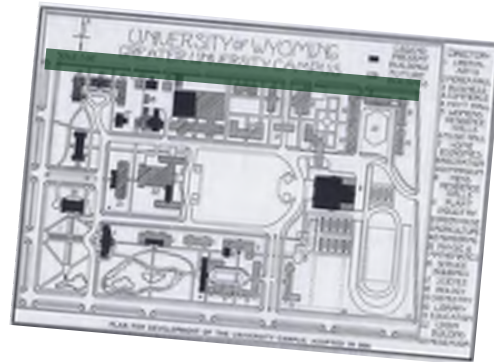
streetscape connecting the front doors of existing and new buildings along the north facing street edge. The current vision for the pedestrianization of Lewis St. is derived from the 2008 Long Range Development Plan, where the corridor is no longer a street nor the edge of campus. Instead, the vision was to create a pedestrian corridor on the interior of campus, connecting the campus in a new way.

*Sources: 1894 W.C. Willits map, 1920 Bellamy and Sons map, 1924 Arthur G. Crane Campus Development Plan, 2008 Long Range Development Plan*

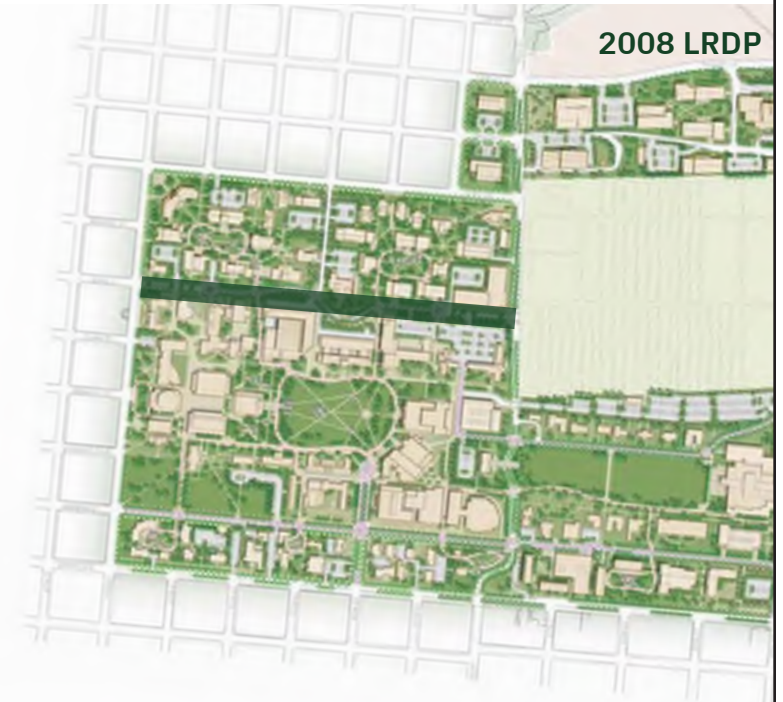
# Historical Context

Lewis Street is no longer at the edge of campus

1924 Map



2008 LRDP





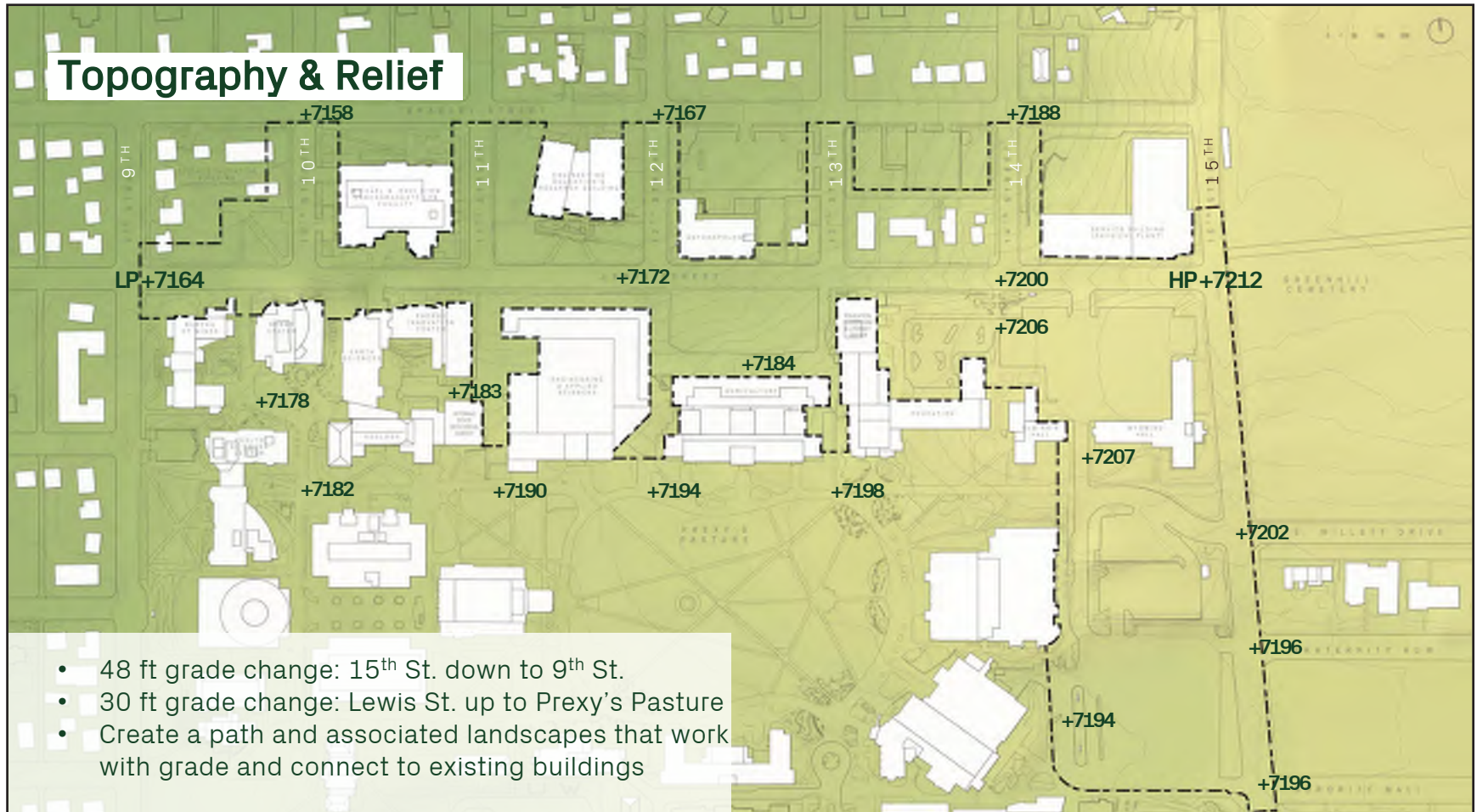


**Working map and statistics of the scope area as defined by the Sasaki team**

Note: this map would later be revised to include all campus lands to Bradley St.



## Topography & Relief

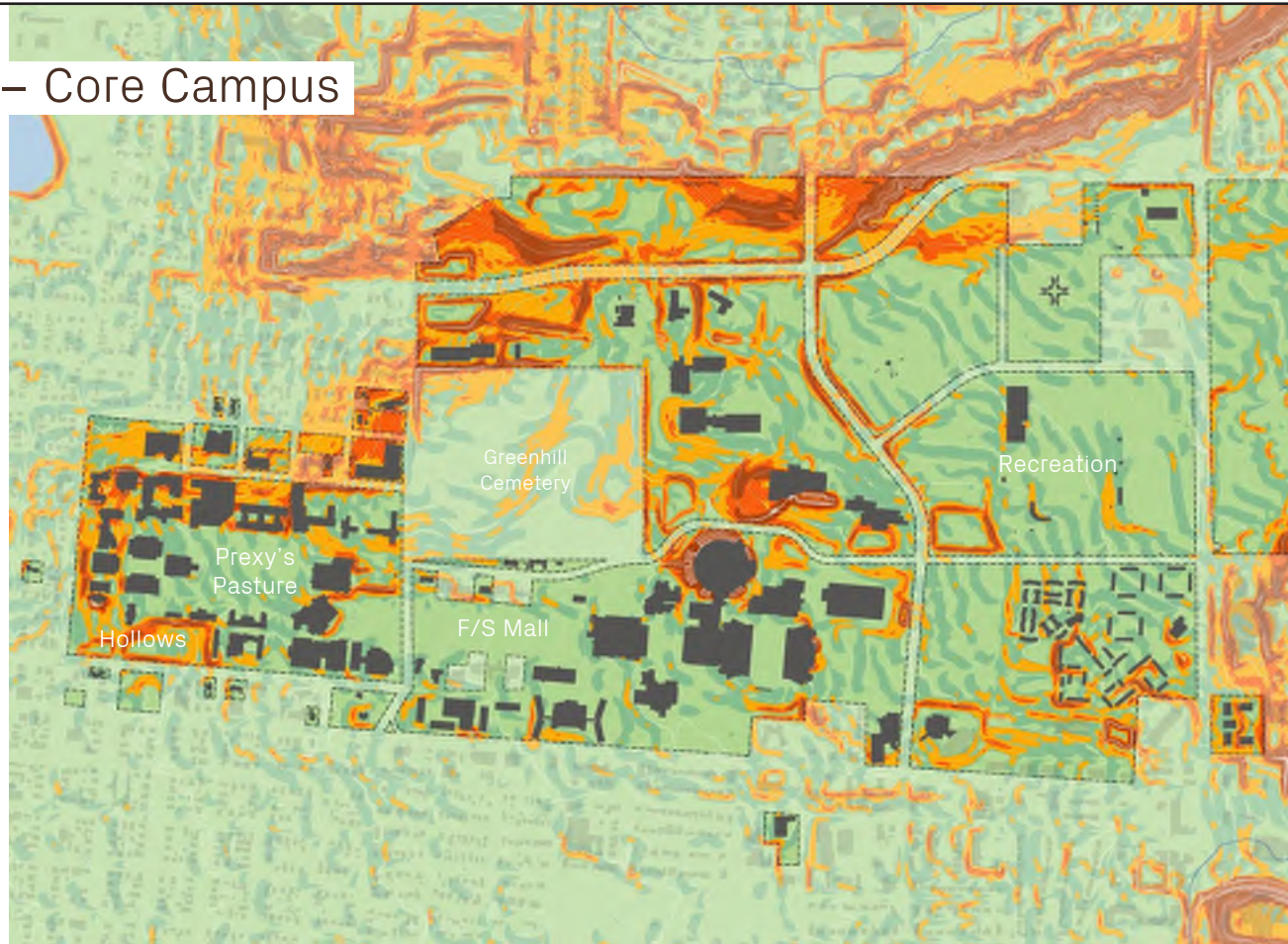
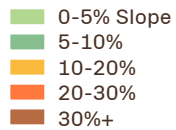


Map of existing topography of Lewis St. including key spot elevations

Source: Survey provided by UW

## Campus Slopes – Core Campus

- Prexy's Pasture is a plateau: separated from surrounding areas by steep slopes
- Creates connectivity challenges and barriers to accessibility between buildings
- North of Harney St. is steeply sloped – consider how to best suit any development

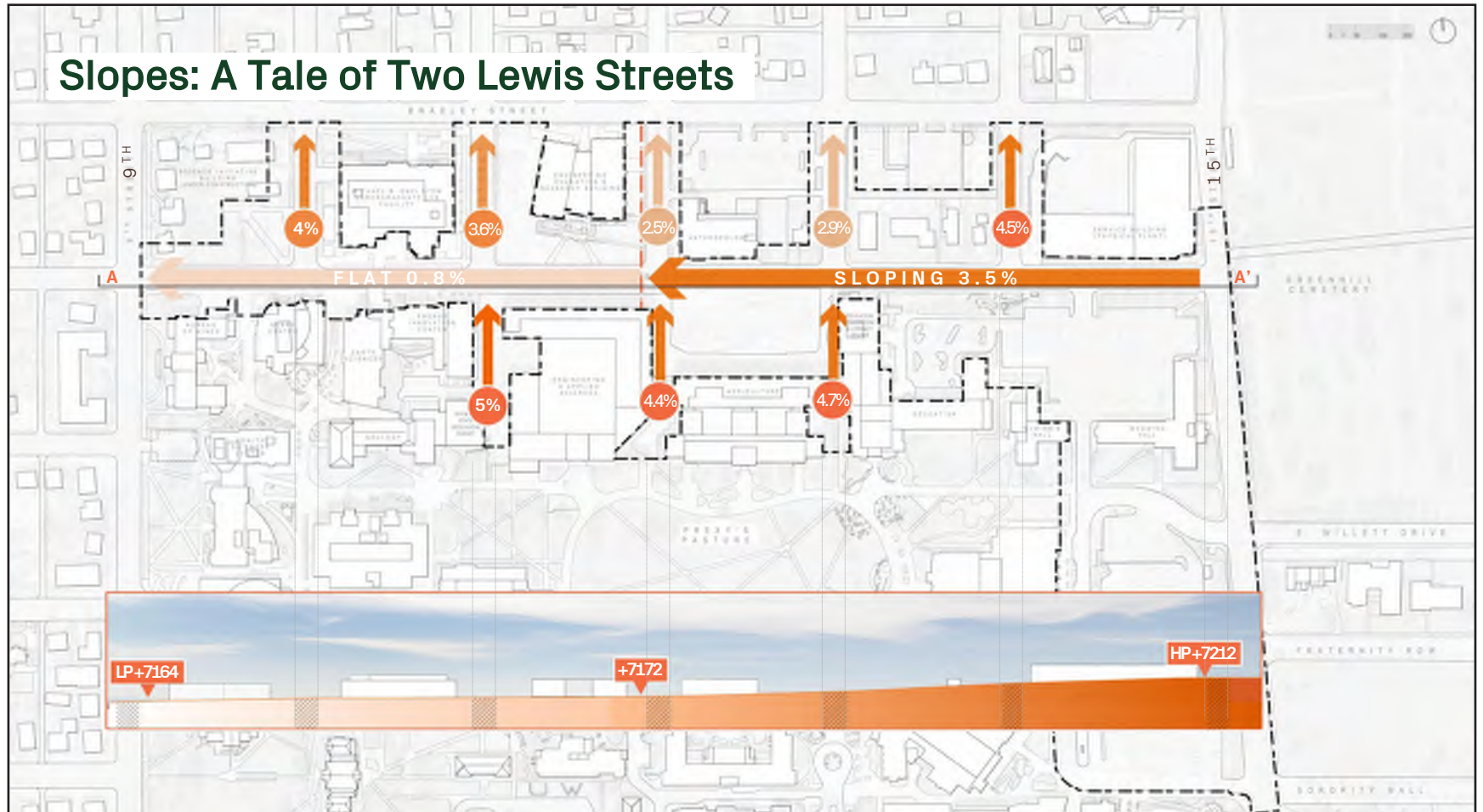


### Map of existing slope severity in the campus and city

Lewis St. sits at the base of a long steep slope that defines the northern edge of campus. Buildings south of Lewis St. are split in level and built into the slope. Spaces between these buildings are especially steep and create challenges and barriers to accessibility.



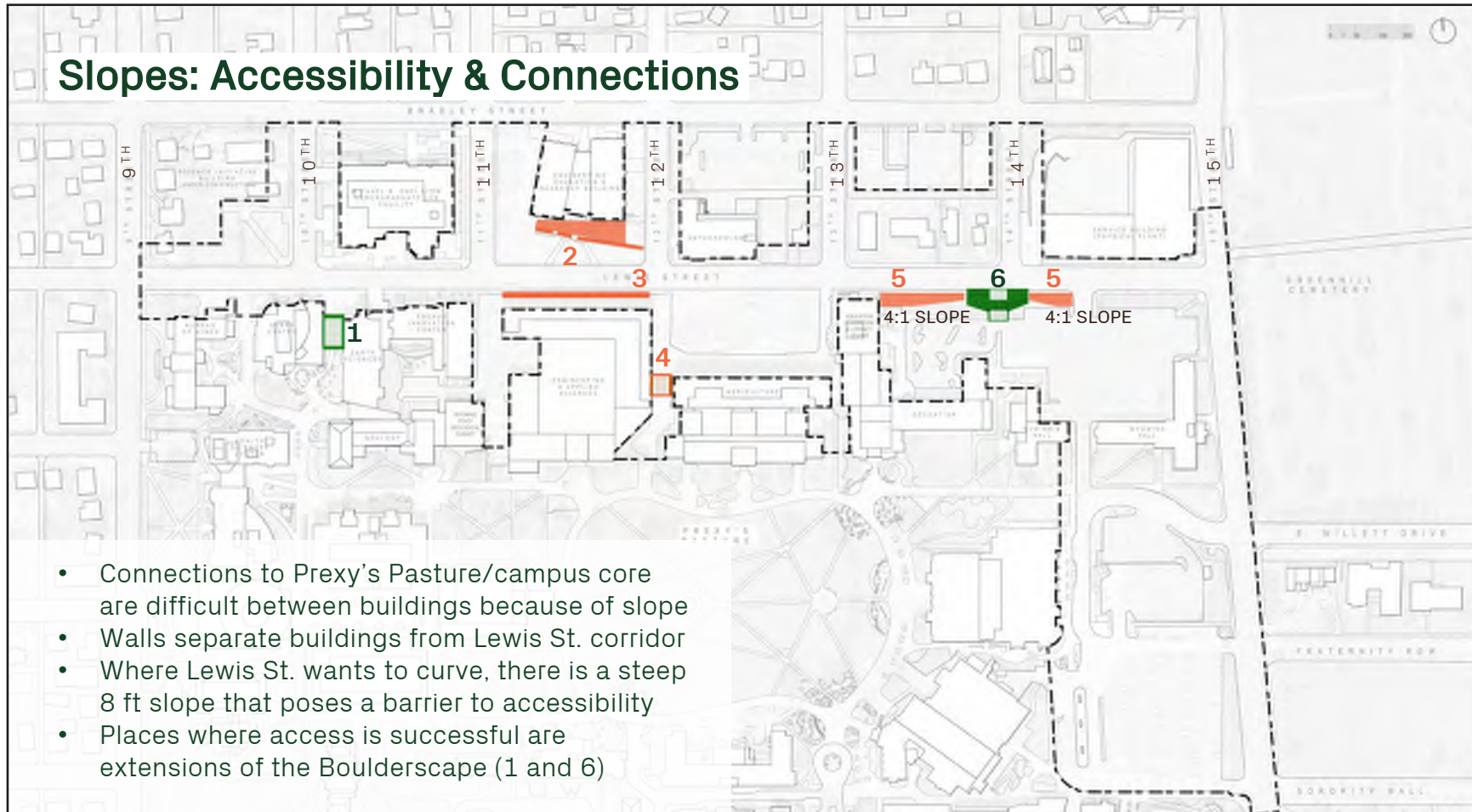
## Slopes: A Tale of Two Lewis Streets



**Map of existing slopes within the scope area**

Slopes under 5% are a best practice for achieving accessibility and avoiding handrails.

## Slopes: Accessibility & Connections

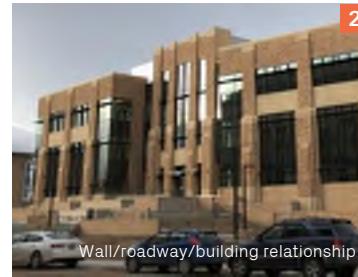
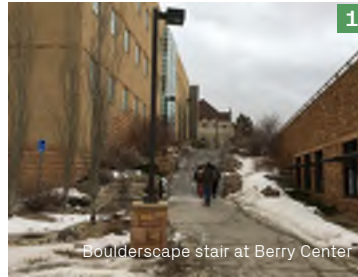


### Map and photos of existing areas of significance with regard to accessibility

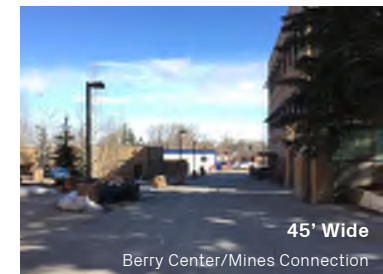
In recent years, an effort has been made to infuse accessibility landscapes (stairs and ramps) with the newer Boulderscape identity, creating a more habitable environment. Image 4 on the following page shows the barrier-like condition of stairs and ramps between Engineering and Agriculture. This area is considered in the scope of the Lewis St. Master Plan.



## Slopes: Accessibility & Connections



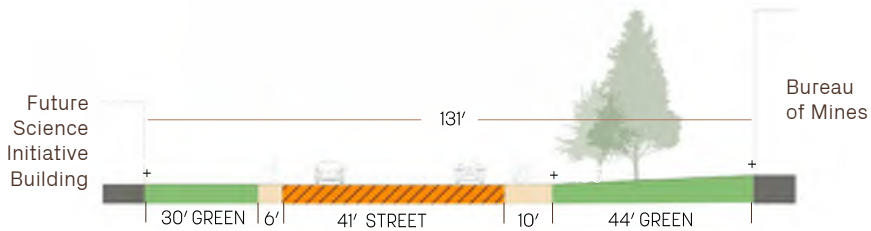
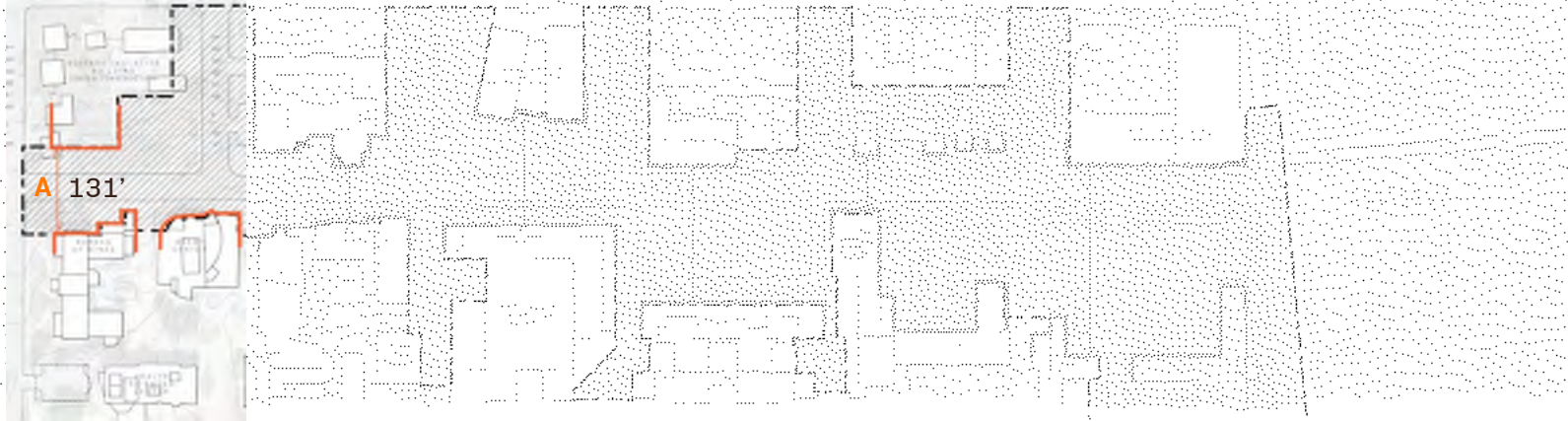
## Slopes: Accessibility & Connections from Prexy's Pasture



Photos of existing connection points – “pinch points” – between buildings from Lewis St. to Prexy's Pasture

Note: not all of these connections is in the scope of the Lewis St. project.

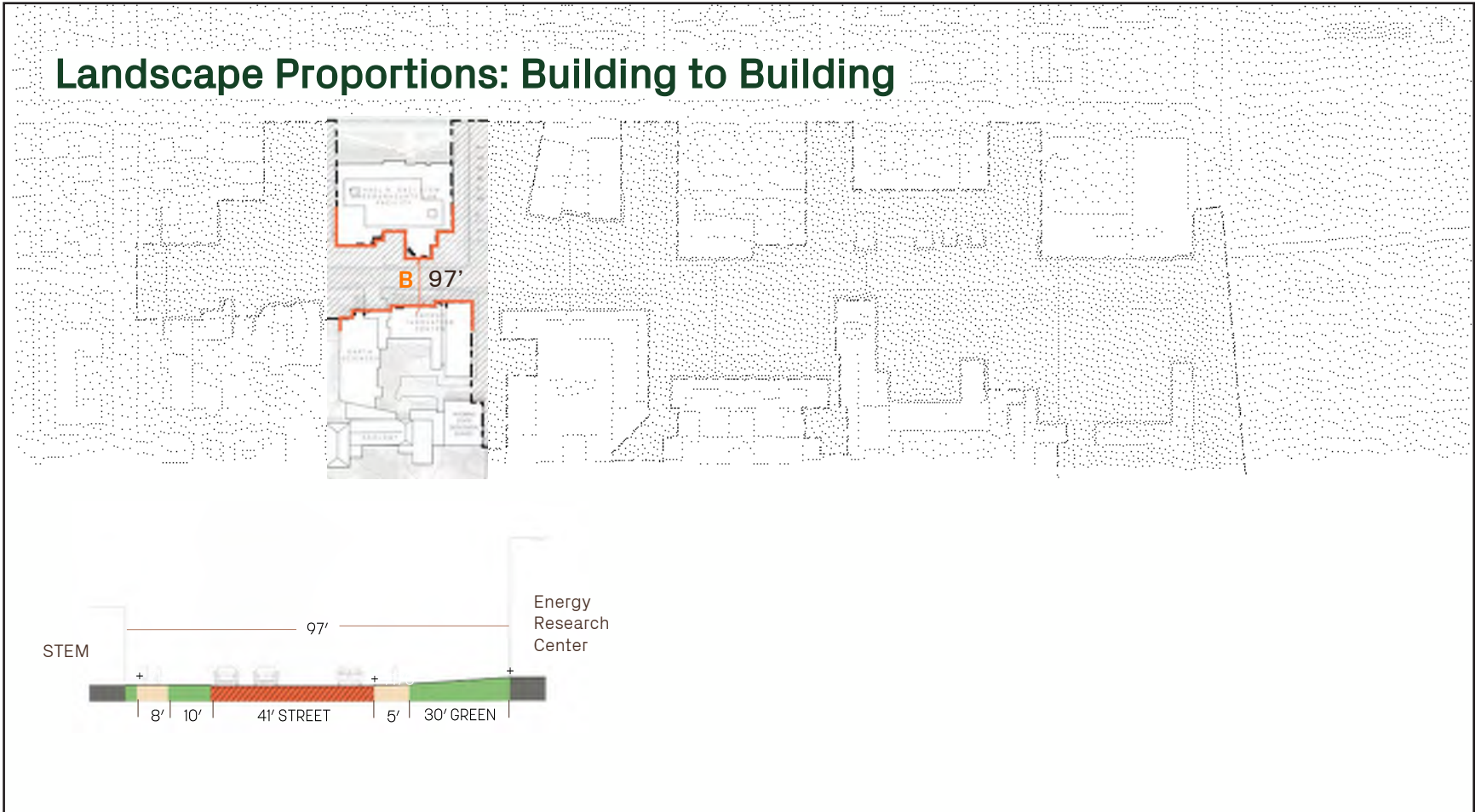
## Landscape Proportions: Building to Building



### Existing section at Science Initiative/Mines

The existing street varies in its curb to curb dimension from 41 feet to 50 feet and little space is left for usable landscape, as seen in the sections on this page and the following pages. The future design seeks to reduce the width of any primary path through the landscape to 15-20 feet, significantly increasing landscape area for a variety of potential uses and decreasing the amount of paved surface in the corridor.

# Landscape Proportions: Building to Building



Existing section at Enzi STEM and ERC

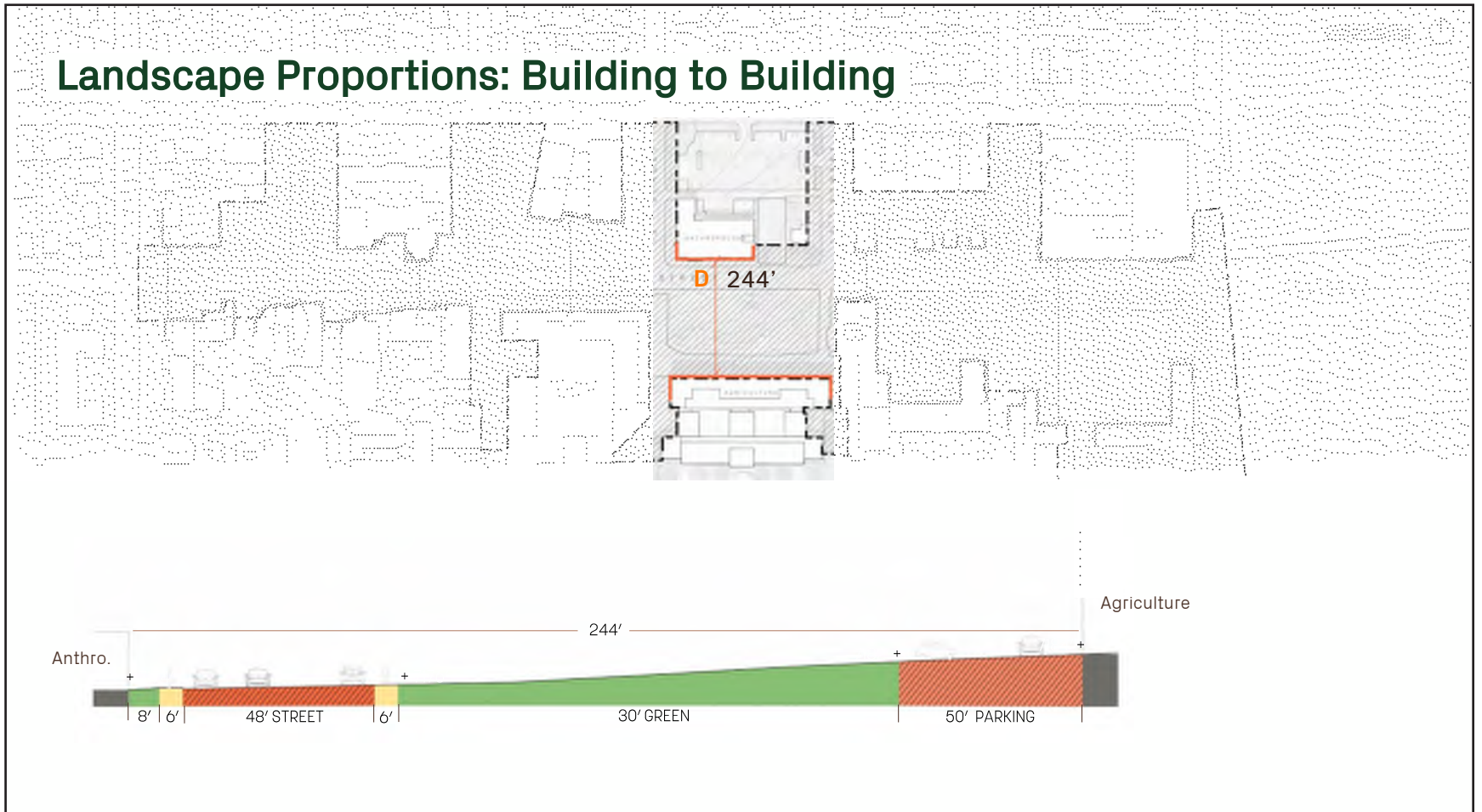
# Landscape Proportions: Building to Building



Existing section at EERB and Engineering

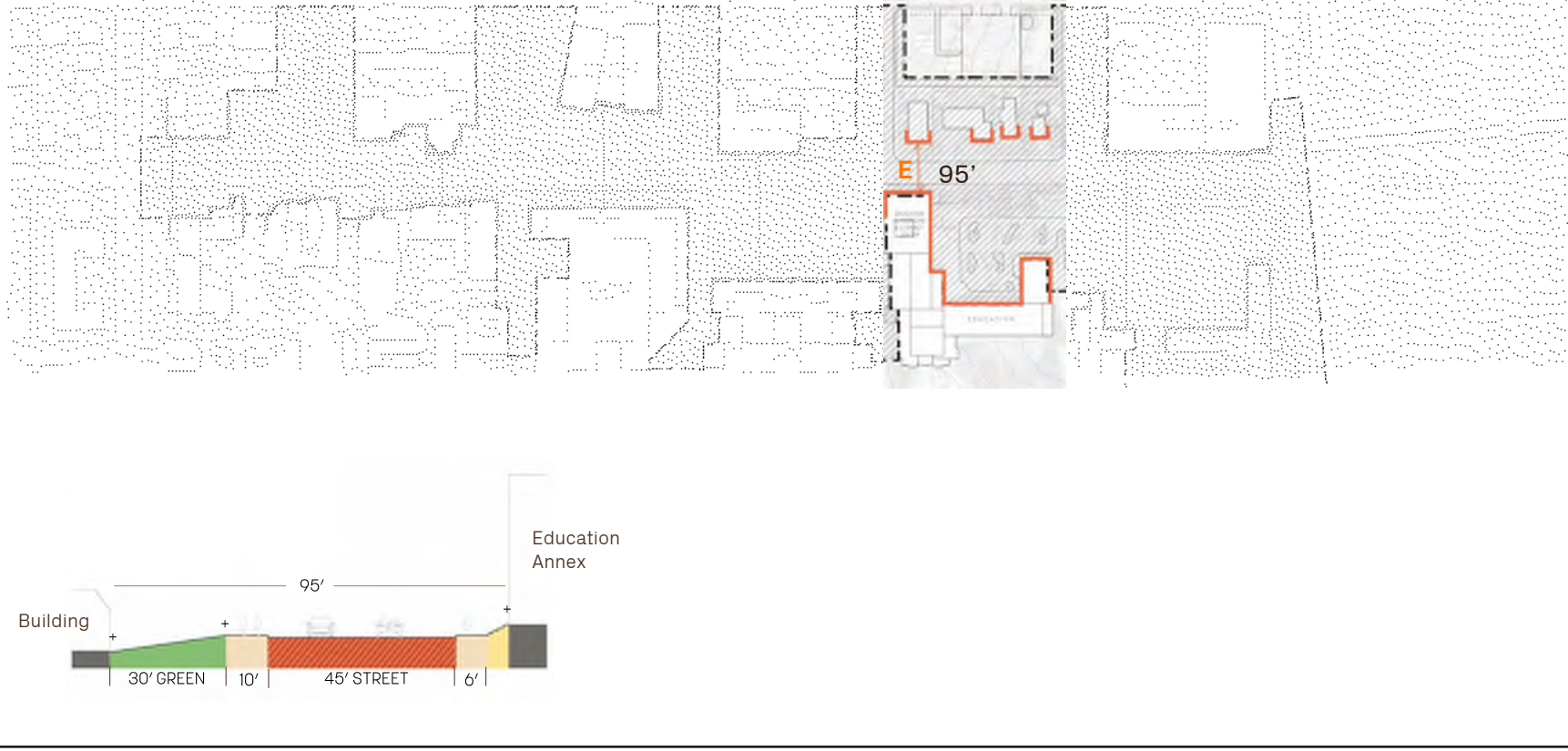


## Landscape Proportions: Building to Building



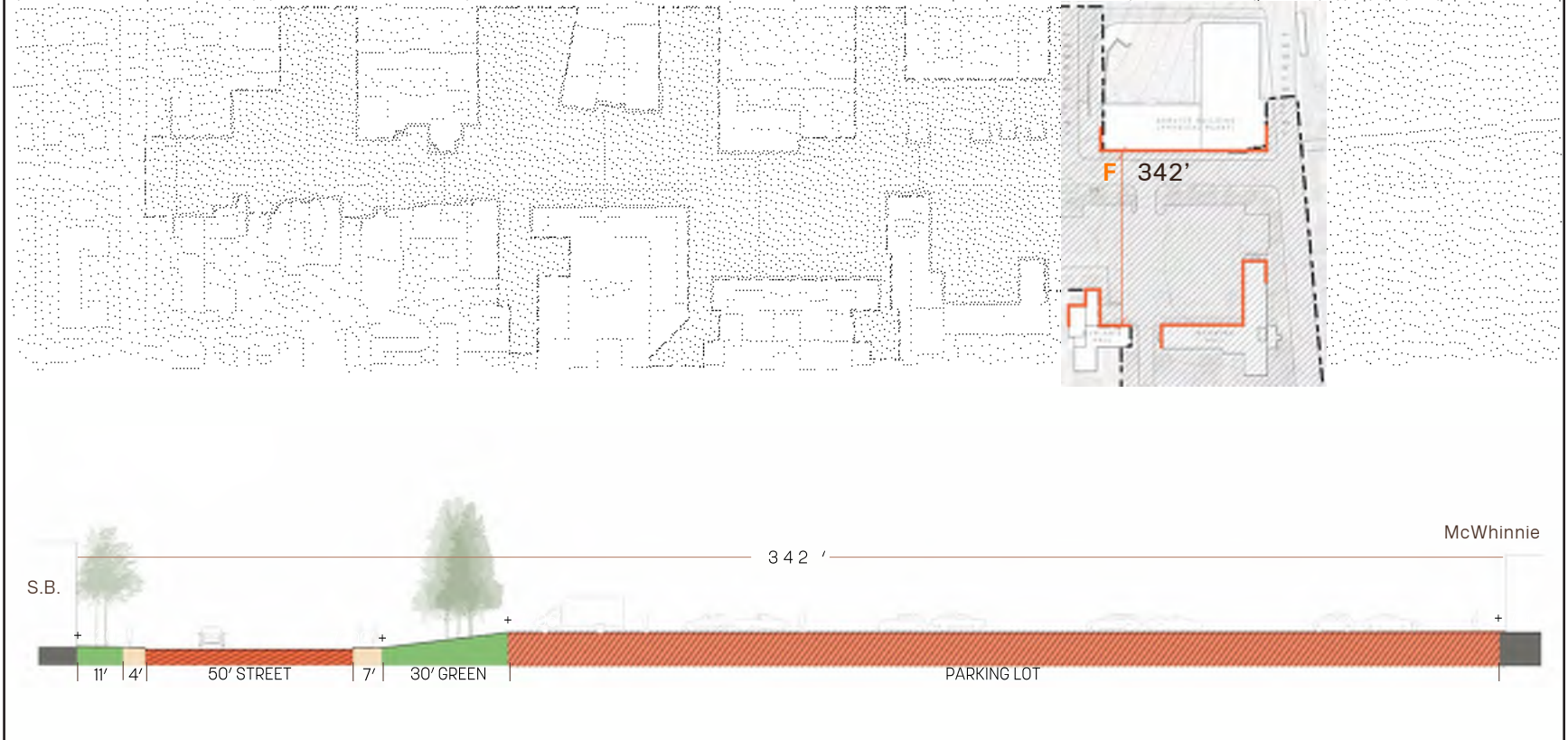
Existing section at Anthropology and Agriculture

# Landscape Proportions: Building to Building



Existing section at Residential Block and Education

# Landscape Proportions: Building to Building



Existing section at the Service Building and McWhinnie Hall

## Building Facades: Contributing Architecture



Bureau of Mines



Berry Center



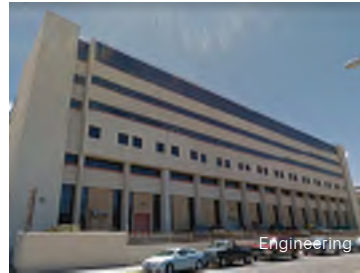
Enzi STEM Building



Energy Innovation Center



Engineering Education & Research Bldg



Engineering

## Building Facades: Contributing Architecture



Anthropology



Agriculture



Education Annex



Physical Plant



McWhinnie Hall



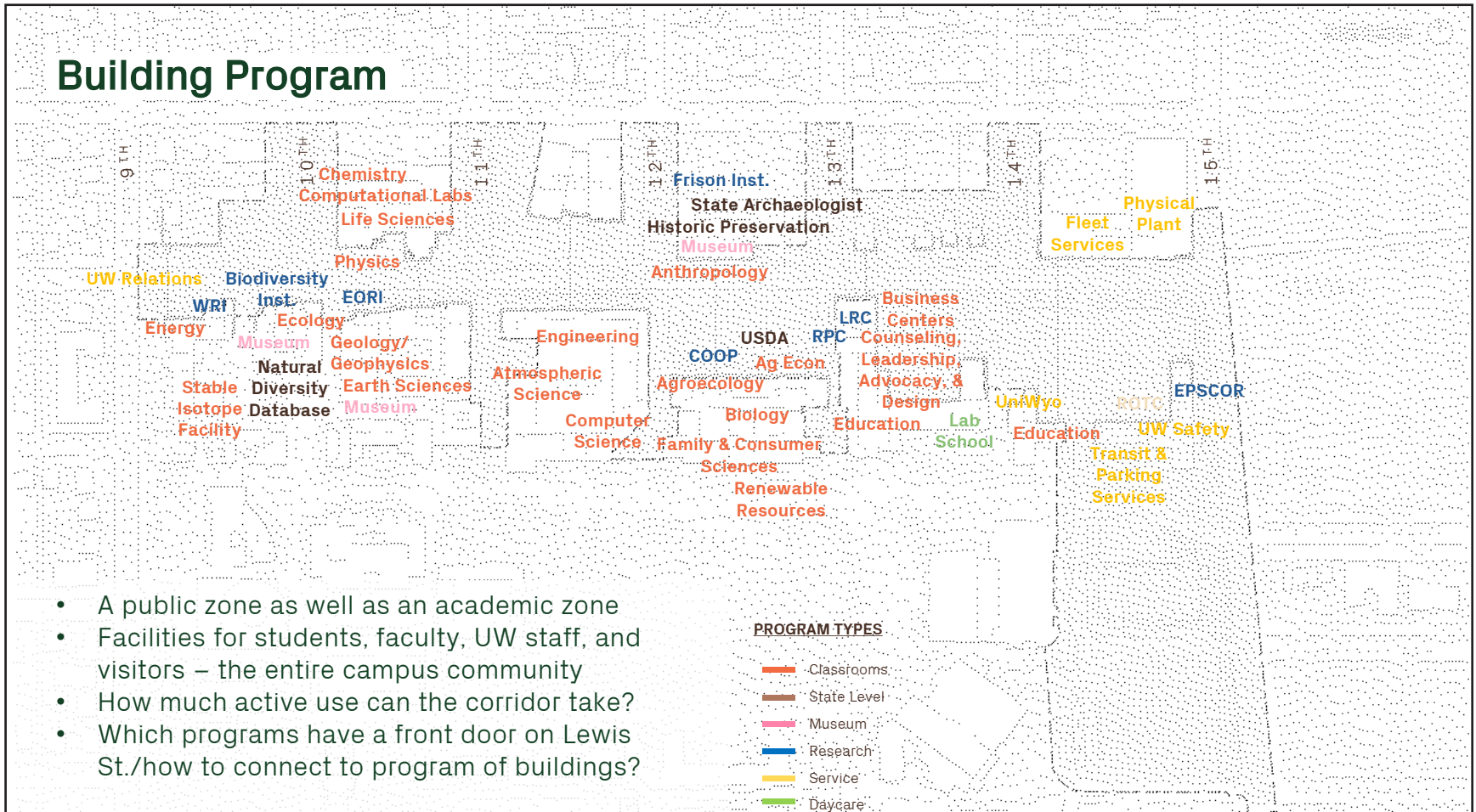
Wyoming Hall

## Photos of existing buildings with a presence on Lewis St.

The EDAC commented that Engineering, Agriculture, and the Physical Plant buildings all do not contribute to the architectural heritage of the university and should be screened with vegetation if possible.



# Building Program



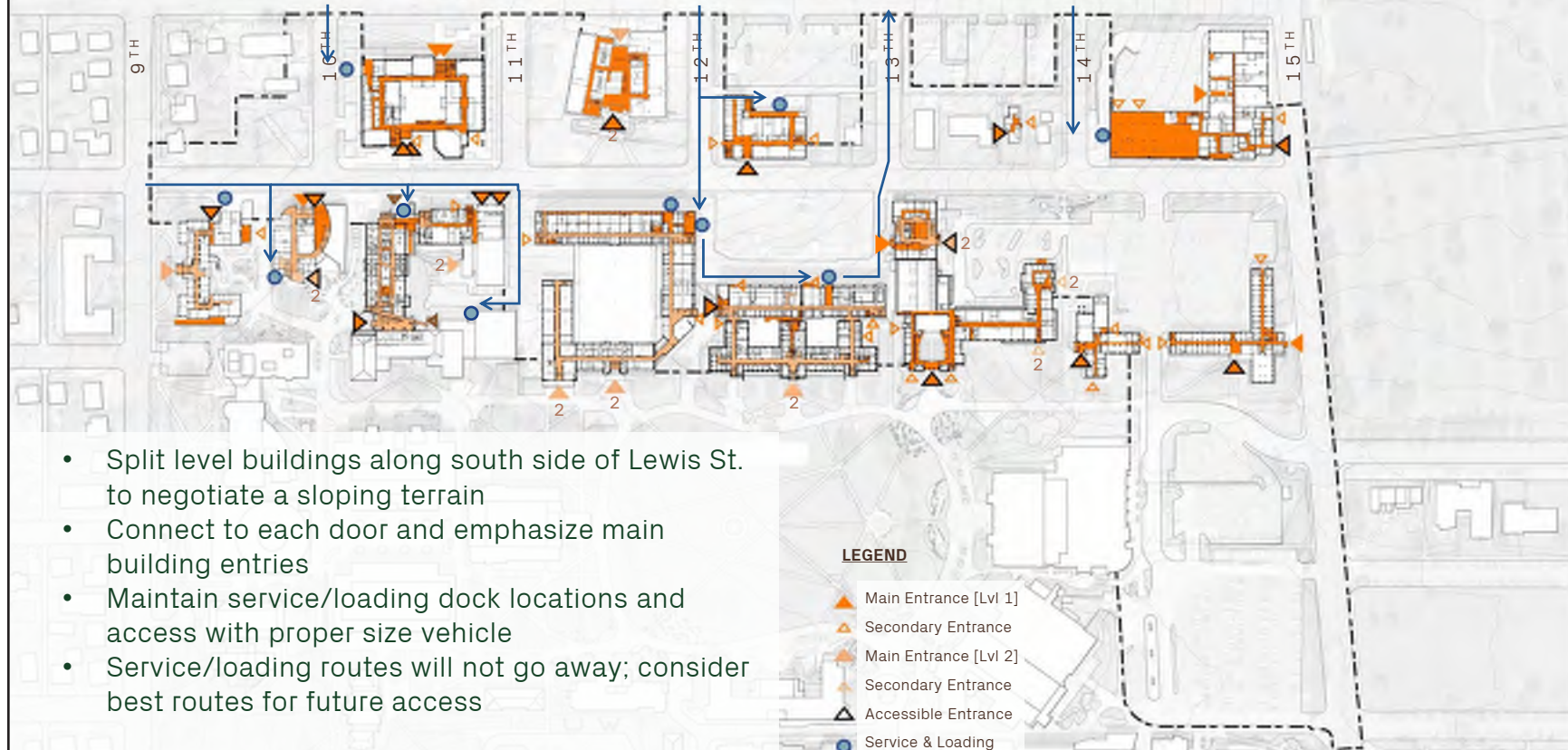
- A public zone as well as an academic zone
- Facilities for students, faculty, UW staff, and visitors – the entire campus community
- How much active use can the corridor take?
- Which programs have a front door on Lewis St./how to connect to program of buildings?

## Map of existing building uses by program type

The existing Lewis St. corridor is home to a wide variety of program types ranging from academic, to research, to museums, to university services, to the Lab School. The future corridor will feature a significant amount of student housing at the east end of the corridor, displacing some programs there today, but still contributing to the diversity of uses in this portion of campus.

Source: various UW maps and signage

## Building Entries & Service/Loading



### Map of existing building entries and service/loading locations

Source: UW Facilities

Access to front doors, side doors, and loading docks must be maintained in a new design for Lewis St. Service vehicles must be able to access loading docks as necessary or have a plan for how and when to service buildings as coordinated with the facilities department. Vehicle sizes are as follows:

- Mines (25 ft. box truck)
- Physical Sciences (53 ft. truck)
- EIC (53 ft. trailer)
- Engineering (53 ft. trailer)
- Agriculture (25 ft. box truck)

## Transit & Parking



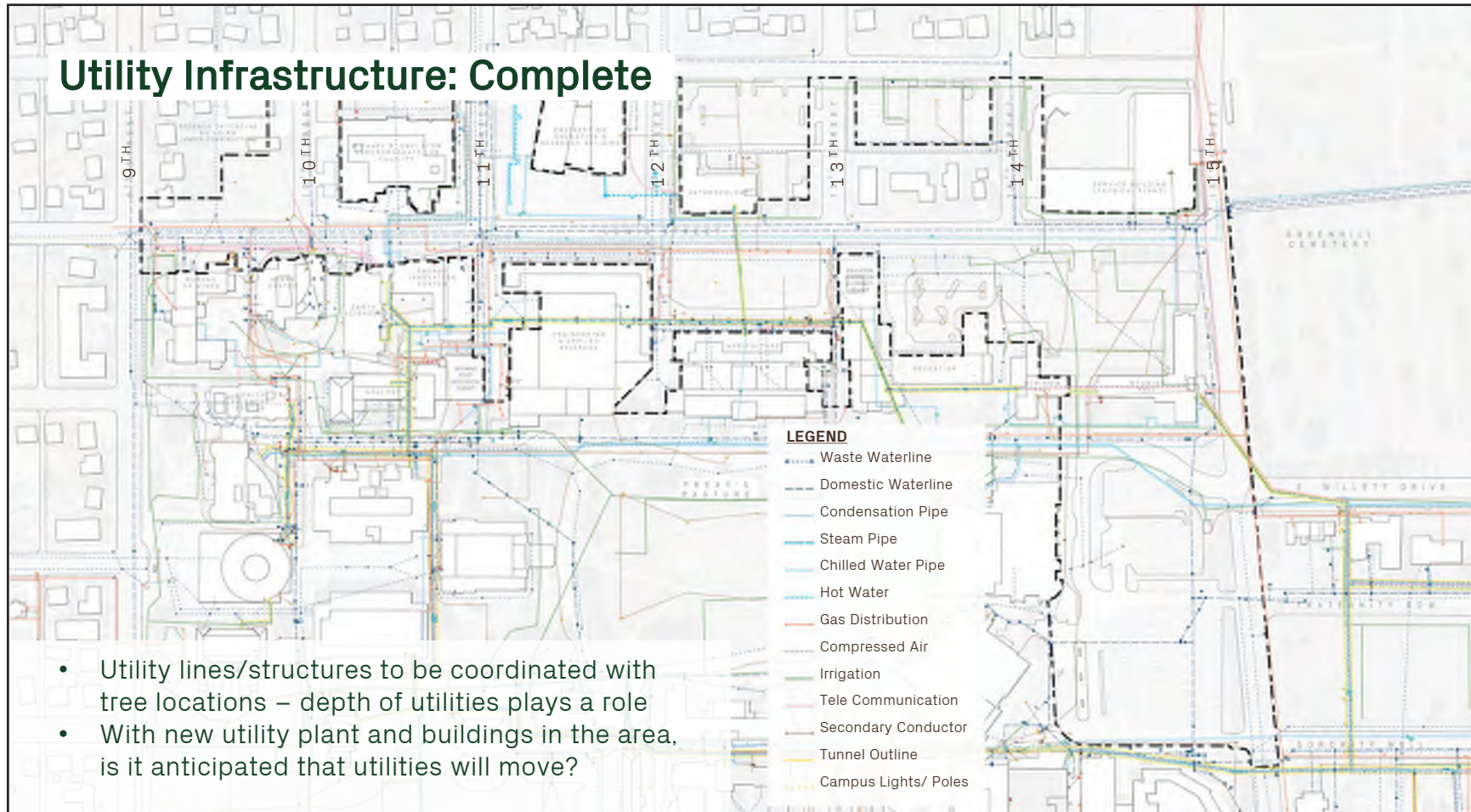
- Considerable amount of parking with access via Lewis St. – remove parking or rethink access?
- House Bill 293 – future housing site
- Bicycle parking is a priority – can some bicycle parking areas be consolidated?
- Anticipate transit on Bradley St. – is there an alternative to create a pedestrian/transit corridor?

### Map of existing transit and parking locations

All vehicular parking in the corridor will be removed and limited campus-only access will be provided to the buildings south of Lewis St.



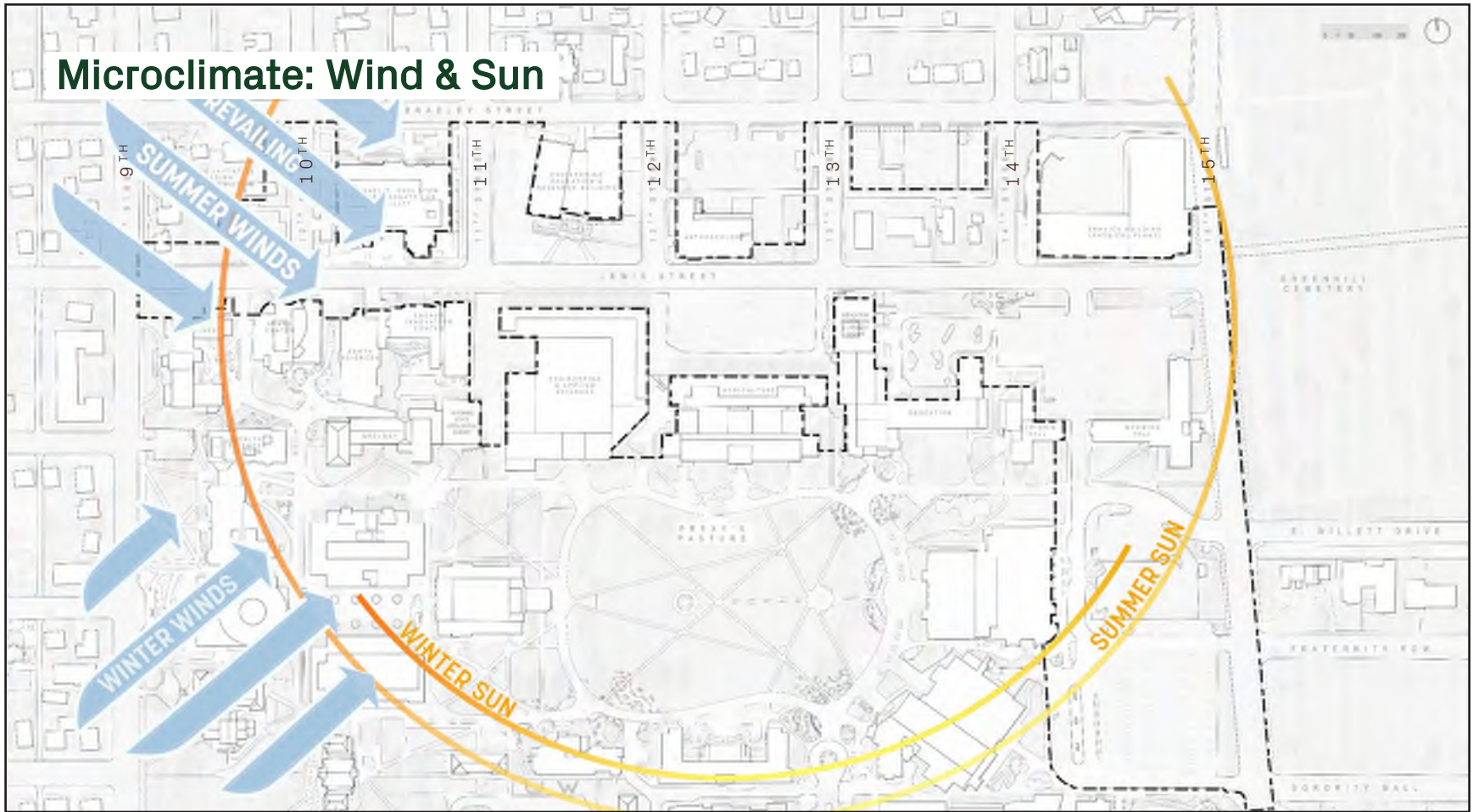
## Utility Infrastructure: Complete



### Map of existing utilities

An in-depth as-built survey of utilities is needed to fully understand any impacts to existing utilities. This may be done in future phases of design. Utilities west of 13th St. under Lewis St. will generally remain as is and any design must take them into consideration. Utilities east of 14th St. are subject to change with the addition of the new campus housing as well as the West Campus District Plant, which is under design at the time of this study.



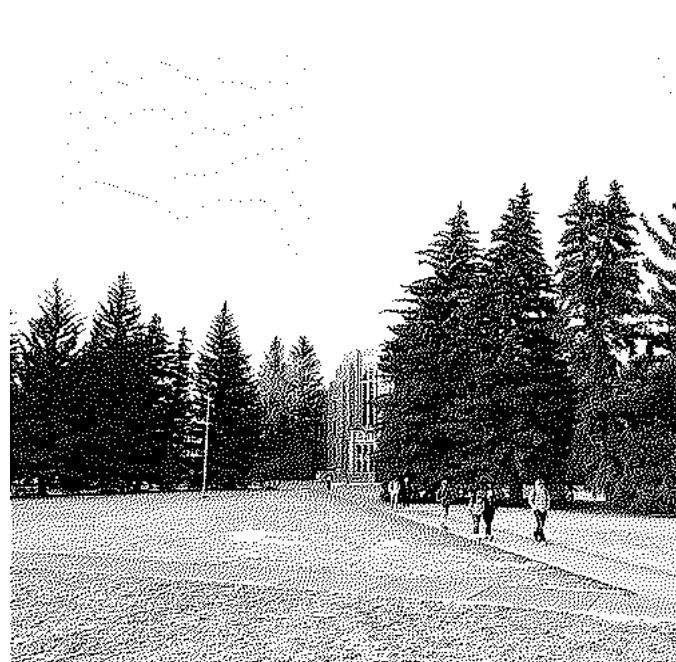
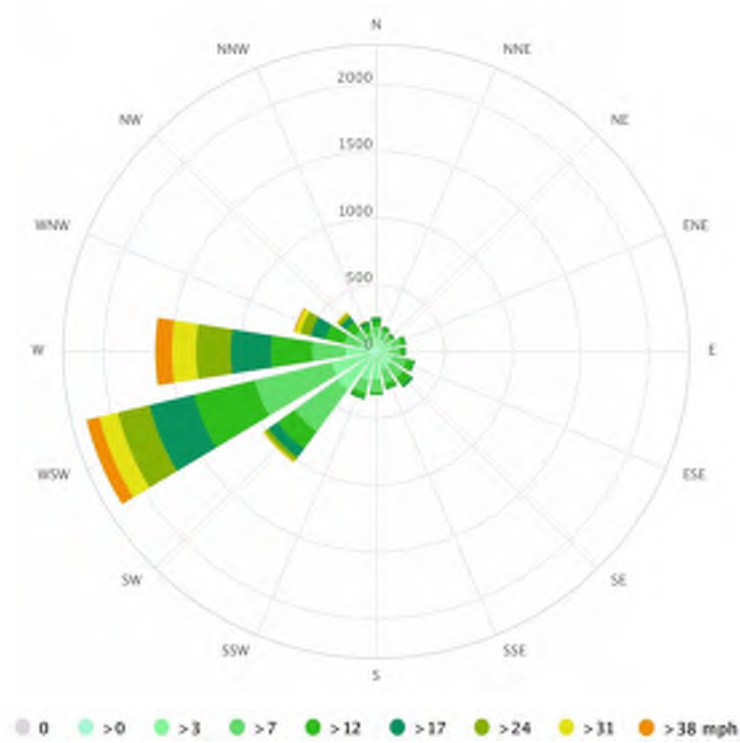


**Microclimate: Wind & Sun**

**Map of general microclimate elements**

Source: *Klimaat*

# Microclimate: Wind



L Annual Wind (direction and velocity)  
R Spruce windbreaks surrounding Prexy's Pasture

## Diagram and photo of the local wind direction and intensity and the cultural response

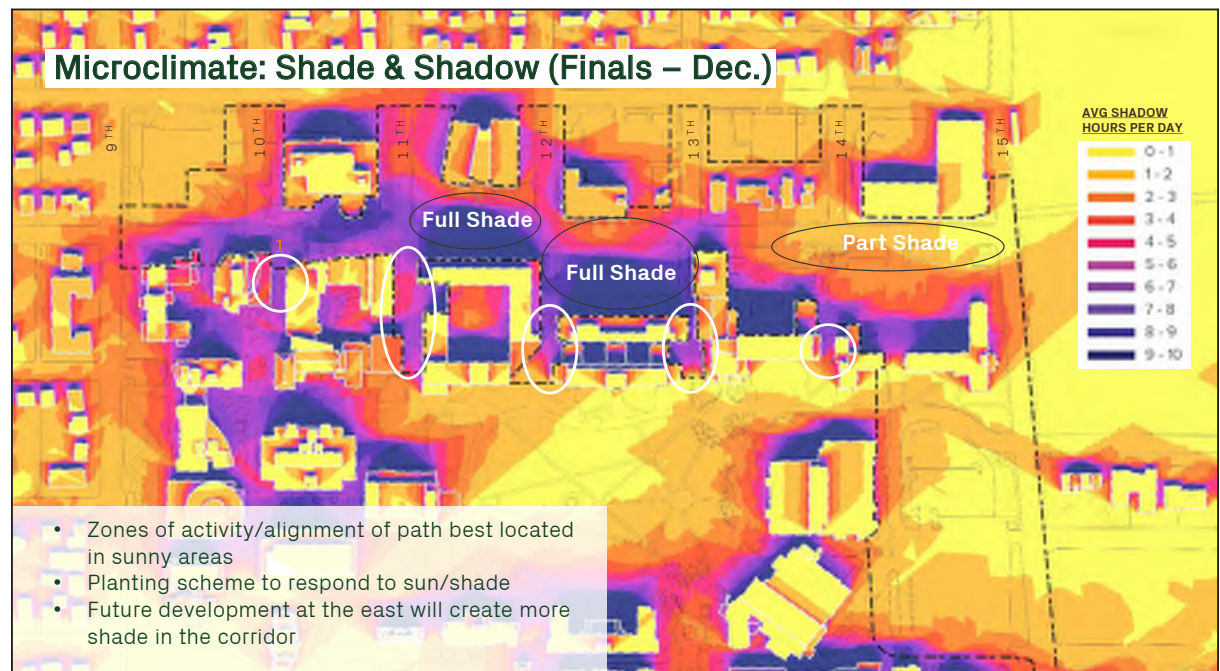
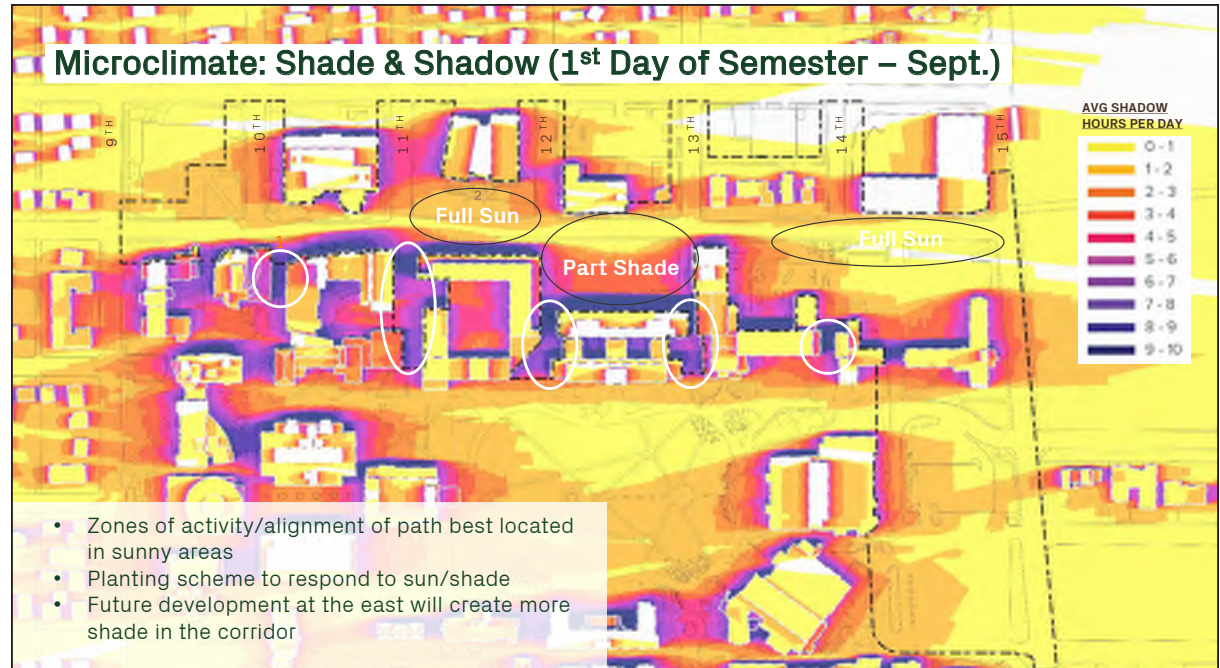
Spruce wind breaks are an identifiable feature of the university and are a historical and effective wind break solution

Source: *Klimaat*

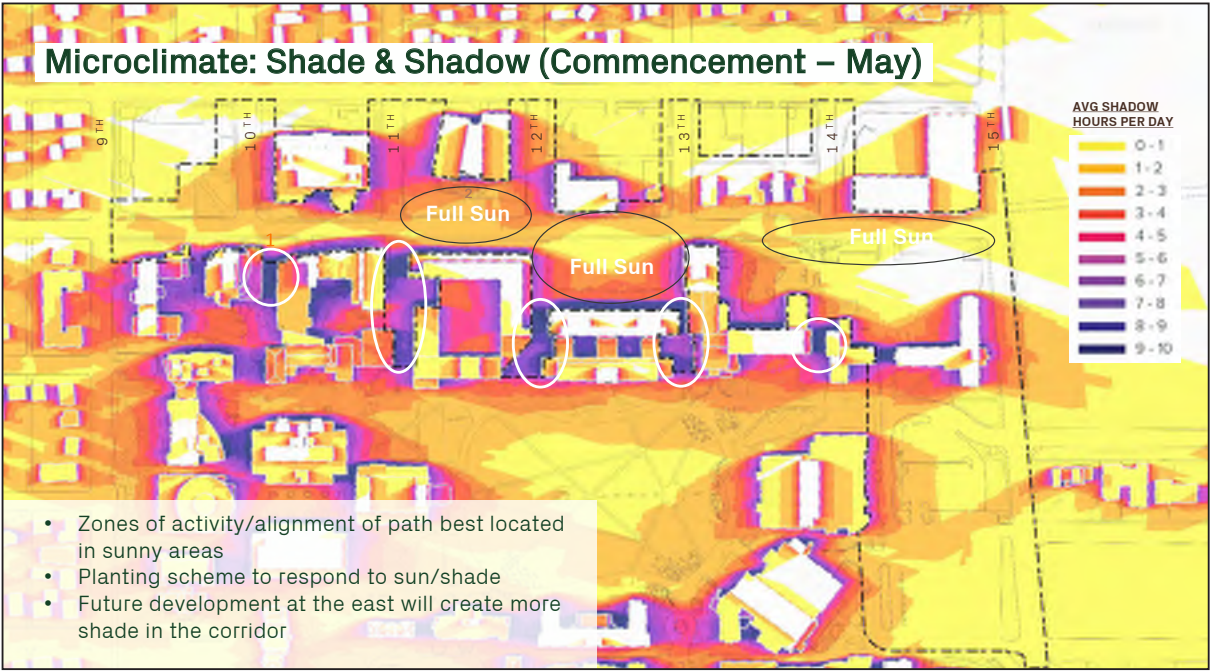
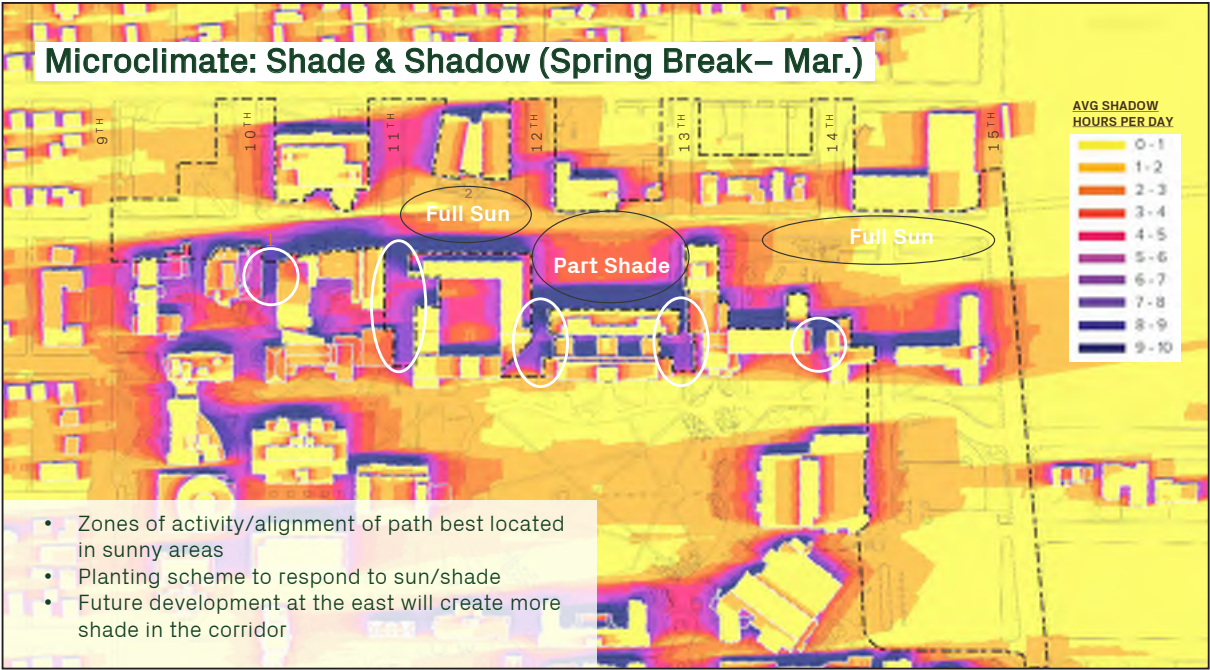


## Maps of existing areas of sun and shade, in September and December

The Lewis St. corridor differs dramatically from the winter to the summer. Areas of full sun in summer shift to near full shade in the winter. This effect is severe and will be noticeable and affects a range of design considerations such as the potential location of open spaces in the landscape, the potential location of walkways, the selection and habitability of plant species within the corridor, and the university's maintenance requirements for different areas along the corridor and between buildings. Throughout the analysis process, it was widely commented that the "pinch points" between buildings, such as Engineering and Agriculture, can be extremely icy and dangerous as they see no sun in the winter.

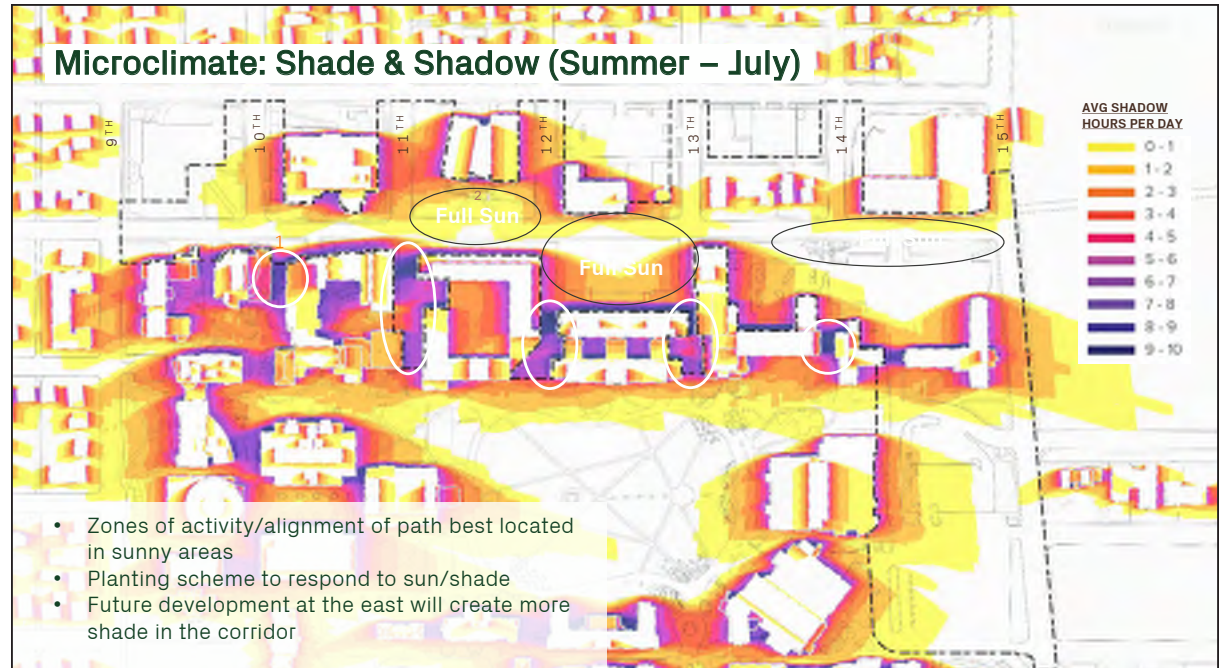






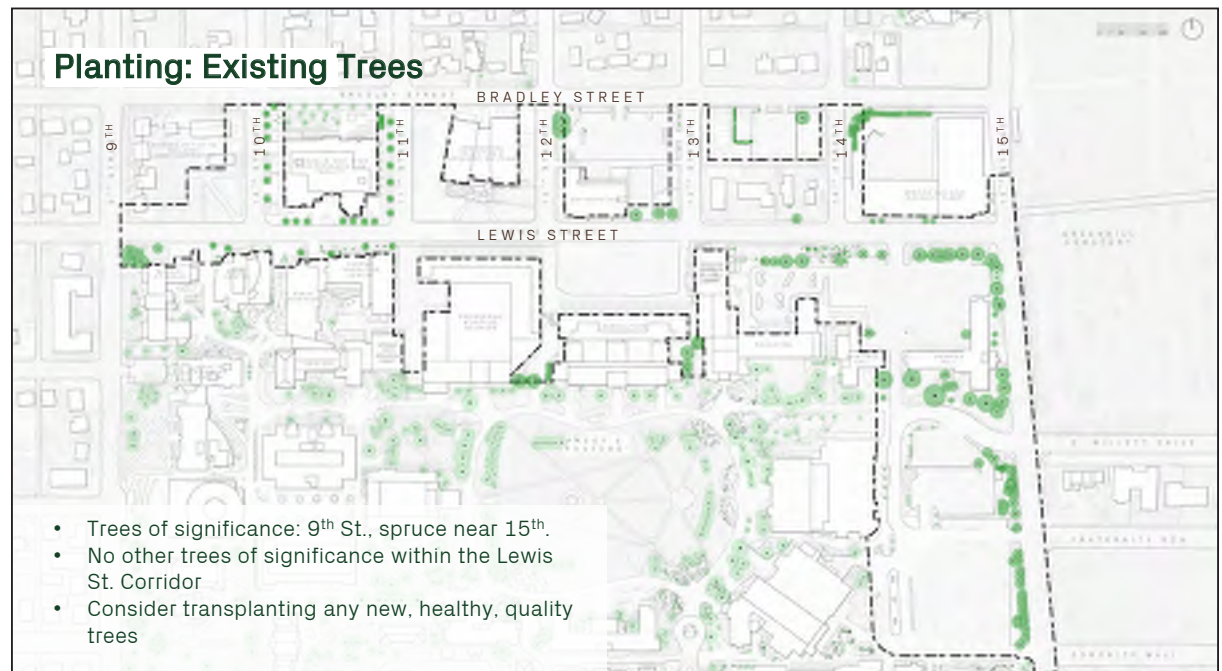
Maps of existing areas of sun and shade, in March and May

**Map of existing areas of sun and shade in July**



**Map of existing trees**

There are no trees of significance in the corridor to retain or transplant.





# Planting: Cues from the Local Landscape

## Riparian Forests & Shrublands

Image Credit: <http://www.wyomian.edu/forest/>



Prairie Cottonwood  
*Populus deltoides*



Narrowleaf Cottonwood  
*Populus angustifolia*



Quaking Aspen  
*Populus tremuloides*



Narrowleaf Willow  
*Salix exigua*



Silver Buffaloberry  
*Shepherdia argentea*



Redcedar Dogwood  
*Swida sericea*

## Sagebrush Steppe & Mixedgrass Prairie

Image Credit: USGS



Big Sagebrush  
*Artemisia tridentata*



Low Sagebrush  
*Artemisia arbuscula*



Rabbitbrush  
*Eriogonum nauseosum*



Blue Grama  
*Bouteloua gracilis*



Western Wheatgrass  
*Panicum americanum*



Indian Ricegrass  
*Oryzopsis hymenoides*

## Foothill Shrublands & Woodlands

Image Credit: Deer Hill Project



Mtn. Big Sagebrush  
*Artemisia tridentata*



Mountain Mahogany  
*Cercocarpus montanus*



Skunkbush sumac  
*Rhus trilobata*



Rocky Mtn. Juniper  
*Juniperus scopulorum*



Ponderosa Pine  
*Pinus ponderosa*



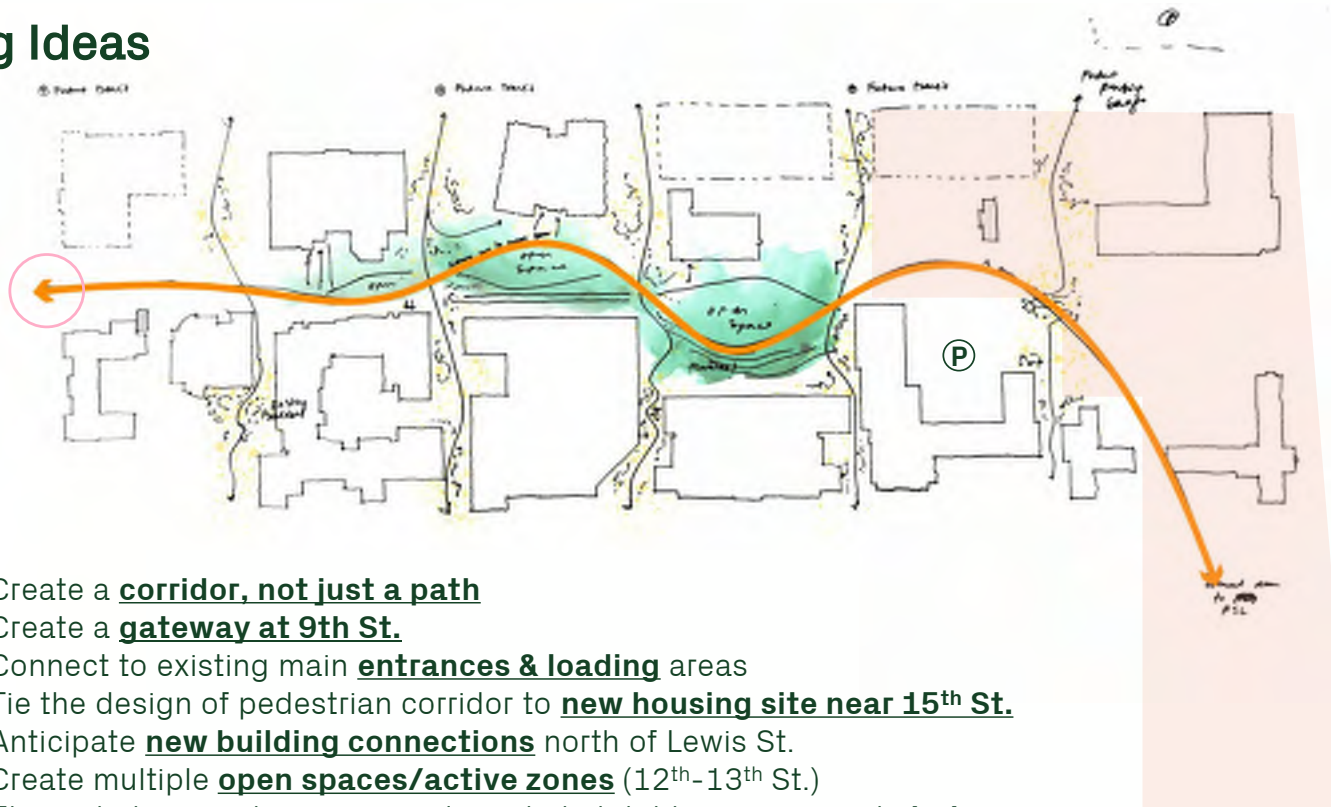
Utah Serviceberry  
*Amelanchier utahensis*

## Photos of indicative vegetation from three local ecoregions

The university's ecoregion is Sagebrush Steppe and Mixed Grass Prairie. To create a more habitable and a diversity of species on campus, plant species have over time been imported from the Riparian Forests and Shrublands as well as the Foothill Shrublands and Woodlands, all being irrigated, creating a cultural landscape for the University of Wyoming. This is a cultural response to the existing campus environment.

Source: USGS

## Big Ideas

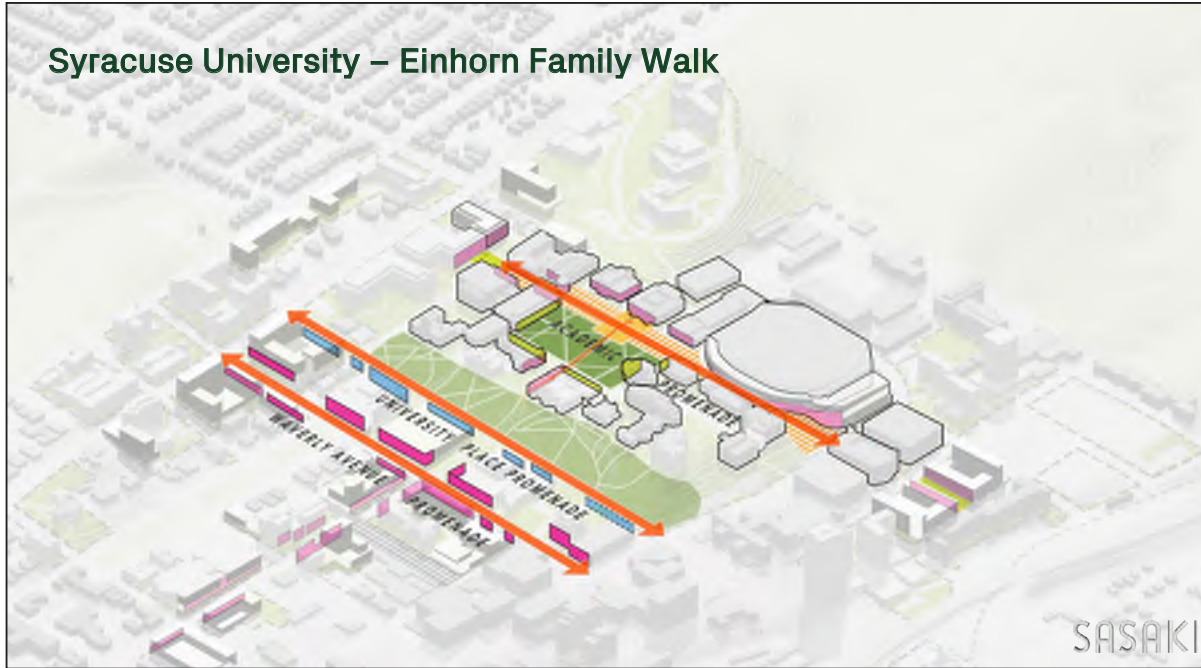


1. Create a **corridor, not just a path**
2. Create a **gateway at 9th St.**
3. Connect to existing main **entrances & loading** areas
4. Tie the design of pedestrian corridor to **new housing site near 15<sup>th</sup> St.**
5. Anticipate **new building connections** north of Lewis St.
6. Create multiple **open spaces/active zones** (12<sup>th</sup>-13<sup>th</sup> St.)
7. Eliminate barriers to access and create habitable environments **between buildings** leading to Prexy's Pasture (Boulderscapes)

Sketch of the big ideas of the pedestrianization of the Lewis St. corridor



Syracuse University – Einhorn Family Walk



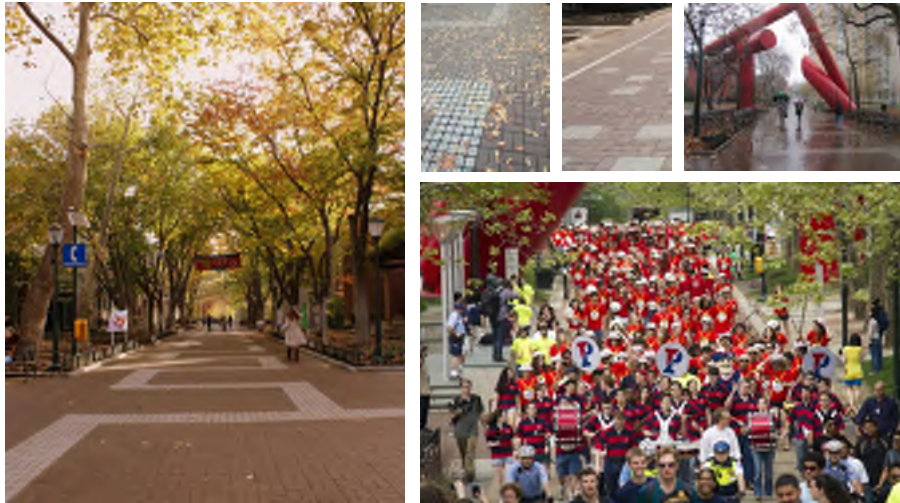
Syracuse University – Einhorn Family Walk



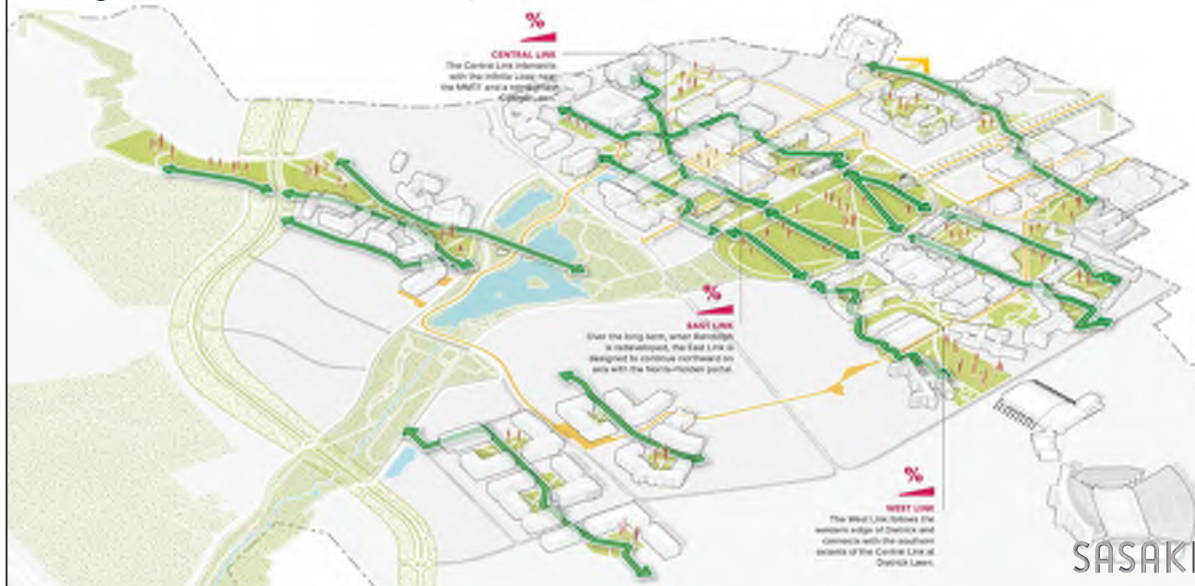




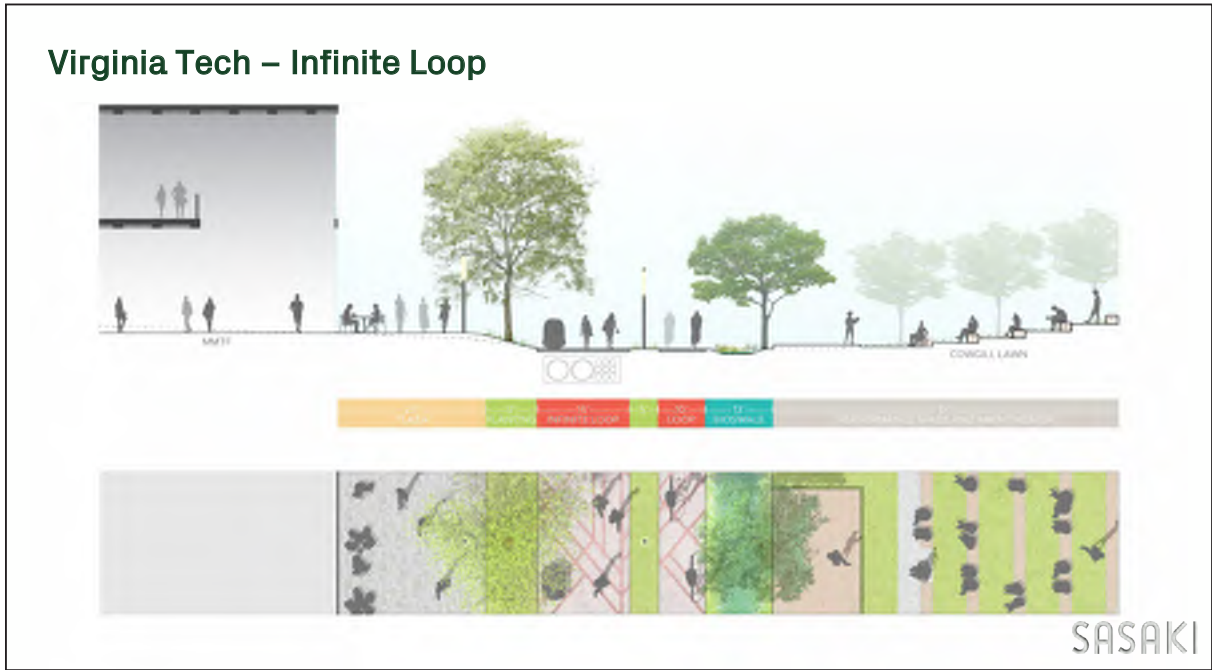
### University of Pennsylvania – Locust Walk



### Virginia Tech – Infinite Loop







### UC San Diego – Library Walk



### UC San Diego – Library Walk





## Colorado Esplanade – Santa Monica



## Stormwater Management





Precedent imagery

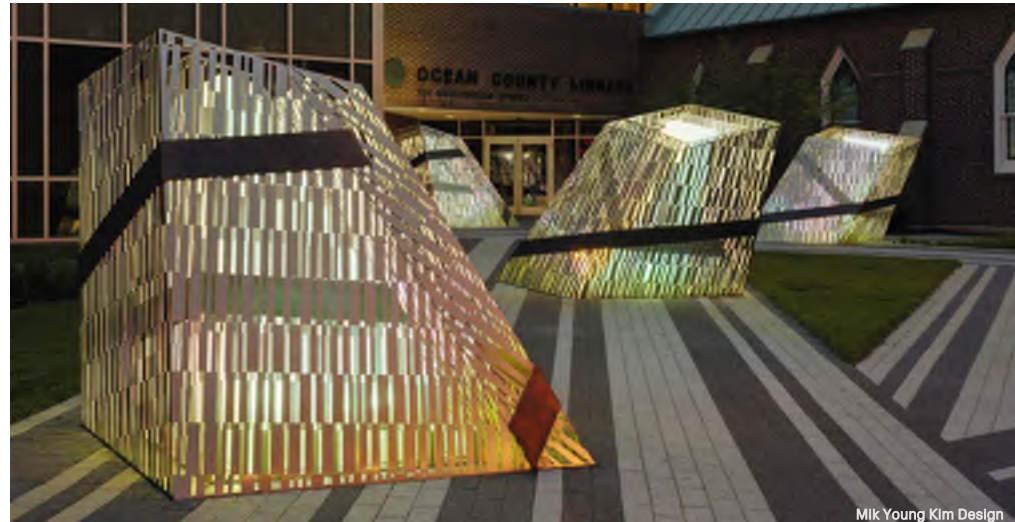




## Warming Huts – Seasonal Activity



## Ocean County Library Plaza “Barcode Luminescence” – Tom’s River









**Worksession #2**  
Design Options

**49**



Following Worksession #1, Sasaki distilled the key EDAC discussion points and major takeaways from the analysis phase into a short list to inform and measure multiple design options. These eight key takeaways from the analysis are as follows:

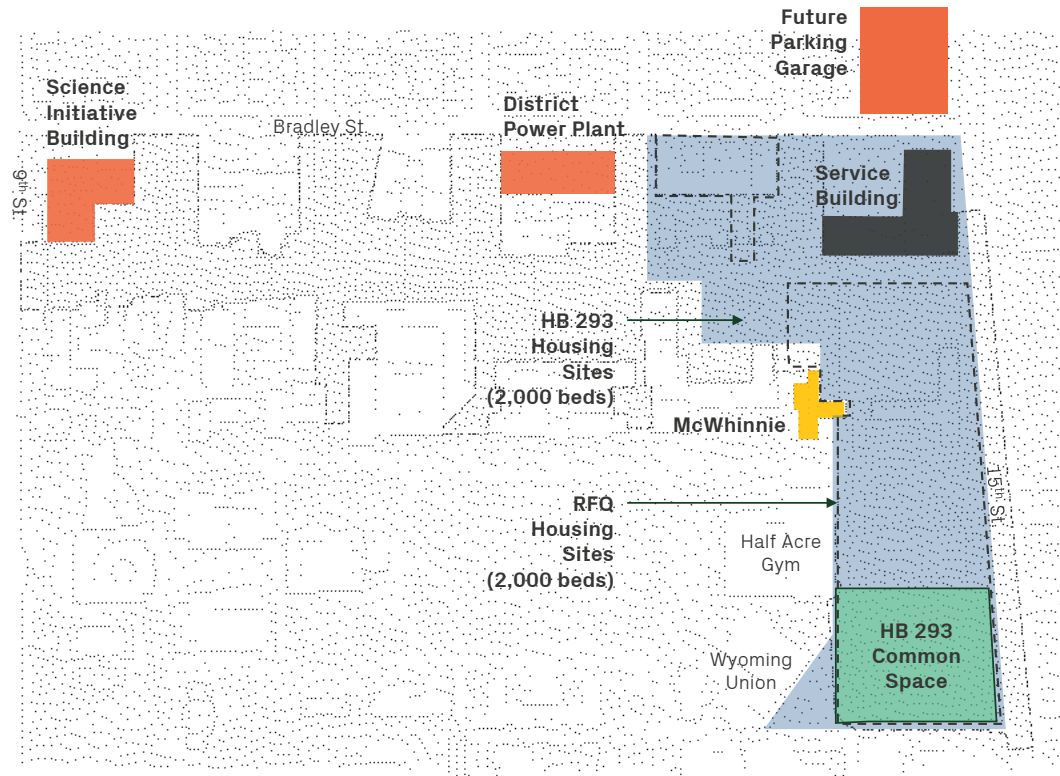
1. The Corridor is no longer at the edge of campus
2. Rethink accessibility up to the core campus
3. Create a visual buffer to Engineering, Agriculture, and Service Buildings
4. Design gracious front doors and connect to other doors and loading docks

5. Remove cars, promote bicycles, and move transit to Bradley St.
6. Maintain utility infrastructure
7. Block westerly winds as much as possible
8. Keep the path in the sun as much as possible

At Worksession #2, Sasaki representative Ian Scherling presented a Powerpoint presentation as well as concept sketches and a physical model of the site. Important slides from the Worksession #2 Powerpoint presentation can be found in this chapter.

## Design Assumptions

1. Connect to new buildings: Science Initiative Building and Power Plant
2. Anticipate 2,000 new beds (HB293)
3. Anticipate open space east of Wyoming Union (HB293)
4. Anticipate dining facility (HB293) – assume 20,000 gsf
5. Anticipate garage at 15<sup>th</sup> & Bradley
6. Keep Service Building and maintain vehicular services and access
7. Repurpose and reprogram McWhinnie
8. Deliveries per comments by UW



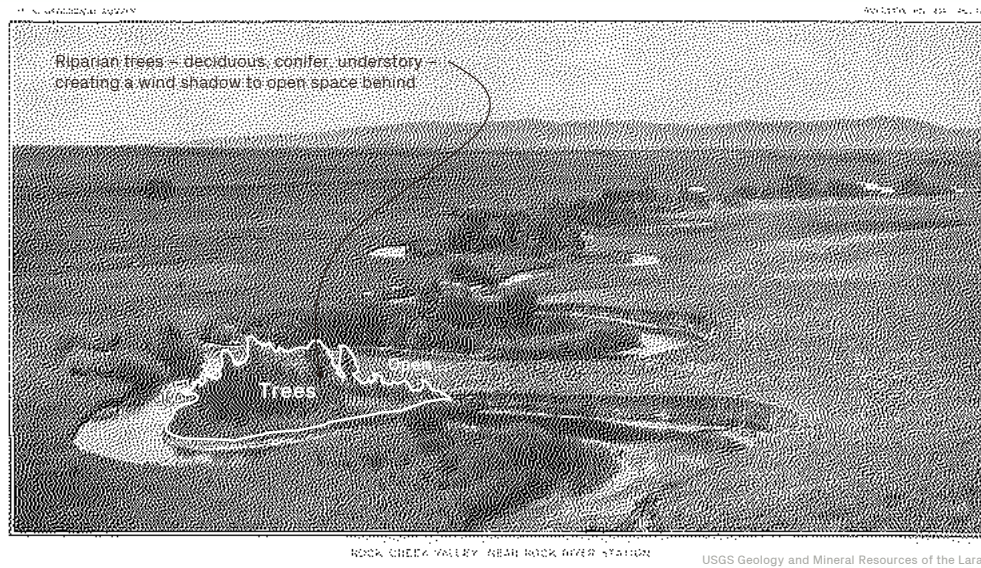
- In order to create a useful series of feasible concepts for the corridor in this phase of design, a number of critical design assumptions needed to be made. These fluid assumptions were the result of conversations with the EDAC and University’s Master Plan Steering Committee in response to the recently passed House Bill 293, and were made knowing that they were subject to change as the design process and conversations continued. Those design assumptions were:
- Connect to new buildings: Science Initiative Building and Power Plant (both in the design process at varying stages)
  - Anticipate 2,000 new beds of student housing at the eastern end of the Lewis St. corridor per House Bill 293
  - Anticipate open space east of the Wyoming Union per House Bill 293
  - Anticipate a dining facility (assume 20,000 gross sq. ft.) per House Bill 293
  - Anticipate a parking garage north of the intersection of 15th and Bradley St.
  - Keep the Service Building and maintain vehicular services and access
  - Repurpose and reprogram McWhinnie Hall
  - Deliveries to buildings per comments by UW Facilities



### Take Cues from the Local Landscape



### Take Cues from the Local Landscape



Sources: 1909 USGS Geology and Mineral Resources of the Laramie Basin, *Klimaat 2019 Climate Simulations for the University of Wyoming, MVVA*

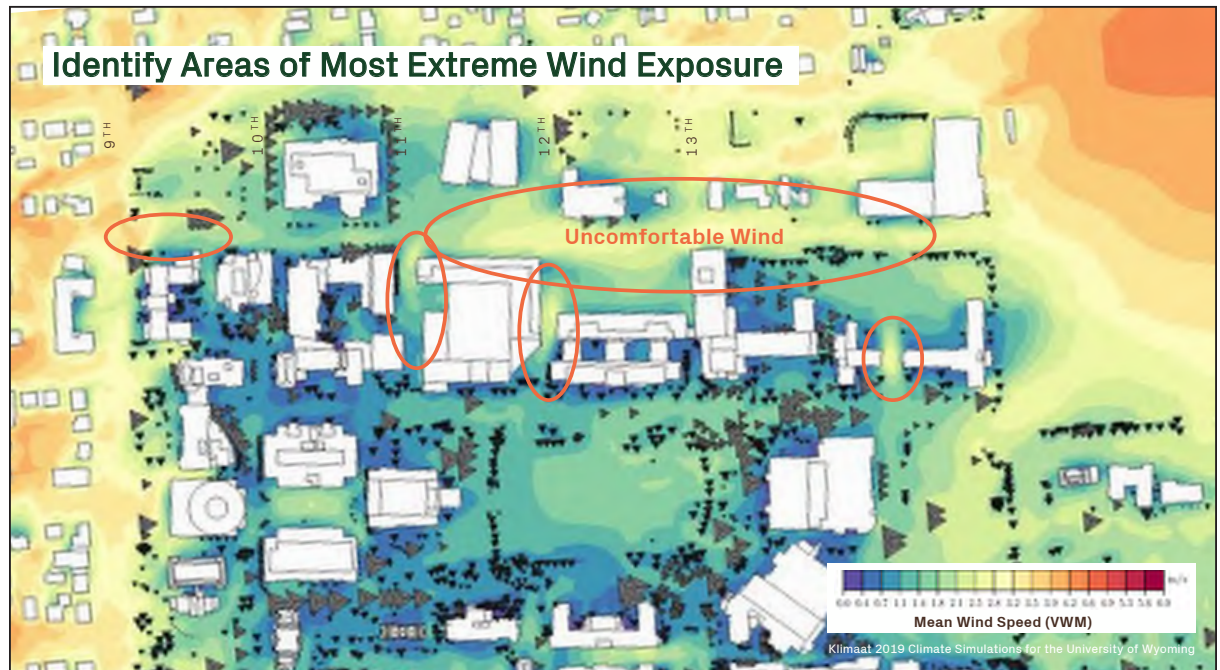


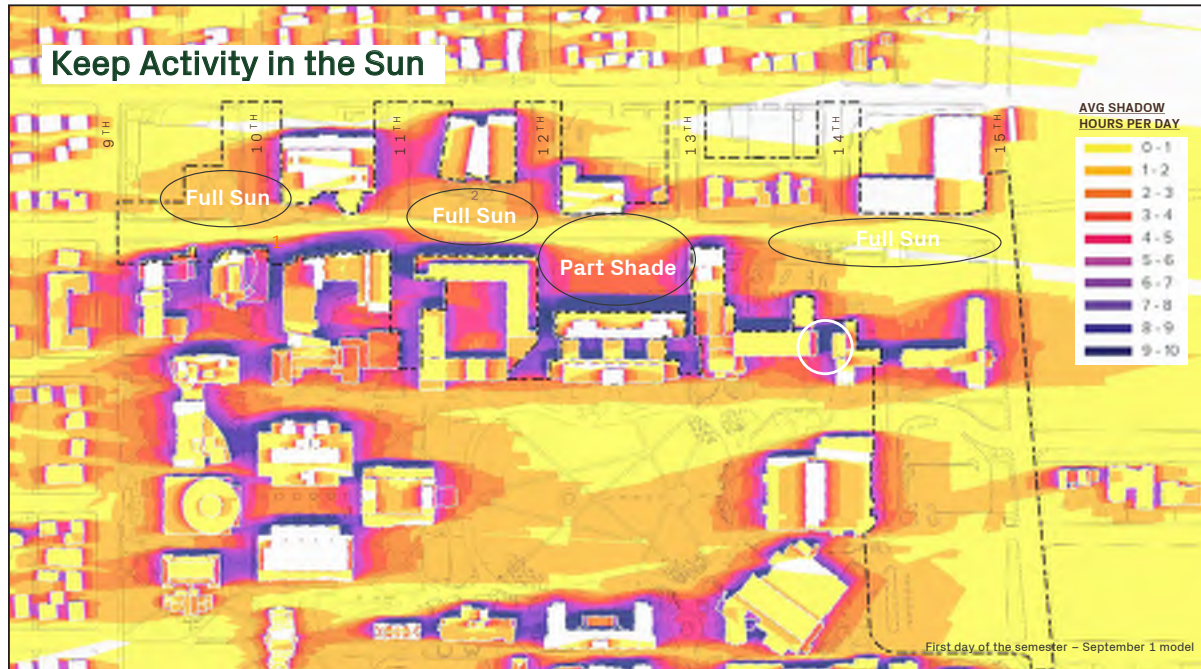
## Create Windbreaks



Klimaat

## Identify Areas of Most Extreme Wind Exposure





### Broaden the Function of the Boulderscape



Seating/Retaining Elements – stack boulders for seating, retaining walls, and aesthetic interest



Stormwater Element – break down scale of boulders and use as a surface in stormwater BMPs and swales

SASAKI

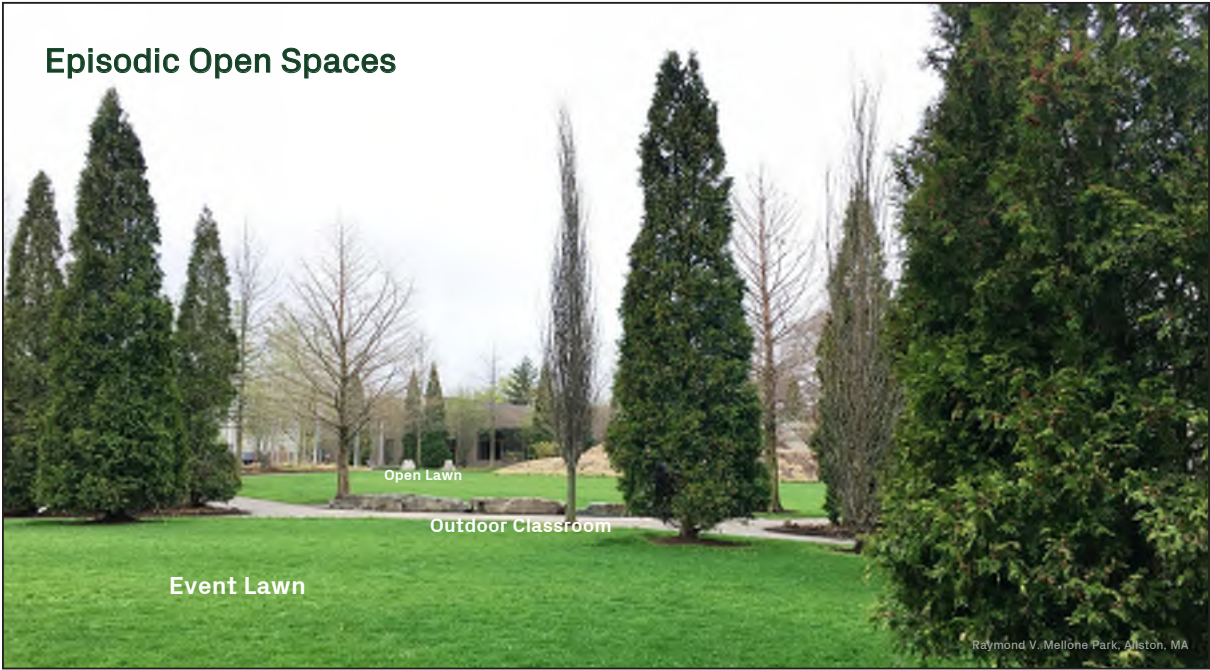


Annotated images of precedent projects

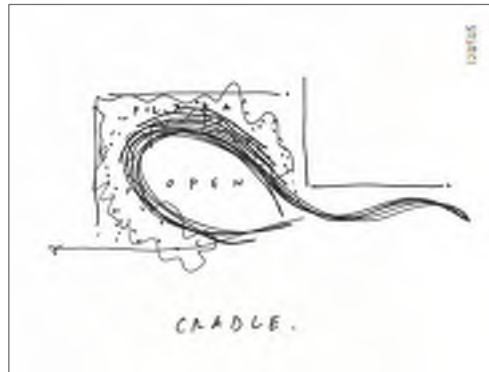
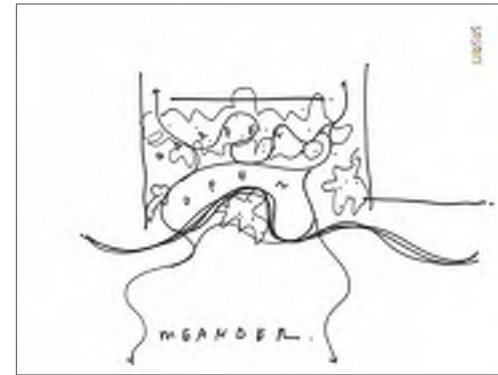
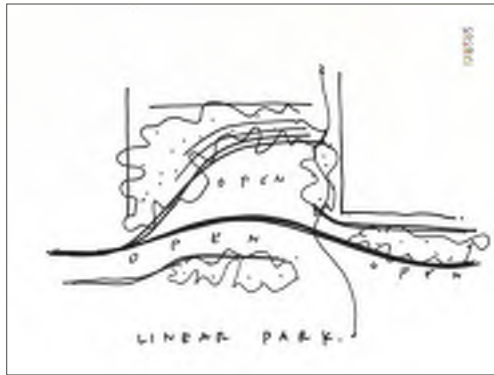




**Annotated images of precedent projects**



# Open Space Prototyping



- Year-round flexibility – surface?
- Buffer Ag and Eng
- Connect to Anthropology and Ed
- Accessible grading to core
- **Currently low-intensity programming around open space**
- **How to activate the open space?**

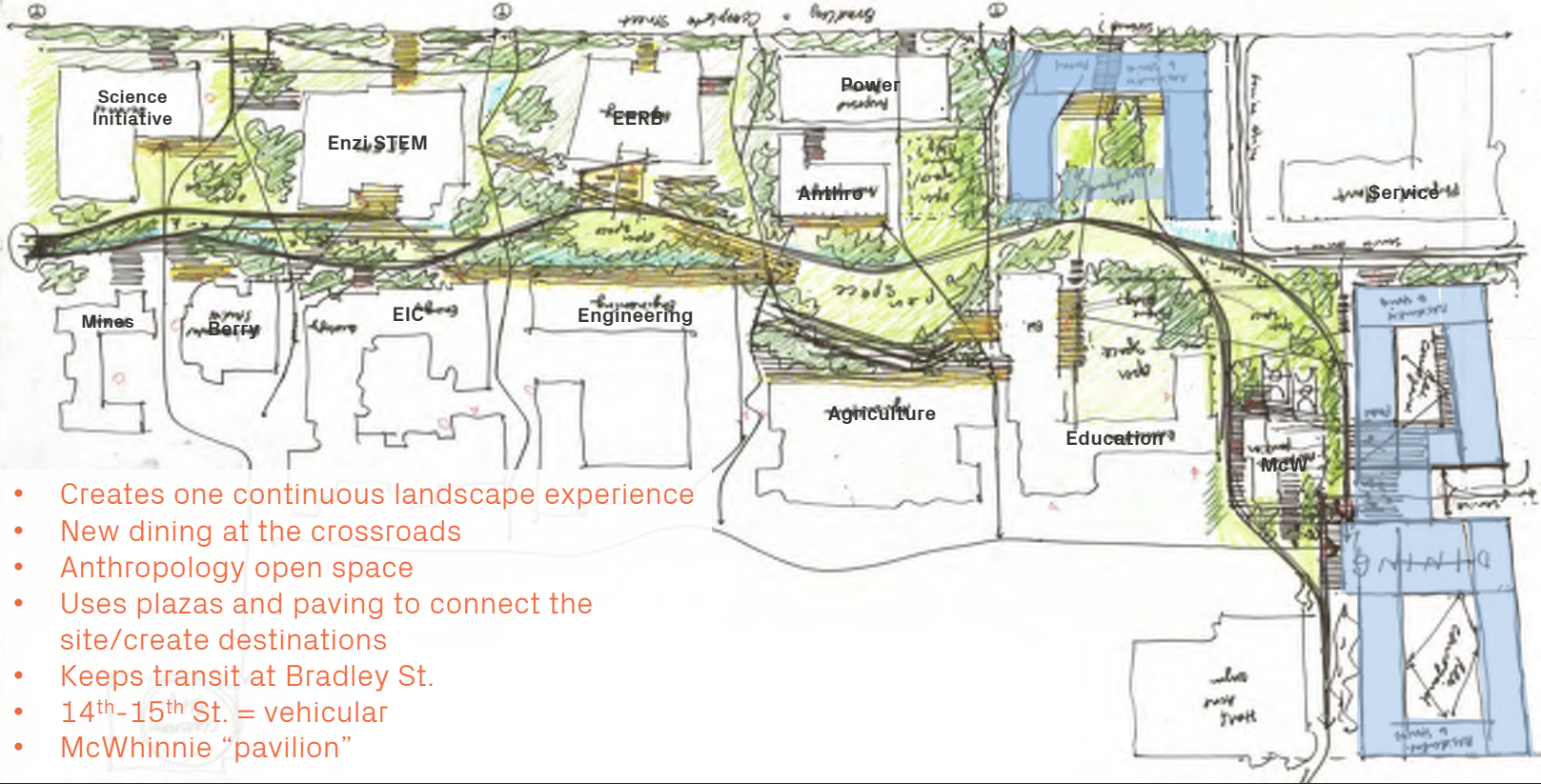


## Prototypes for the primary open space north of Ag

The design process began with a series of sketches exploring different ways to attach or detach the main path with the landscape in front of the Agriculture building – considered the main open spaces created by this project. Sketches consider planting, topography, accessibility, programming, and connection to the surrounding buildings and context.



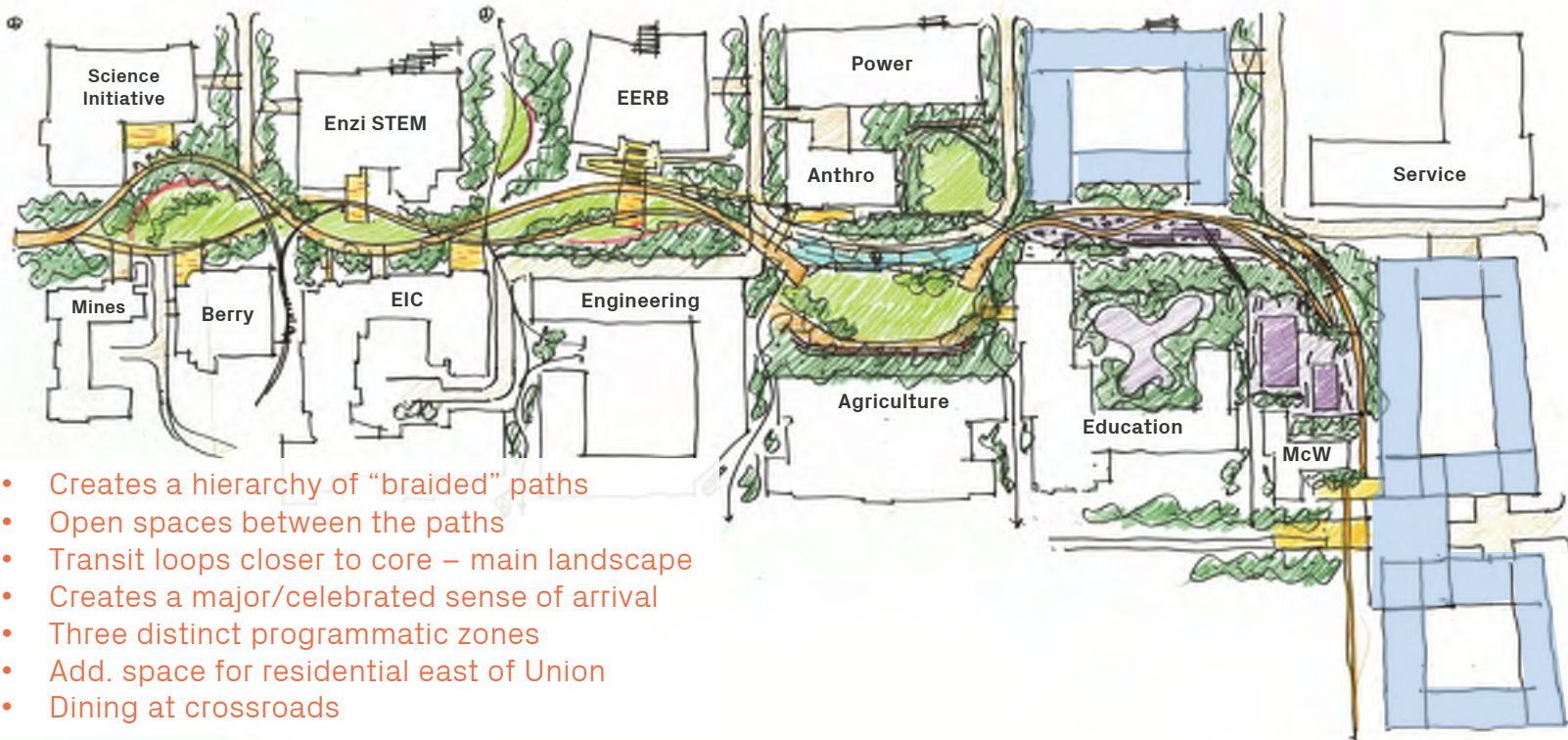
# 1. "Linear Park"



"Linear Park" design option



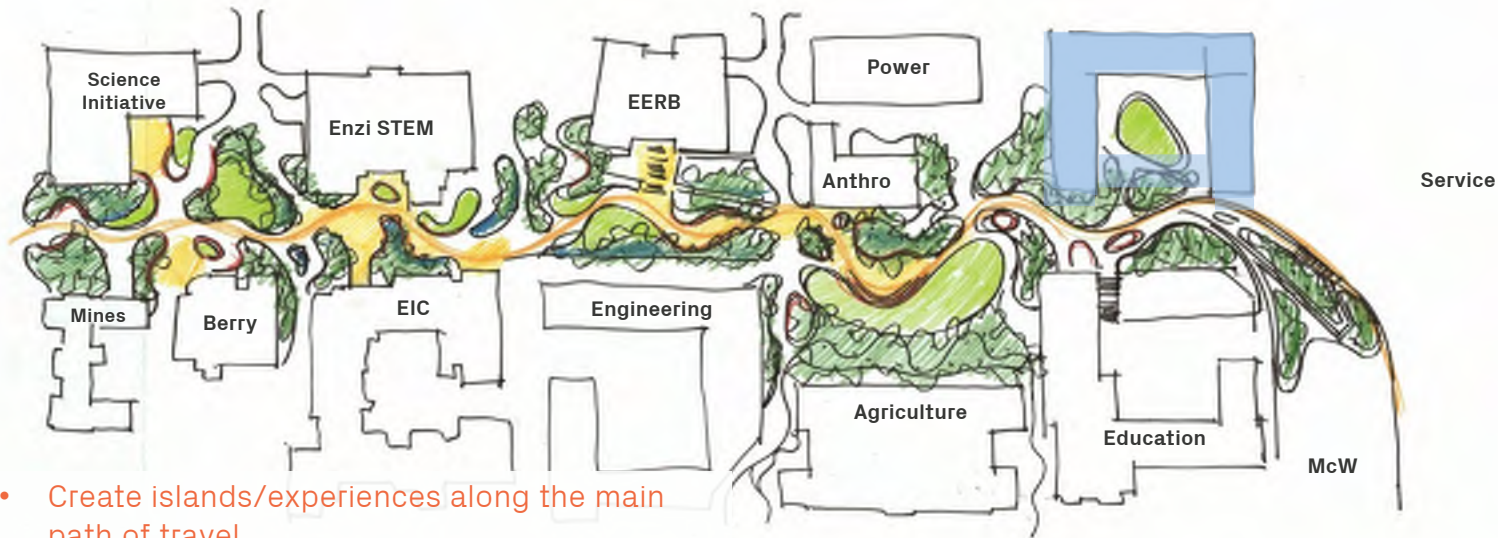
## 2. “Braids”



- Creates a hierarchy of “braided” paths
- Open spaces between the paths
- Transit loops closer to core – main landscape
- Creates a major/celebrated sense of arrival
- Three distinct programmatic zones
- Add. space for residential east of Union
- Dining at crossroads

“Braids” design option

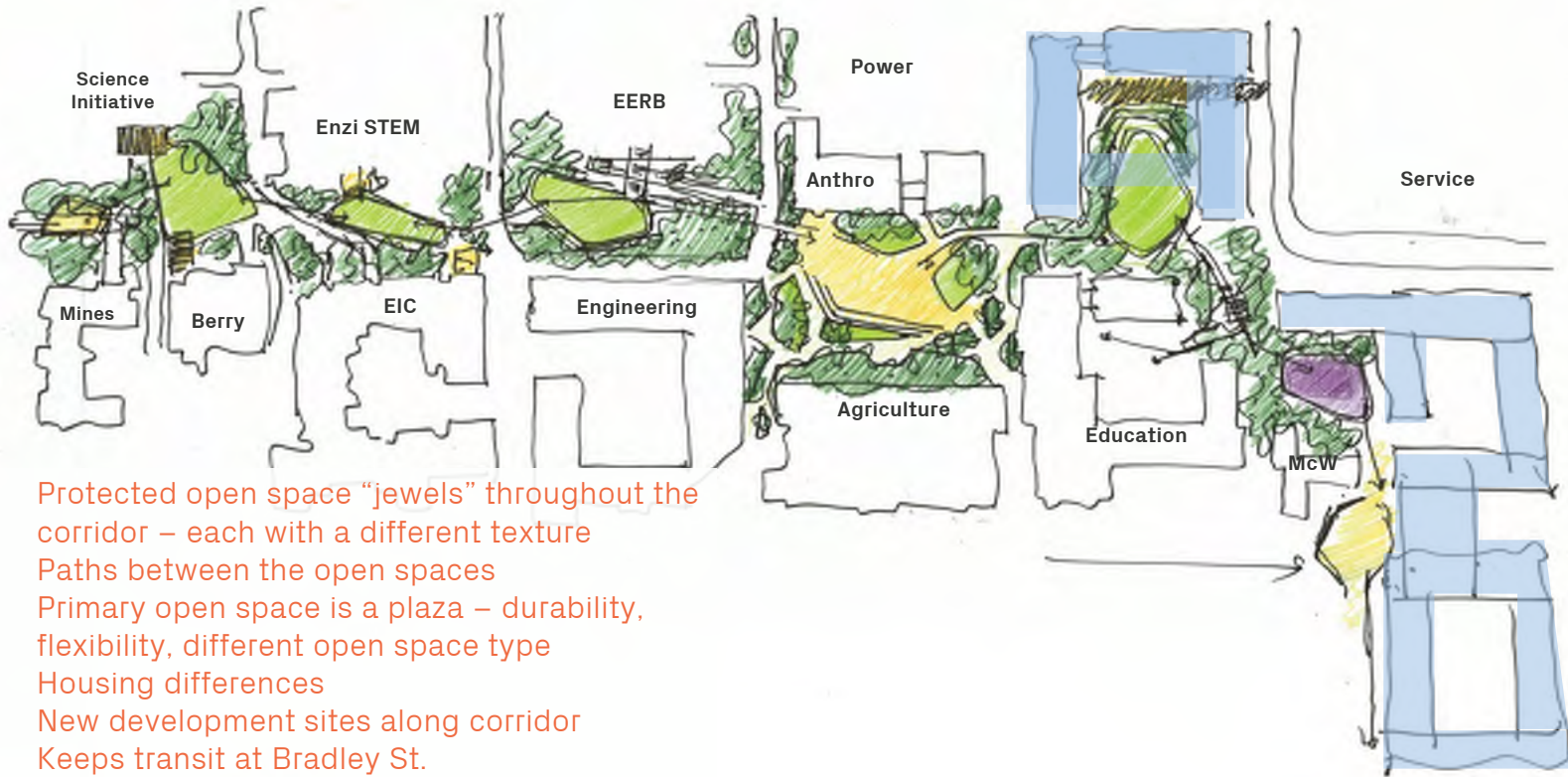
### 3. "Meander"



- Create islands/experiences along the main path of travel
- Main path of travel is inferred
- Optimizes wind breaks sheltering open spaces
- Primary open space smaller –tone down programming in the corridor and celebrate landscape/species/materials
- Keeps transit at Bradley St.

“Meander” design option

## 4. “Jewels”



- Protected open space “jewels” throughout the corridor – each with a different texture
- Paths between the open spaces
- Primary open space is a plaza – durability, flexibility, different open space type
- Housing differences
- New development sites along corridor
- Keeps transit at Bradley St.

“Jewels” design option



## Study Model



### Study model and internal design charrette

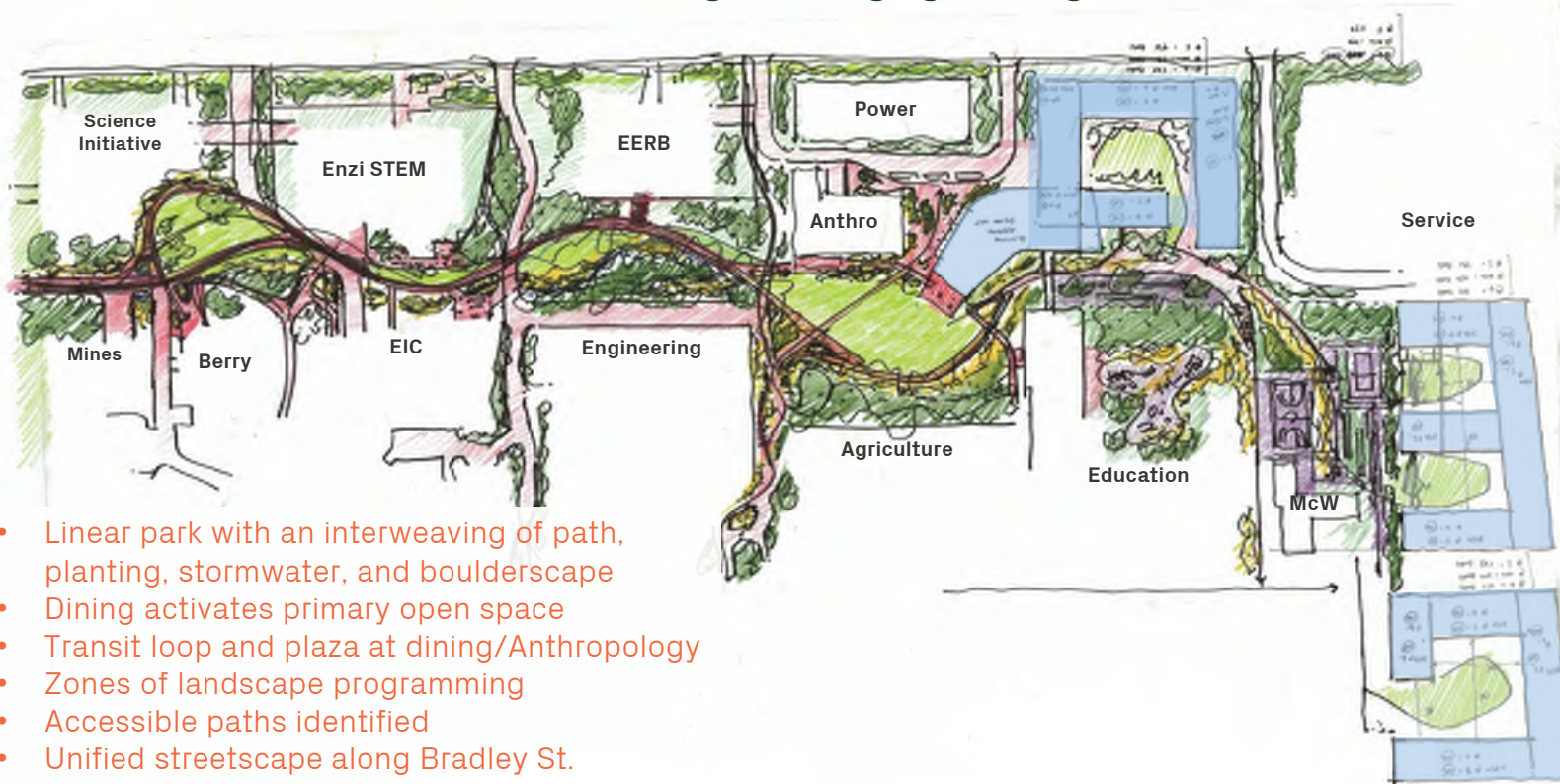
A select group of landscape architects, architects, and urban planners were invited to participate in critiquing the designs for the Lewis St. corridor. The collaborators agreed that while there were elements of merit in each design, the “Linear Park” concept connected the corridor, created a unified identity for the corridor, and considered critical elements in a more desirable way than other concepts.

## Internal Design Charrette

- “Linear Park” offered a fully connected corridor and an optimal foundation
- Program zones in “Braids” scheme
- Dive into grading/service movement
- There is a transit alternative
- Primary Open Space needs continuous activity to stay relevant as a destination
- A lot of housing – not a lot of site



## 6. “Refined Scheme” w/ housing, dining, grading, & circulation



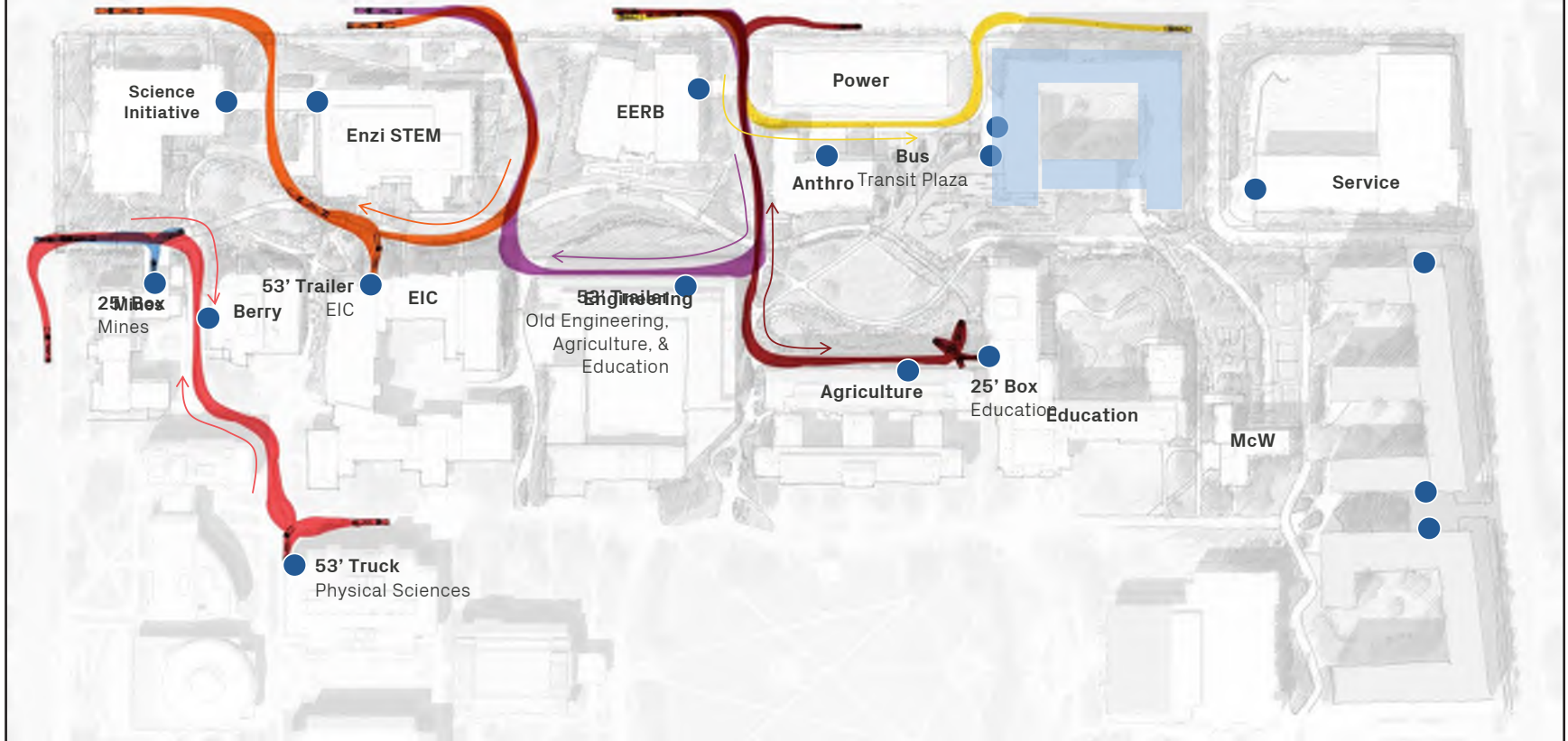
- Linear park with an interweaving of path, planting, stormwater, and boulderscape
- Dining activates primary open space
- Transit loop and plaza at dining/Anthropology
- Zones of landscape programming
- Accessible paths identified
- Unified streetscape along Bradley St.

### “Refined Scheme”—preferred design option

This scheme is a response to the internal design charrette, combining aspects and features from each design option into one hybrid scheme.



# “Refined Scheme” Showing Real Service & Loading Needs



## Map of service/loading access in the “Refined Scheme”.

Studying service access is a critical task to create a feasible and dimensionally-correct design option. It begins to formalize the way in which pedestrians and service vehicles may or may not interact with one another in this shared-use corridor.







### Comprehensive site plan

This site plan is a further refinement of the previous iteration of the preferred design option. The comprehensive site plan is dimensionally-accurate and includes further thinking on the location of housing and dining and how open spaces and the main path interacts with the existing and proposed buildings.









### Physical model images

To accompany sketch plans and the digital presentation at Worksession #2, a 1"=50' scale model of the six-block corridor was built and shipped to Laramie. The model was an integral vehicle for studying the proportions of the space especially relative adjacent building height, how tree placement could effectively buffer buildings, shape space, and create windbreaks, and how the scale and massing of future buildings will affect the design of the corridor as it sweeps up the hill from Anthropology to McWhinnie Hall.







*Looking east up the length of the corridor from 9th St.*



*Top: Looking north to the "West Boulderfield" landscape and new Science Initiative Building*



*Bottom: Looking northwest to Enzi STEM and "The Plain," the narrowest stretch of landscape in Phase 1.*





*Looking east across the expanse of the Phase 1 pedestrian corridor. Two connections to Prexy's Pasture are seen on either side of the Engineering building.*





*Looking southwest to “The Basin” landscape—the primary open space in Phase 1 between Anthropology and Agriculture, Education and Engineering. An early visualization of student housing and dining is seen in blue.*





*Looking west with the Phase 2 landscape in the foreground. An early visualization of student housing is seen in blue.*



*Top: Looking north to the Phase 2 landscape features including small recreation components and trees along the main path. An early visualization of student housing is seen in blue.*

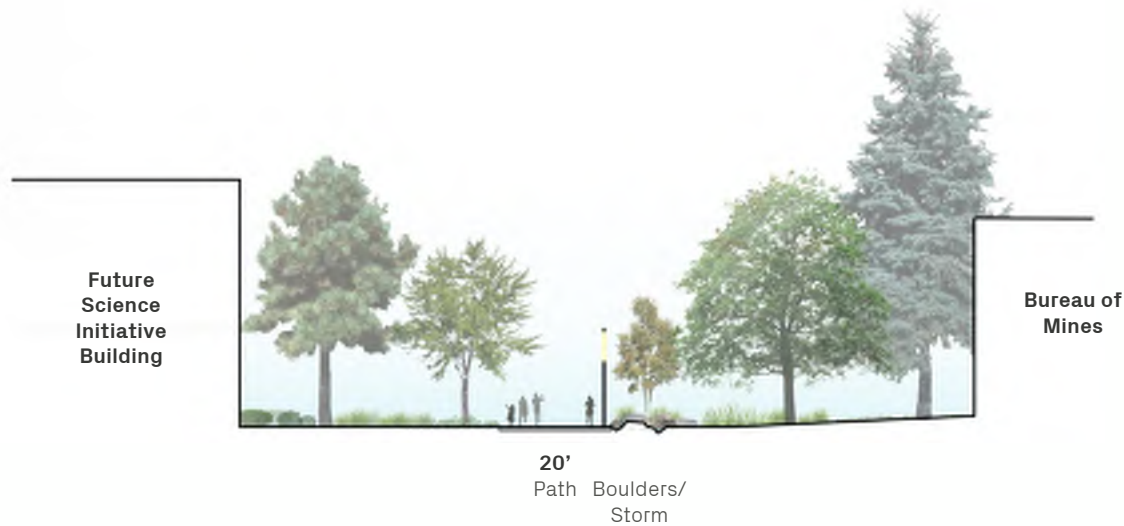
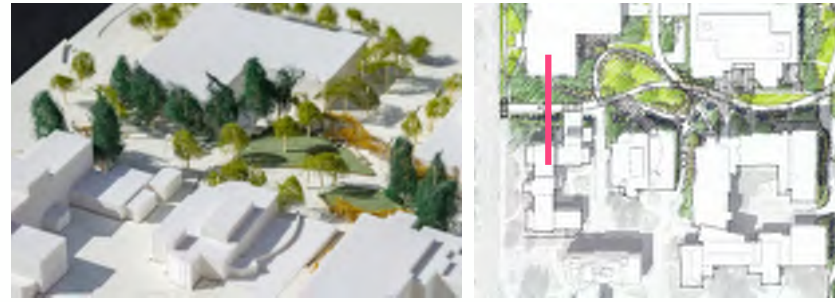


*Bottom: Looking southwest to the Phase 2 landscape.*



## Vignette @ Mines

- Gateway to the “West Boulderfield”



### Section at Science Initiative/Mines

The existing street varies in its curb to curb dimension from 41 feet to 50 feet and little space is left for usable landscape, as seen in the sections on this page and the following pages. The future design seeks to reduce the width of any primary path through the landscape to 15-20 feet, significantly increasing landscape area for a variety of potential uses and decreasing the amount of paved surface in the corridor.

# Vignette @ Enzi STEM



Section at Enzi STEM and EIC

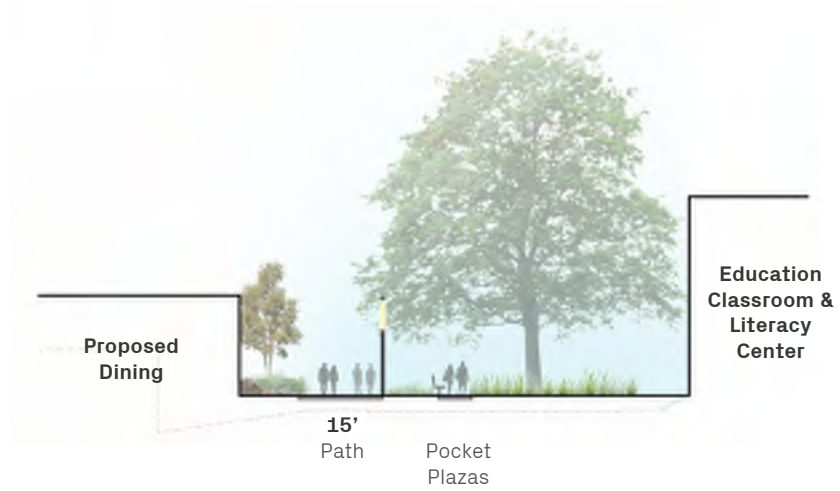
# Vignette @ EERB



Section at EERB and Agriculture

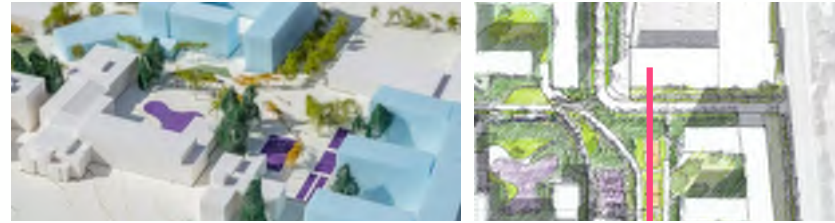


# Vignette @ Education Annex



Section at a proposed dining hall and Education

# Vignette @ Service/McWhinnie



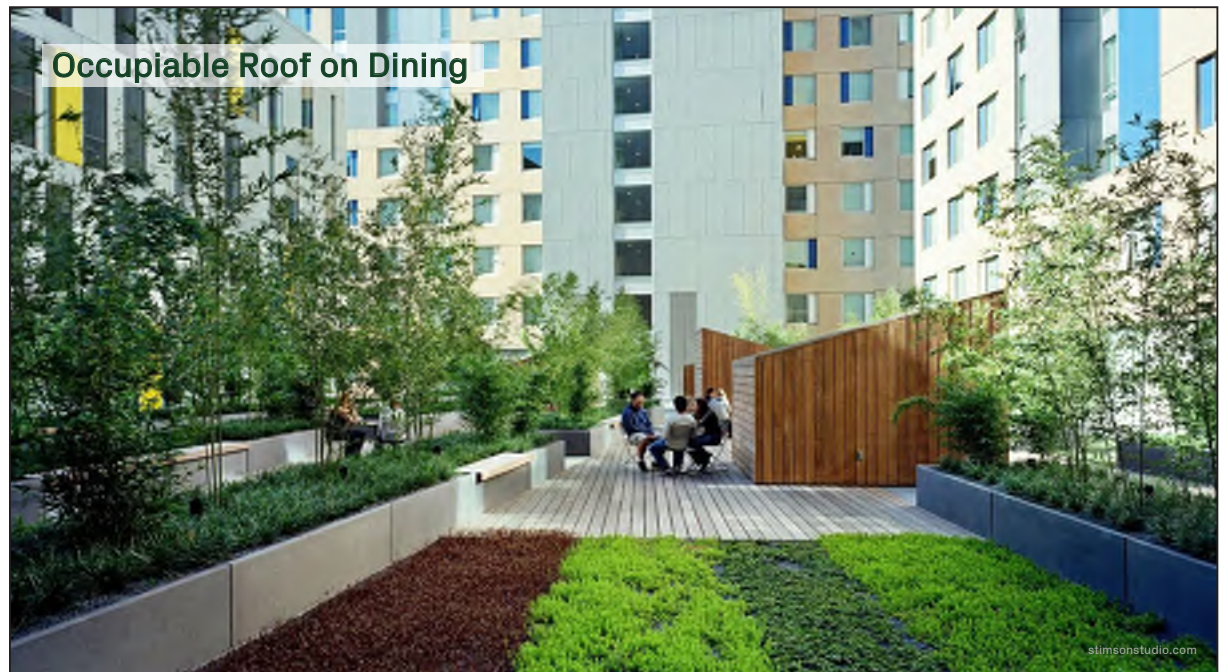
**Section at the Service Building and McWhinnie Hall**

Precedent imagery

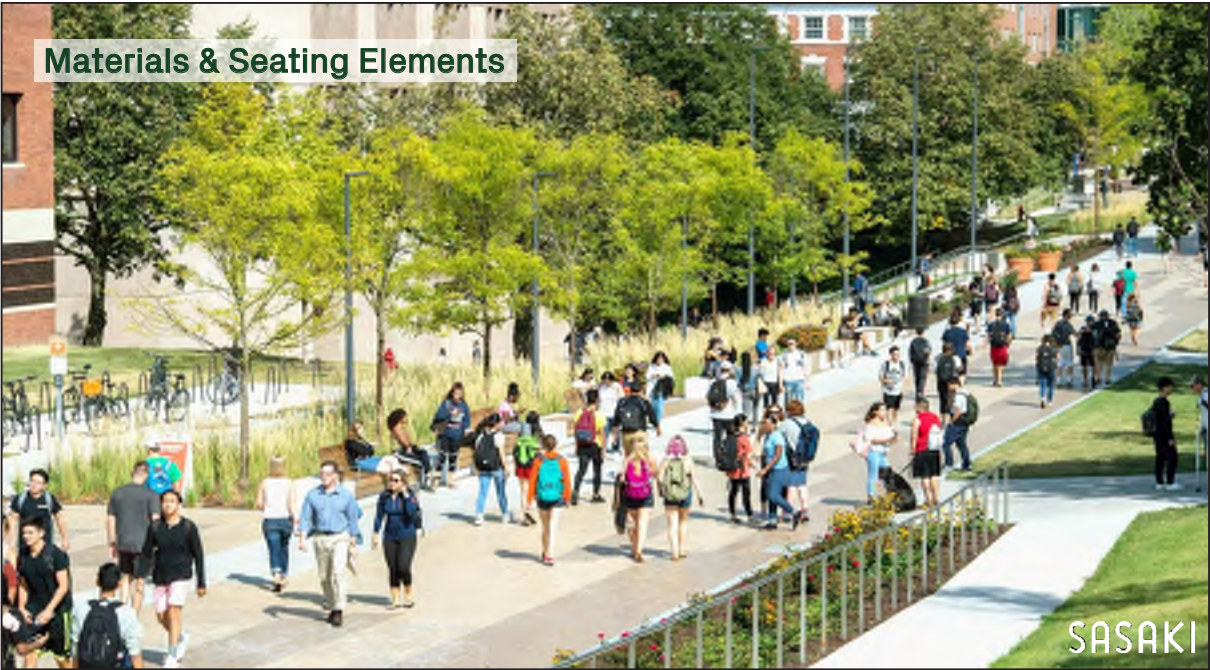
Boulder Outcroppings with Interspersed Planting



Occupiable Roof on Dining







Materials & Seating Elements



Topography & Connections

Precedent imagery

Warming Huts – Seasonal Activity



Patkau Architects



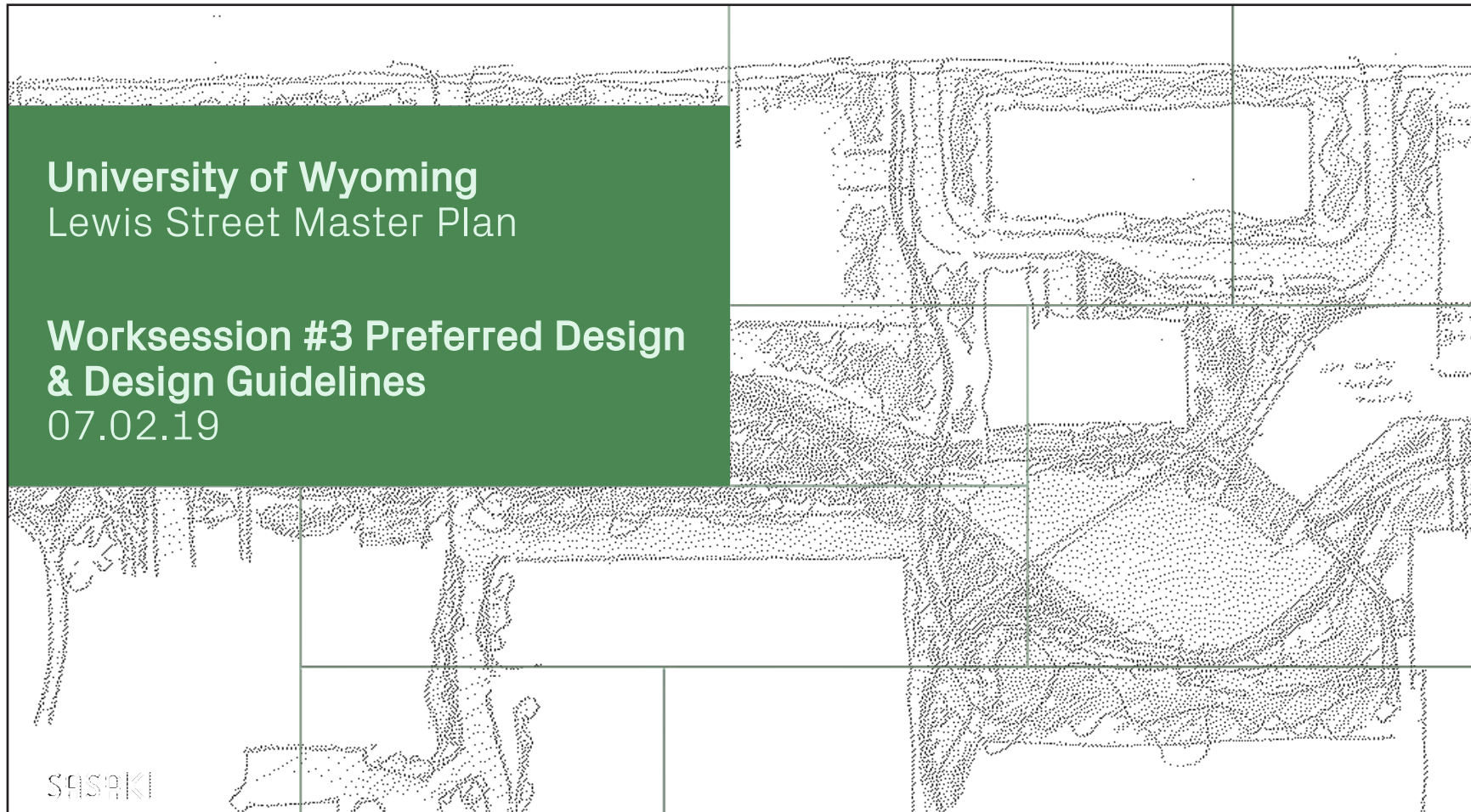


## **Worksession #3**

Preferred Design &  
Design Guidelines

**83**





Following Worksession #2, Sasaki distilled the key EDAC discussion points and major takeaways from the initial design phase and refined the site plan accordingly. In addition, Sasaki developed a set of seven design guidelines themes with detailed information about how the guidelines might be deployed along Lewis St. in the future design phases.

At Worksession #3, a WebEx style presentation, Sasaki representative Ian Scherling walked the EDAC through a Powerpoint presentation as well as a cost estimate for the corridor. Important slides from the Worksession #3 Powerpoint presentation can be found in this chapter. The cost estimate can be viewed in the next chapter.

## Follow Up

### Design Options Key Points

1. Physical model leave behind?
2. Student housing updates? – sites and scale of future buildings
3. Dining location change, opens up the landscape east of Anthropology
4. Implement the corridor in two phases
5. Be specific about species
6. Name?
7. Master Plan integration – June charrette in Boston



Looking east from 9<sup>th</sup> St. intersection



## 1. Respect Cultural Landscapes

### Master Plan Landscape Framework – Core Campus

- The Hollows is the oldest landscape on campus and is UW's front lawn
- Prexy's Pasture used to be surrounded by cars...
- Three "quads" surrounding Prexy's contribute to the historic and mature feel of the core campus
- Both spaces are significant canvases for temporary public art – find ways to fold in the Public Art Plan



## Master Plan Landscape Framework

At this stage in the process, the design for the Lewis St. pedestrian corridor and the overall landscape framework for the campus Master Plan converged and informed one another. Aspects of the core campus landscape framework were presented to the committee.

## 2. Connect the Inner Core

### Master Plan Landscape Framework – Core Campus

- New housing will significantly and permanently alter pedestrian movement patterns on campus
- Build off the Lewis St. concept and create a cohesive experience
- East Spine & West Spine connecting major campus landmarks
- Inner campus loop – build off Lewis St.



## 2. Connect the Inner Core – Landscape

Master Plan Landscape Framework – Core Campus

Broaden the Function of the Boulderscape



Seating/Retaining Elements – stack boulders for seating, retaining walls, and aesthetic interest



Stormwater Element – break down scale of boulders and use as a surface in stormwater BMPs and swales

## 2. Connect the Inner Core – Landscape

Master Plan Landscape Framework – Core Campus

Broaden the Function of the Boulderscape



Field Elements – boulders loosely spaced creates a boulder field that offers endless seating opportunities, defines space, and creates a themed landmark



Art Element – the integration of meaning and storytelling; lights, color, water, vegetation

### 3. Define & Enhance the Edge

Master Plan Landscape Framework – Core Campus

- Create a welcoming threshold to campus by defining the edge with a continuous rhythm of street trees, sidewalks, and amenities
- Consistency and clarity
- Respect the Hollows and future connections to Fraternity Sorority Mall





## 4. Create Accessible Routes

Master Plan Landscape Framework – Core Campus

- Tie into natural gaps between buildings created by the city grid
- Enhances porosity and gateways into the core
- 5% slopes where possible to promote universal accessibility – reimagines the pinch points between buildings



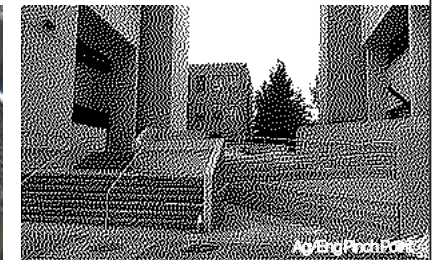
## 4. Create Accessible Routes

Master Plan Landscape Framework – Core Campus



Master Plan

Expand the Lewis St. Idea



# Design Principles

## **01 Prioritize Pedestrians and Bicycles**

Uphold ideals of human comfort and experience through the elimination of car traffic, the placement of pedestrian-oriented amenities, the promotion of universal design principles, and the minimizing of interference from service and loading activities to the pedestrian experience.

## **02 Design for the Local Climate**

Consider year-round as well as day/night comfort throughout the corridor with a special emphasis on protecting against local harsh winter conditions. Design primarily for the wind by creating westerly windbreaks at strategic points. Design secondarily for the sun by keeping the path and open space activity in the sun where possible.

## **03 Take Cues from the Local Landscape**

Imbue the design with local patterns and textures to create a unique place that could only be found at the University of Wyoming. Ground the design in the University, City, and County heritage and context through the implementation of native tree and plant species to create a maintainable and meaningful place.

## **04 Broaden the Function of the Boulderscape**

Extend the footprint of the newest identity-contributing landscape on campus and deploy it in new ways within the pedestrian corridor. Consider utilizing the boulderscape as special seating elements both in fields and as retaining elements, as a surface to highlight stormwater management, and artistic elements, highlighting the unique qualities of the stone.

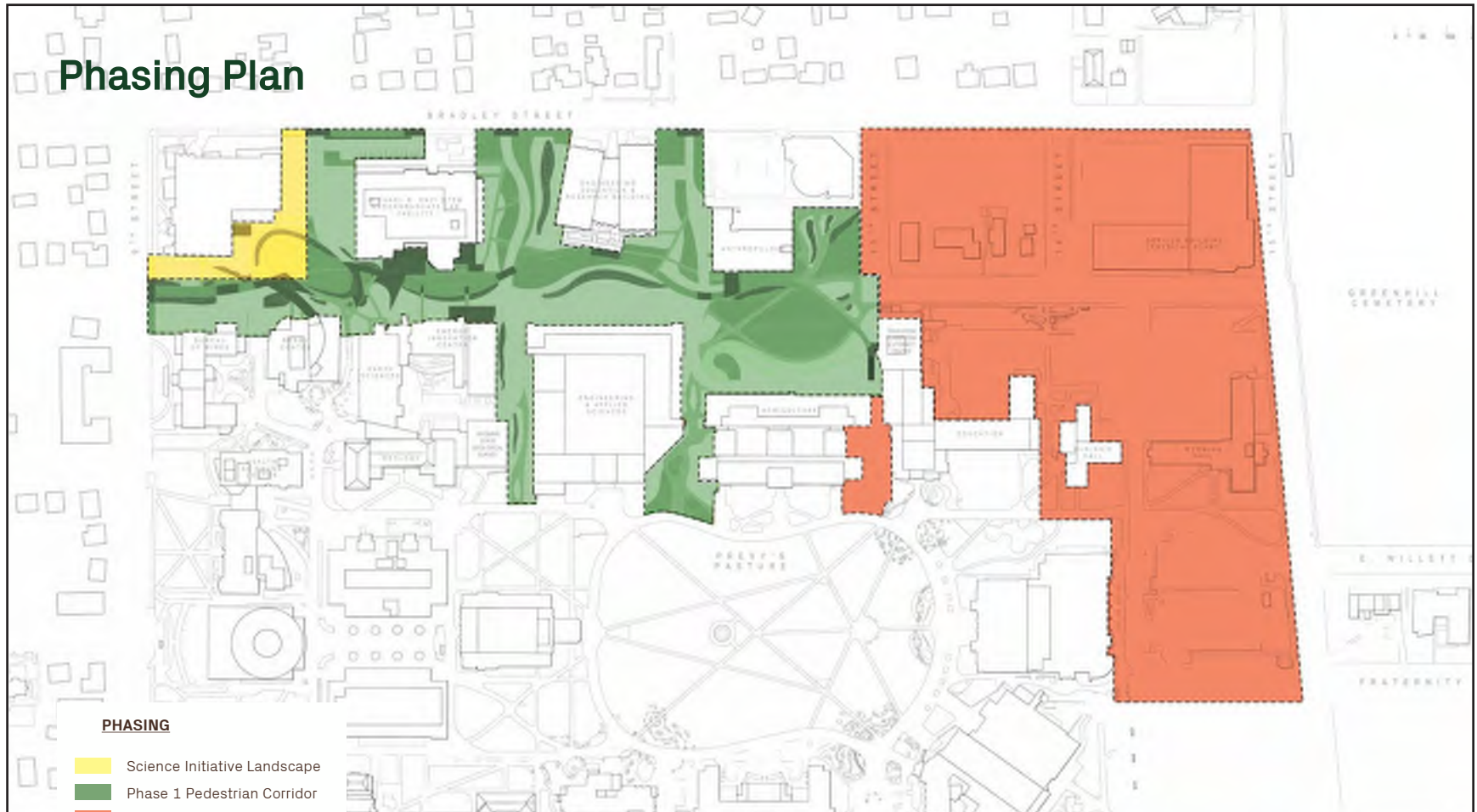
## **05 Rethink How Open Space is Used**

Create a landscape to serve the entire university community (academics, research, student life) through the consideration of how the landscapes can be used and programmed seasonally at multiple scales (S, M, L, XL). Reinforce the connection of the landscape to adjacent buildings by celebrating main entries and approaches.

## **Design principles**

Also seen on pages 8-9.

# Phasing Plan



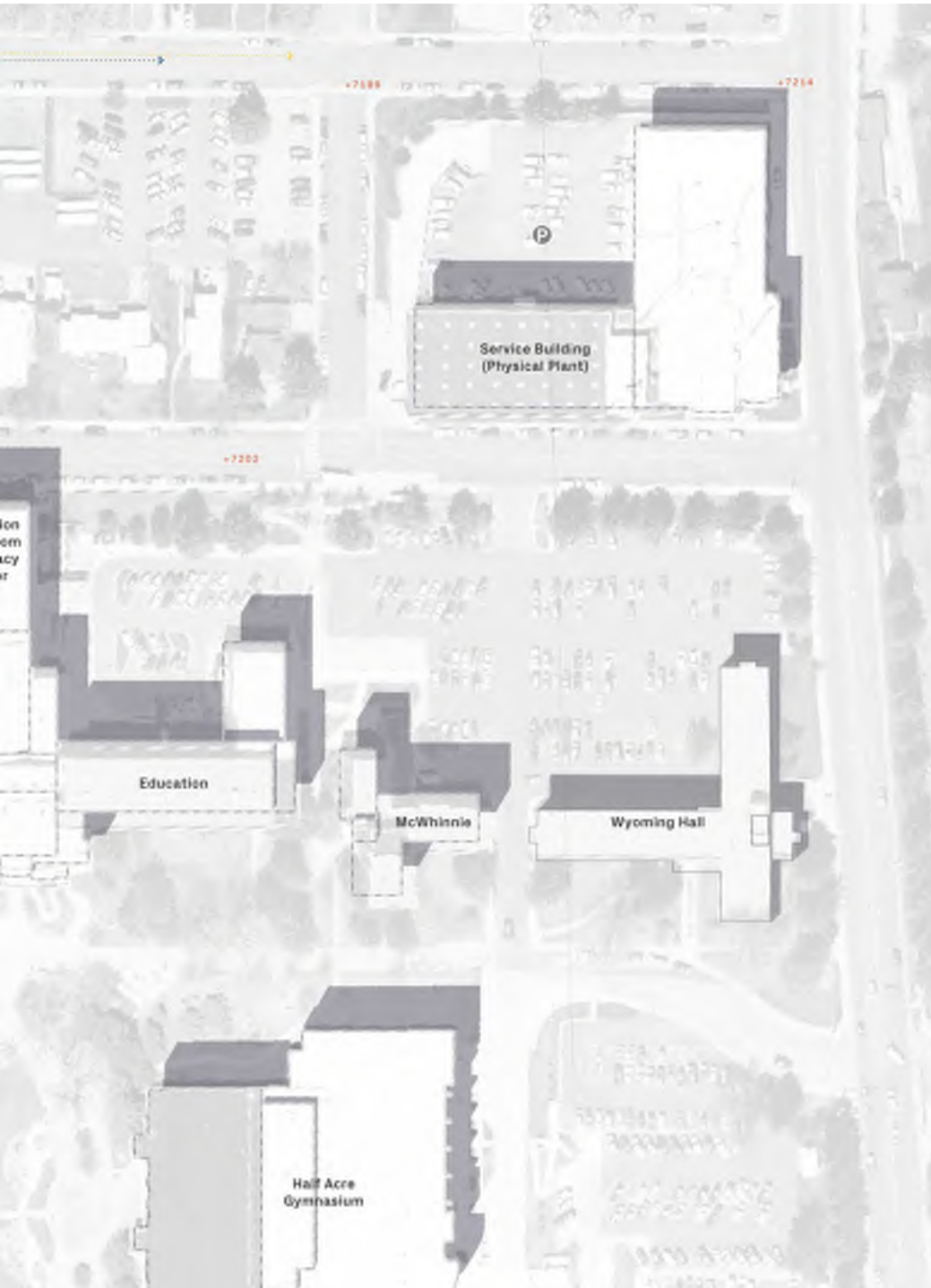
## Map of the phasing strategy for the Lewis St. corridor

As discussed with the university and EDAC, the project will be implemented in multiple future phases. At the point of the presentation, Phase 1 comprised the majority of the corridor (seen in green above) with a separate phase broken out as it relates to the Science Initiative Building (seen in yellow). The design and construction of these phases is expected to happen in the coming year to two years. Phase 2 is the area of the corridor that coexists with future land acquisition and housing and other building development east of 13th St.









Phase 1 site plan











### Phase 2 site plan—long term framework

The design of the future pedestrian corridor should remain true to the design principles and guidelines set forth in this document, as recommended by the EDAC. The main pedestrian path and open spaces should connect to the Phase 1 corridor as well as to the new housing development, union development, and should tie into the east west pedestrian corridor at Fraternity Sorority Mall.



## “The Basin” Before



Existing photo of the primary open space (Before)



## “The Basin” After

Layers of trees visually soften the edges and create a landscape enclosure to the primary open space in the corridor

Boulderscape  
seatwall with  
multiple levels  
creates an  
amphitheater-like  
space

Landscape entry plaza invites  
pedestrians into the space



Collage illustrating the design of “The Basin” (After)



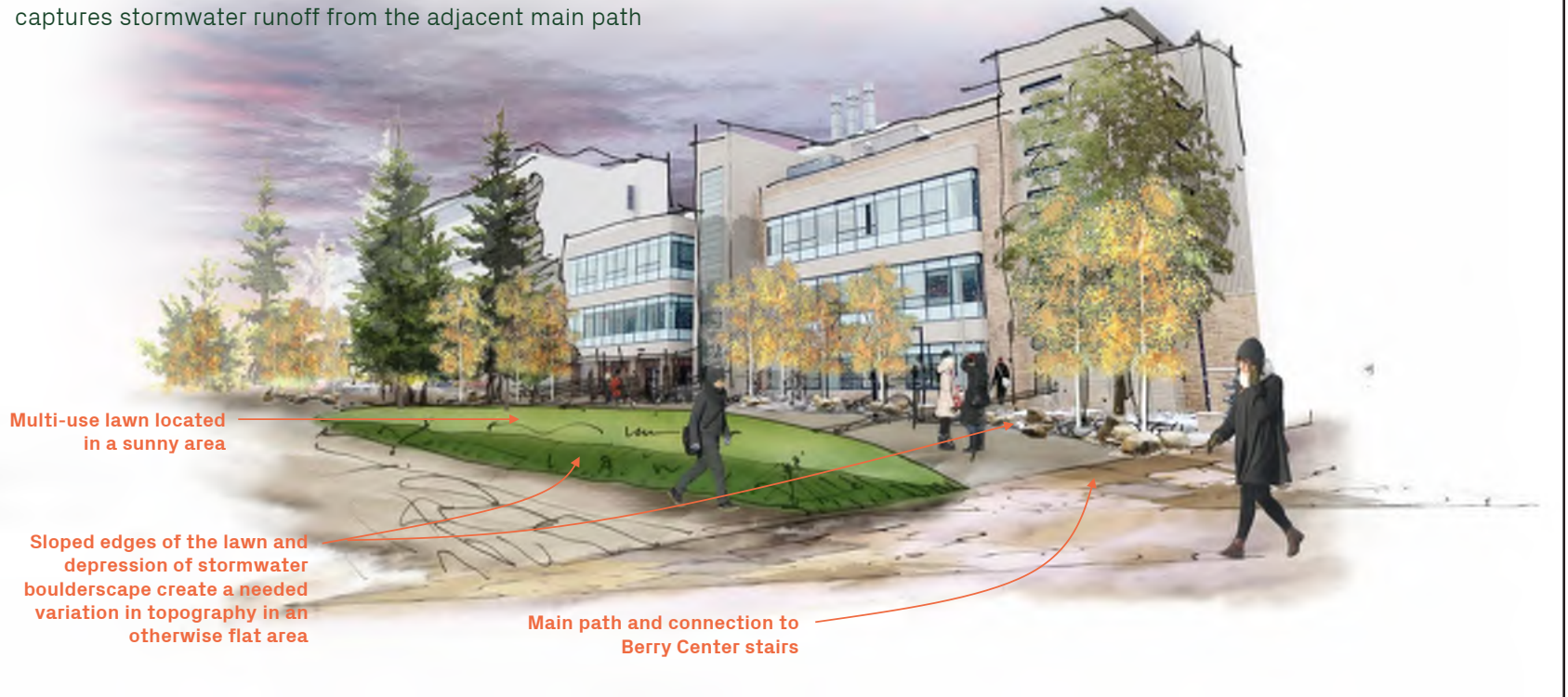
**“The Plain”** Before



Existing photo of Lewis St. near the EIC and Enzi STEM (Before)

## “The Plain” After

Lewis St. gives way to a small front lawn for both the EIC and Enzi STEM buildings. A linear boulderscape with small trees captures stormwater runoff from the adjacent main path



Collage illustrating the design of “The Plain” (After)

## “11<sup>th</sup> Street Transformation” Before



Existing photo of 11th St. at Enzi STEM (Before)

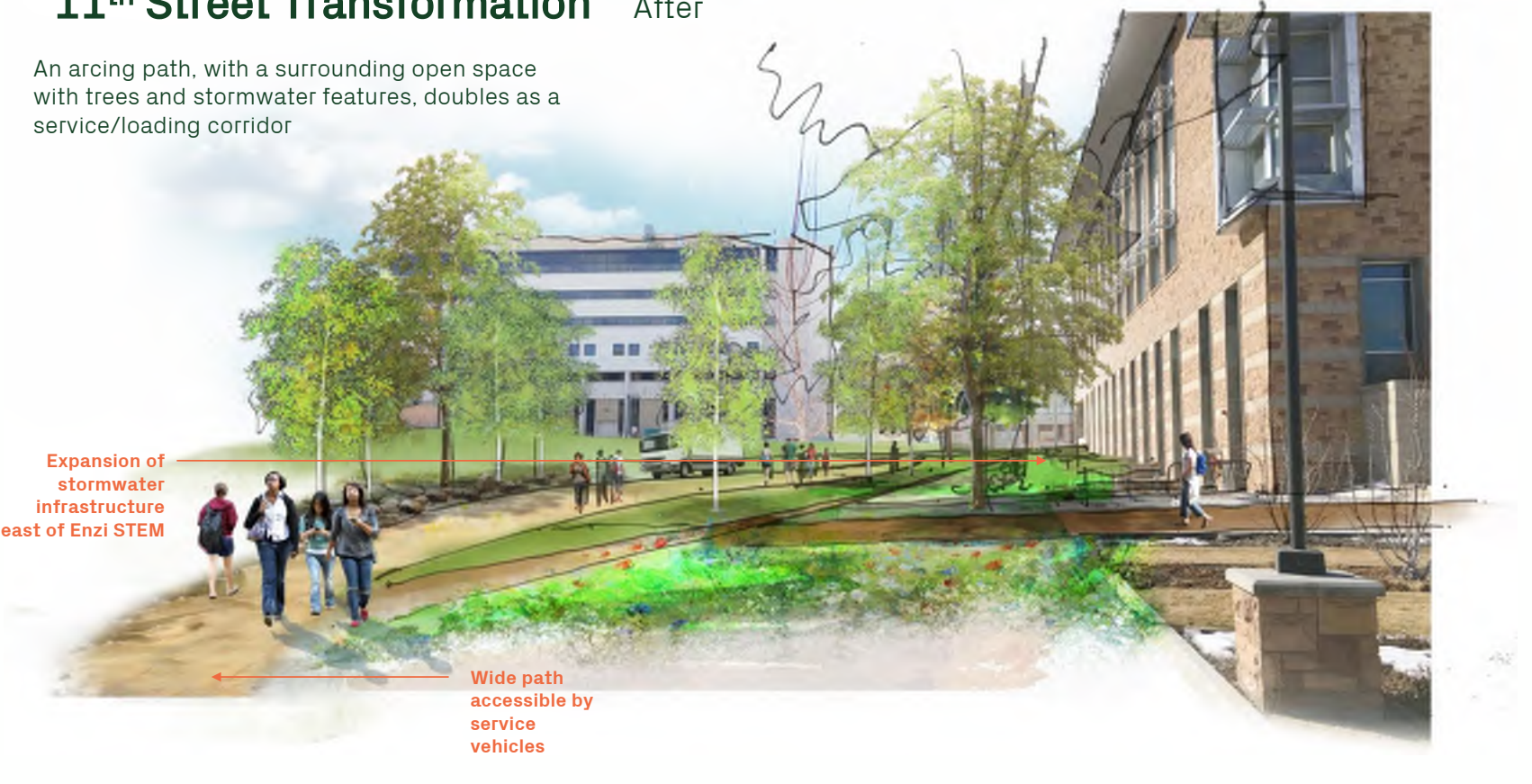


## “11<sup>th</sup> Street Transformation” After

An arcing path, with a surrounding open space with trees and stormwater features, doubles as a service/loading corridor

Expansion of  
stormwater  
infrastructure  
east of Enzi STEM

Wide path  
accessible by  
service  
vehicles



Collage illustrating the design of the transformation of 11th St. (After)

**“Ag/Eng Pinch Point”** After



**Existing photo of the stair, ramp, and walls between Agriculture and Engineering (Before)**

## “Ag/Eng Pinch Point” After

Remove existing walls and barriers and create an accessible and habitable thread connecting the corridor to Prexy’s Pasture

Generous width stair for direct, able-bodied access

Create a wide accessible route at under 5% slope to achieve universal access goals

Introduce Boulderscape and alternative planting to tie into Prexy’s Pasture and reconcile grade



Collage illustrating the design of the corridor and extension of the Boulderscape (After)



# 01 Paving Materials

## Purpose

A family of paving and hard surface materials throughout the corridor have been selected for their 1) all-weather durability, 2) practicality, 3) ease of maintenance, and 4) aesthetic that contributes to the campus character. In addition, paving materials should reflect pedestrian qualities and avoid vehicular qualities as through vehicles have been intentionally removed from the corridor. In order to minimize heat island effect, outdoor pavements should be light in color.

The setting method and subsurface condition for all paving should vary according to the pavement loading requirements and specific soil conditions on site. It should be assumed that all paving walkway paving be designed to support service and construction vehicles unless the location indicates otherwise.



Select Materials for their Durability



Break Down Scale with Variations in Pattern/Tone



Differentiate Walkways, Entries, and Plazas

## Design Guideline 01—Paving Material

## 02 Planting Design

### Purpose

Planting design decisions should be the result of a balance of several factors including 1) hardiness, 2) function in response to wind and water, 3) visual-sensory effects, 4) budget, and 5) availability. In addition, plants should be considered for their climate resiliency given the harsh conditions of Laramie's high-altitude prairie – native plants should be strongly considered as they are proven to thrive. A diversity of plant types is encouraged for ecological reasons, but should not result in the loss of visual unity throughout the corridor.

Trees and shrubs should be employed to purposefully define the overall extent, scale, shape, and character of outdoor spaces. Plantings should be properly scaled in proportion to adjacent buildings and streets and should block e/w winds.



Design for Low Water Use



Maintain Institutional Scale & Texture






























































Respond to Buildings Appropriately



Employ Layered Plantings for Enrichment


































### Design Guideline 2—Planting Design

## Large Trees









| Scientific Name              | Common Name           | Leaf  | Nat. | Ht.  | Sun   | H <sub>2</sub> O  | Notes   |
|------------------------------|-----------------------|---|------|------|---|---|---|
| <i>Abies alba</i>            | Silver Fir            |    | -    | 100' |    |    |   |
| <i>Abies balsamea</i>        | Balsam Fir            |    | US   | 75'  |    |    | Prefers lower elevation and moisture                        |
| <i>Abies concolor</i>        | White Fir             |    | WY   | 100' |    |    | Slow-growing  |
| <i>Abies lasiocarpa</i>      | Subalpine Fir         |    | WY   | 60'  |    |    | Currently found on campus                                   |
| <i>Acer negundo</i>          | Boxelder              |    | WY   | 60'  |    |    | Currently found on campus                                   |
| <i>Celtis laevigata</i>      | Sugarberry            |    | WY   | 80'  |    |    | Streams, bottomlands, woodlands                             |
| <i>Celtis occidentalis</i>   | Hackberry             |    | WY   | 100' |    |    | Stream banks, floodplains                                   |
| <i>Fagus grandifolia</i>     | American Beech        |    | US   | 70'  |    |    | Winter interest   |
| <i>Gleditsia triacanthos</i> | Honey Locust          |    | US   | 60'  |    |    | Streets and urban areas                                     |
| <i>Gymnocladus dioicus</i>   | Kentucky Coffeetree   |    | US   | 60'  |    |    | Rec'd by City of Laramie                                    |
| <i>Larix laricina</i>        | American Larch        |    | WY   | 60'  |    |    | Rec'd by City of Laramie                                    |
| <i>Picea pungens</i>         | Colorado Blue Spruce  |    | WY   | 60'  |    |    | Consider alternate plants first for plant diversity reasons |
| <i>Pinus contorta</i>        | Lodgepole Pine        |    | WY   | 90'  |    |    | Variety 'Latifolia' is native to WY                         |
| <i>Pinus ponderosa</i>       | Ponderosa Pine        |   | WY   | 100' |   |   | Rec'd by City of Laramie                                    |
| <i>Populus angustifolia</i>  | Narrowleaf Cottonwood |  | WY   | 60'  |  |  | Consider alternate plants first for plant diversity reasons |
| <i>Pseudotsuga menziesii</i> | Douglas Fir           |  | US   | 80'  |  |  | Rec'd by WY State Forester                                  |
| <i>Quercus macrocarpa</i>    | Bur Oak               |  | US   | 80'  |  |  | Rec'd by City of Laramie                                    |
| <i>Quercus rubra</i>         | Northern Red Oak      |  | US   | 75'  |  |  | Soil amendments   |
| <i>Thuja occidentalis</i>    | Arborvitae            |  | US   | 50'  |  |  | Moist areas   |
| <i>Tilia americana</i>       | American Basswood     |  | US   | 80'  |  |  | Rec'd by City of Laramie                                    |
| <i>Tilia cordata</i>         | Littleleaf Linden     |  | -    | 80'  |  |  | Rec'd by City of Laramie                                    |
| <i>Ulmus americana</i>       | American Elm          |  | WY   | 80'  |  |  |   |
















































## Medium Trees

| Scientific Name               | Common Name           | Leaf  | Nat. | Ht. | Sun   | H <sub>2</sub> O  | Notes                                |
|-------------------------------|-----------------------|---|------|-----|---|---|--------------------------------------|
| <i>Acer grandidentatum</i>    | Bigtooth Maple        |  | WY   | 35' |  |  | Native to basin and range landscapes |
| <i>Abies fraseri</i>          | Fraser Fir            |  | US   | 40' |  |  | Mountain landscapes                  |
| <i>Aesculus glabra</i>        | Ohio Buckeye          |  | US   | 45' |  |  | Rec'd by WY State Forester           |
| <i>Betula papyrifera</i>      | Paper Birch           |  | WY   | 60' |  |  | Wet areas                            |
| <i>Betula nigra</i>           | River Birch           |  | WY   | 50' |  |  | Wet areas                            |
| <i>Betula pendula</i>         | Cutleaf Weeping Birch |  | -    | 50' |  |  | Wet areas, Rec'd by City of Laramie  |
| <i>Catalpa speciosa</i>       | Catalpa               |  | US   | 60' |  |  | Open areas                           |
| <i>Fraxinus pennsylvanica</i> | Green Ash             |  | WY   | 50' |  |  | Wet areas, Rec'd by City of Laramie  |
| <i>Picea glauca</i>           | White Spruce          |  | WY   | 60' |  |  | Rec'd by City of Laramie             |
| <i>Pinus densiflora</i>       | Japanese Red Pine     |  | -    | 60' |  |  | Mountain landscapes                  |
| <i>Pinus nigra</i>            | Austrian Pine         |  | -    | 60' |  |  | Rec'd by WY State Forester           |



**Legend**

|   |            |   |            |   |                     |
|---|------------|---|------------|---|---------------------|
|  | Coniferous |  | Full Sun   |  | High Water Need     |
|  | Deciduous  |  | Part Shade |  | Moderate Water Need |
|   |            |  | Shade      |  | Low Water Need      |




## Small Trees

| Scientific Name             | Common Name       | Leaf  | Nat. | Ht. | Sun   | H <sub>2</sub> O  | Notes  |
|-----------------------------|-------------------|---|------|-----|---|---|--|
| Malus 'Centzam', 'Dolgo'    | Crabapple         |    | US   | 25' |    |    | Rec'd by City of Laramie                             |
| Malus coronaria             | Wild Crab Apple   |    | US   | 25' |    |    | Self pollinating                                     |
| Malus spp. (edible apple)   | Apple             |    | -    | 15' |    |    | Plant in pairs at least for pollination              |
| Ostrya virginiana           | Hop Hornbeam      |    | US   | 30' |    |    | Notable features                                     |
| Prunus armeniaca            | Apricot           |    | -    | 20' |    |    | Plant in pairs at least for pollination              |
| Prunus pensylvanica         | Pin Cherry        |    | US   | 25' |    |    | Consider soil amendment                              |
| Prunus persica 'Contender'  | Peach             |    | -    | 15' |    |    | Self pollinating                                     |
| Prunus spp. (edible cherry) | Cherry            |    | -    | 15' |    |    | Plant in pairs at least for pollination, Rec'd by UW |
| Prunus spp. (edible Plum)   | Plum              |    | -    | 20' |    |    | Plant in pairs at least for pollination              |
| Prunus virginiana           | Chokecherry       |    | WY   | 25' |    |    | Rec'd by City of Laramie                             |
| Pyrus spp. (edible pear)    | Pear              |    | -    | 15' |    |    | Plant in pairs at least for pollination              |
| Quercus gambelii            | Gambel/Scrub Oak  |    | WY   | 30' |    |    | Rec'd by City of Laramie                             |
| Salix exigua                | Narrowleaf Willow |    | WY   | 15' |    |    | Wet areas  |
| Sorbus americana            | Mountain Ash      |   | US   | 30' |   |   | Open areas   |
| Ulmus 'Accolade'            | Accolade Elm      |  | -    | 30' |  |  | Rec'd by City of Laramie                             |

### Legend

 Coniferous  
 Deciduous

 Full Sun  
 Part Shade  
 Shade

 High Water Need  
 Moderate Water Need  
 Low Water Need

# 03 Irrigation

## Purpose

Irrigation is needed to preserve and enhance heritage landscapes in a high-altitude prairie. Currently, nearly 100% of campus landscapes are irrigated using low-quality well water with rights owned by the University and City. It is anticipated that in the near future, all irrigation water will be from University-owned sources. To offset the volume of well water needed, and the significant cost of irrigation, it is strongly encouraged to consider investing in methods and means to collect and reuse water where possible.

Irrigation will be employed within the corridor in key spaces and for the establishment and success of plants. Alternative areas, such as Boulderscapes, should be considered for the experimentation of the removal or diminished use of irrigation.



Irrigate Major Open Spaces



Employ Selective Drip Irrigation in Non-Lawn Areas



Collect Stormwater Using Appropriate Means



## Design Guideline 3—Irrigation



# 04 Public Art

## Purpose

The 2018 Public Art Plan identifies the six-block Lewis St. corridor as a canvas for “Integrated Art” with the goal of “engaging artists to develop projects integrated into the design of facilities and landscapes to create memorable places and amplify campus character.” Art within the corridor should consider and reflect the land ethic of the state of Wyoming. As there are many opportunities for art within this framework, it is strongly encouraged that the Public Art Committee be engaged in the schematic design process to realize the vision of the Public Art Plan into the corridor.

Land art, aerial art, sculpture, walls, and temporary installations should be considered as there are multiple spaces provided in the design and, thus, multiple levels of pedestrian engagement and interaction with art.



Land Art



Aerial Art



Sculpture



Seasonal Installations



## Design Guideline 4—Public Art

## 05 Site Elements

### Purpose

The various site furnishings and elements found throughout the corridor contribute to the usability and functionality of the landscape and have a significant impact on the campus character. Each element comes with its own maintenance considerations and each should be appropriately located relative to circulation and visual field. With respect to seating, a family of fixed and movable options should be considered to encourage user interaction and interest.

Each site element has been selected for its aesthetic fit with the UW character, durability, and maintenance needs, as well as the meeting of sustainability criteria where practical. These elements may include: receptacles, benches, bollards, tables and chairs, bike racks, handrails, guardrails, walls, and boulderscapes.



Benches



Table & Chairs



Communal Tables



Trash/Recycling Receptacles



Bike Racks



Boulderscape

### Design Guideline 5—Site Elements

# 06 Lighting

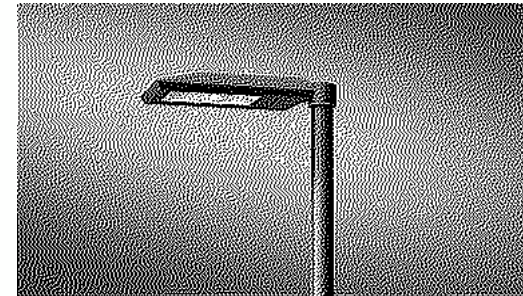
## Purpose

The campus has a well-established, though outdated, family of lights. With the removal of all vehicular traffic and associated lights within the corridor, this project promotes the updating of the campus standard pedestrian fixtures to remain consistent with the campus character while providing necessary light levels, consistency, spacing, and aesthetic for the variety of outdoor spaces within the corridor.

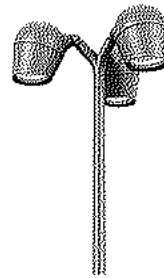
The corridor consists of a main pathway, smaller secondary pathways, plazas, building entries, and a variety of open spaces. The future lighting design of the corridor should take all these into consideration and provide a family of fixtures. There is not a one-size-fits-all solution to lighting the pedestrian corridor. All lights should be compliant with IES, dark-sky, and BUG standards.



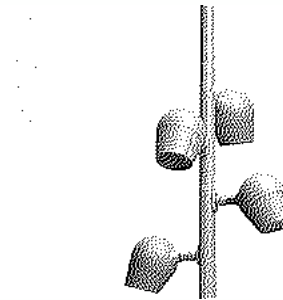
Main Path Light: Special Fixture



Secondary Walkways: Post-Top



Plazas & Entries: Multi-Head Spot Light



Open Spaces: Flood Lighting

## Design Guideline 6—Lighting

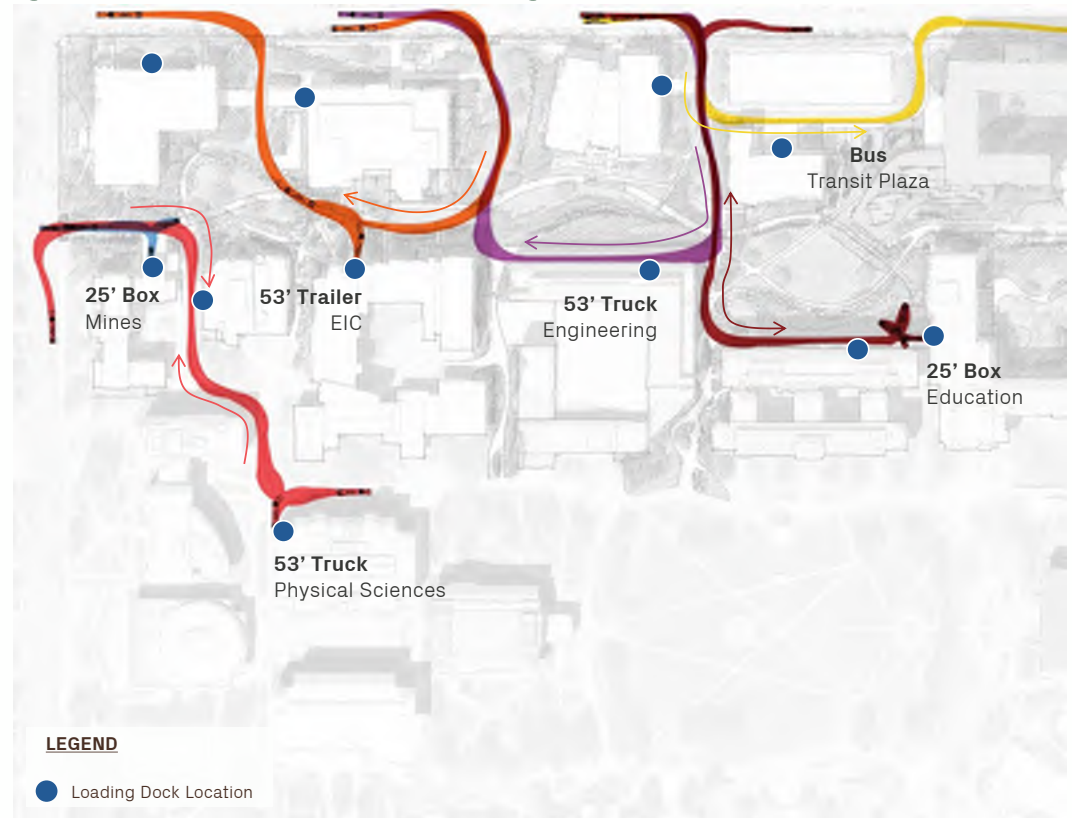


## 07 Vehicular Access (Emergency, Service/Loading)

### Purpose

Though Lewis St. will be permanently closed to through traffic and given to pedestrians, emergency vehicles as well as service and loading vehicles will still need to access the multiple buildings along the corridor per city and university requirements. This access will continue to happen unimpeded by barriers and will be designed as a curbside pedestrian corridor. From the surrounding streets, bollards and/or signage will mark access points.

All university vehicles traveling on the path should share the road and travel at a walking pace, giving way to pedestrians. Logistically, parked service vehicles should not impede pedestrian circulation. Emergency vehicles should conform to local codes (fire hydrant utilities will need to be designed and located in the next phase of design).



Design Guideline 7—Vehicular Access





**Cost Estimate**

**115**





## Methodology

RSMMeans, a leading national construction cost database, is the basis for the cost estimate. Materials, site elements, and vegetation areas were measured from the preferred concept design.

For the Phase 1 Pedestrian Corridor and the Science Initiative landscapes, concept-level “hard cost” budgets are provided. Hard costs are those tangible assets of a construction project that must be demolished, acquired, or fabricated and installed to complete the design intent documented in the Lewis St. Master Plan. Broadly, hard costs include the procurement, labor, overhead, and profit for all physical materials needed to implement a construction project. Hard costs are generally 65-75% of the total project costs.

## Items Not Included

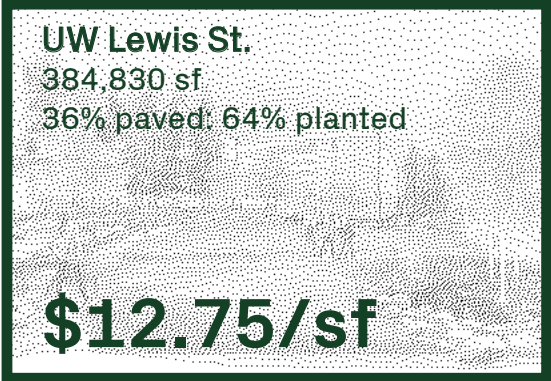
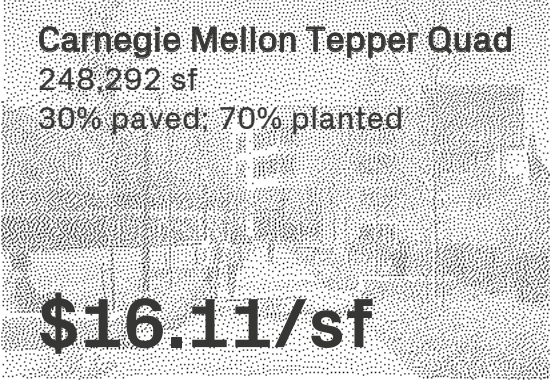
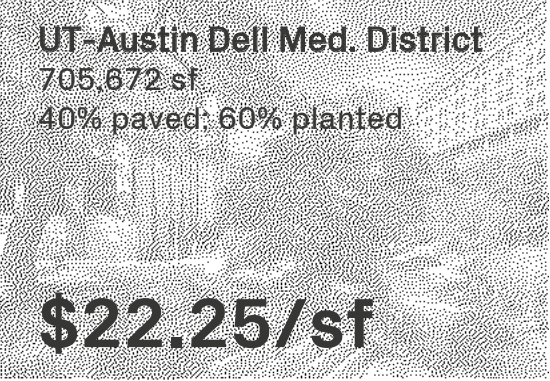

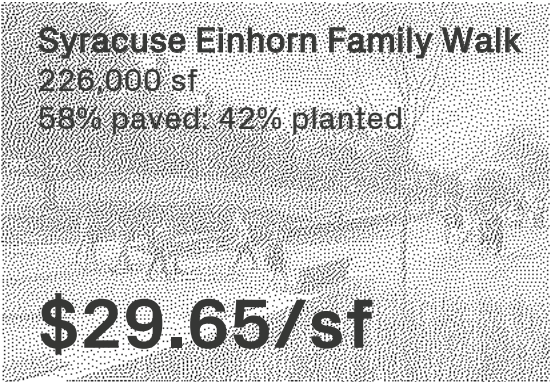
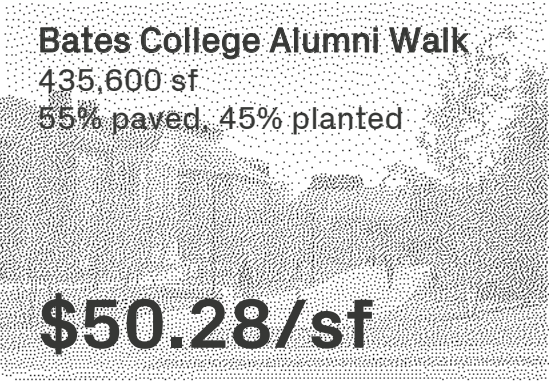
The Lewis St. Master Plan cost estimates do not include complete site preparation and demolition or earthwork costs, which are estimated to as reasonable a point as possible in the Phase 1 Pedestrian Corridor estimate, given the unknown nature of the project site. For the Science Initiative estimate, it is assumed that the site will already be prepared due to current construction activities.

Neither estimate carries costs for storm drainage, fire protection, potable water, sewer system, or other special utilities as civil and MEP engineers were not involved in the landscape master plan. An irrigation allowance is held in the Phase 1 Pedestrian Corridor estimate, which is meant to cover both projects at this time. Though landscape light fixtures and poles are carried in the cost estimate, electrical utilities are not.

The proposed landscape improvements also do not include project “soft costs,” which are intangible items including all architectural, design, and inspection fees, as well as special equipment costs, project management costs, insurance, and taxes that are related to facilitating a construction project. These costs are typically fine-tuned on a case-by-case basis, but generally total 25-35% of the project hard costs. Hard and soft costs added together typically represent the total project cost.

Costs associated with future art installations of any kind are not carried in this cost estimate.

## Cost Estimate Similar Projects

|   |   |   |
|---|---|---|
|  <p><b>UW Lewis St.</b><br/>384,830 sf<br/>36% paved; 64% planted</p> <p><b>\$12.75/sf</b></p> |  <p><b>Carnegie Mellon Tepper Quad</b><br/>248,292 sf<br/>30% paved; 70% planted</p> <p><b>\$16.11/sf</b></p>   |  <p><b>UT-Austin Dell Med. District</b><br/>705,672 sf<br/>40% paved; 60% planted</p> <p><b>\$22.25/sf</b></p> |
|  <p><b>SUNY New Paltz Concourse</b><br/>85% paved; 15% planted</p> <p><b>\$23.27/sf</b></p>   |  <p><b>Syracuse Einhorn Family Walk</b><br/>226,000 sf<br/>58% paved; 42% planted</p> <p><b>\$29.65/sf</b></p> |  <p><b>Bates College Alumni Walk</b><br/>435,600 sf<br/>55% paved; 45% planted</p> <p><b>\$50.28/sf</b></p>   |

### Cost comparison to other similar projects

Similar projects were compared to the Lewis St. Master Plan to analyze the project's cost per square foot against five other projects that Sasaki designed and implemented in the last 10 years. Overall, the cost of the project is similar to others yet less expensive, due to a higher proportion of planted area,



**LEWIS ST. MASTER PLAN – PHASE 1 PEDESTRIAN CORRIDOR**

|  | <u>Total Cost</u>  |            |
|--|--------------------|------------|
| <b>1.0 Site Preparation &amp; Demolition</b> | <b>\$696,266</b>   |            |
| <b>2.0 Earthwork</b>                         | <b>\$57,073</b>    |            |
| <b>3.0 Utilities &amp; Stormwater</b>        | <b>\$953,612</b>   |            |
| <b>4.0 Hardscape</b>                         | <b>\$1,809,913</b> |            |
| <b>5.0 Site Furnishings</b>                  | <b>\$374,590</b>   |            |
| <b>6.0 Landscaping</b>                       | <b>\$727,323</b>   |            |
| <b>7.0 Special Elements (Boulderscape)</b>   | <b>\$288,000</b>   |            |
| <b>Subtotal</b>                              | <b>\$4,906,777</b> | \$12.75/sf |
| GENERAL REQUIREMENTS & CONDITIONS (10%)      | \$490,678          |            |
| <b>Subtotal w/out Contingency</b>            | <b>\$5,397,455</b> |            |
| 10% PRICING CONTINGENCY                      | \$539,746          |            |
| 15% DESIGN CONTINGENCY                       | \$809,618          |            |
| <b>Total Construction Cost</b>               | <b>\$6,746,819</b> |            |

**General Requirements & Conditions:** Permit fees, builder's risk insurance, performance bond, material testing, inspection services, temporary utilities, field office, construction aids (temporary cranes, hoists, etc.), equipment mobilization, construction surveying & layout, temporary signage, cleaning & waste management, and protection of installed construction

**Pricing Contingency:** pricing errors & omissions, price fluctuations

**Design Contingency:** items not in documented scope, or for scope documented with insufficient information

**PHASE I PEDESTRIAN CORRIDOR**

Concept Plan and Design Guidelines Cost Estimate  
 Project Number: 85265.01

Soeak  
 University of Wyoming Lewis St. Master Plan  
 June 26, 2019

| Item No.                                      | Item   | Quantity | Units | Unit Cost   | COST              | Details  | Notes  |
|---|--|----------|-------|-------------|-------------------|--|--|
| <b>1.0: Site Preparation &amp; Demolition</b> |  |          |       |             |                   |  |  |
| <b>1.1 Site Preparation</b>                   |  |          |       |             |                   |  |  |
|   | Temporary Chain link Fencing - Double Gate                       | 6D       | LF    | \$ 200.00   | \$ 10,000.00      | 6' ht  | Allowance  |
|   | Temporary Chain link Fencing                                     | 7,428    | LF    | \$ 2.50     | \$ 18,570.00      | 6' ht, wind and privacy screen treated   | Perimeter length                                   |
| <b>1.2 Site Clearing</b>                      |  |          |       |             |                   |  |  |
|   | Clear & Grub Site  | 30,480   | SF    | \$ 0.28     | \$ 7,696.00       | Inc. trees up to 6" dia.   | Allowance for 10% of site                          |
|   | Tree Removal   | 40       | EA    | \$ 400.00   | \$ 16,000.00      | 12" dia, chainsaw & chipper + load & haul  | Allowance  |
| <b>1.3 Utility Demolition</b>                 |  |          |       |             |                   |  |  |
|   | R&D walkway lightpole for owner                                  | 20       | EA    | \$ 500.00   | \$ 10,000.00      | R&D foundation   | Allowance, TBD if poles are R&S or R&D             |
|   | R&D parking lot lightpole  | 40       | EA    | \$ 800.00   | \$ 32,000.00      | R&D foundation   | Allowance, TBD if poles are R&S or R&D             |
| <b>1.4 Site Demolition</b>                    |  |          |       |             |                   |  |  |
|   | R&D Concrete paving  | 250,000  | SF    | \$ 2.30     | \$ 575,000.00     | Reinforced   | Existing roadway area, includes roadways at SI     |
|   | R&D Concrete curb  | 6,000    | LF    | \$ 6.40     | \$ 27,000.00      | Includes integral gutter   | Allowance  |
| <b>1.5 Special Demolition</b>                 |  |          |       |             |                   |  |  |
|   |  |          |       |             | <b>\$ 666,266</b> |  | Landscape Only Items, does not include utilities   |
| <b>2.0: Earthwork</b>                         |  |          |       |             |                   |  |  |
|   | Rough Grading  | 364,830  | SF    | \$ 0.10     | \$ 36,483.00      | Open sites, with grader  | Site area  |
|   | Fine grading of subgrade for roadway base course                 | 100,023  | SF    | \$ 0.10     | \$ 10,002.30      |  | Proposed area                                      |
|   | Fine grading of granular base for sidewalks                      | 42,937   | SF    | \$ 0.20     | \$ 8,587.40       |  | Proposed area                                      |
|   |  |          |       |             | <b>\$ 57,073</b>  |  | Does not include cut, fill, and imported materials |
| <b>3.0: Utilities &amp; Infrastructure</b>    |  |          |       |             |                   |  |  |
| <b>3.1 Storm Drainage System</b>              |  |          |       |             |                   |  |  |
| <b>3.2 Fire Protection System</b>             |  |          |       |             |                   |  |  |
| <b>3.3 Potable Water System</b>               |  |          |       |             |                   |  |  |
| <b>3.4 Irrigation Water System</b>            |  |          |       |             |                   |  |  |
|   | 6" HDPE  | 2,500    | LF    | \$ 33.20    | \$ 83,000         | 6' deep  | Allowance for lawn area only                       |
|   | Pop up spray head system whislers                                | 82,668   | SF    | \$ 1.60     | \$ 123,987        | 3/4" pop, 1 1/2" supply  | Allowance for lawn area only                       |
|   | Quick coupling valves - 3/4"                                     | 10       | EA    | \$ 90.50    | \$ 905            | Brass w/locking cover  | Allowance for lawn area only                       |
|   | Controller valve box   | 6        | EA    | \$ 144.00   | \$ 720            | 12" square box   | Allowance for lawn area only                       |
| <b>3.5 Sewer System</b>                       |  |          |       |             |                   |  |  |
| <b>3.6 Lighting and Electrical System</b>     |  |          |       |             |                   |  |  |
|   | Lighting Unit Type 1: BEGA 99 499 w/ BEGA 9661R pole             | 80       | EA    | \$ 5,000.00 | \$ 400,000        | Pedestrian paths, non main path  | Allowance  |
|   | Lighting Unit Type 2: BEGA 84 993                                | 30       | EA    | \$ 8,000.00 | \$ 240,000        | Main Path  | Allowance - approx. 80' spacing                    |
|   | Lighting Unit Type 3: BEGA 77 749                                | 40       | EA    | \$ 1,500.00 | \$ 60,000         | Boisard Light  | Allowance at building entries                      |
|   | Lighting Unit Type 4: AAL  | 6        | EA    | \$ 9,000.00 | \$ 45,000         | Mounted @ 180" (2,834+1002) x 2  | Lawn area sign of The Basin                        |
| <b>3.7 Special Utilities</b>                  |  |          |       |             |                   |  |  |
|   |  |          |       |             | <b>\$ 958,612</b> |  | Landscape Only Items                               |
| <b>4.0: Hardscape</b>                         |  |          |       |             |                   |  |  |
|   | Cast-in-place Concrete Paving Ped - Stream Finish                | 42,927   | SF    | \$ 7.80     | \$ 354,831        | 3000psi, mesh reinforced   | Pedestrian only sidewalks                          |
|   | Cast-in-place Concrete Paving Vehicle - Exposed Aggregate finish | 80,005   | SF    | \$ 12.40    | \$ 992,062        | 3000psi, mesh reinforced   | Main path plus all vehicular cross                 |
|   | Precast concrete pavers, 2 3/8" thick over concrete slab         | 20,098   | SF    | \$ 22.10    | \$ 442,998        | 14" excavation (0.68/sf), 6" base (0.89/sf), 4" conc (\$3.12), setting bed (0.68/sf), pavers (3.50/sf) | Specialty paving at building entries               |
|   | Tactile warning tiles  | 100      | SF    | \$ 126.00   | \$ 12,600         | Cast iron  | Allowance  |
|   | Precast concrete wheel stop                                      | 20       | EA    | \$ 63.50    | \$ 1,270          | Includes dowels 6" x 10" x 6'-0"   | Enzi STEM relocated parking                        |

| Item No.                             | Item  | Quantity | Units | Unit Cost   | Cost                | Details   | Notes   |
|--------------------------------------|---|----------|-------|-------------|---------------------|---|---|
|                                      | Painted pavement markings                                 | 500      | LF    | \$ 0.40     | \$ 200              | Acrylic waterborne, 4" wide   | Encl STDH relocated parking                       |
|                                      | Parking Stall pavement markings                           | 20       | Stall | \$ 8.90     | \$ 178              | Acrylic waterborne, 4" wide   | Encl STDH relocated parking                       |
|                                      | Pavement parking markings - Handicap parking sign w/ post | 5        | EA    | \$ 285.00   | \$ 1,425            | 0   | Encl STDH relocated parking                       |
|                                      | Stone Stairs  | 150      | LF    | \$ 83.00    | \$ 12,450           | 6"x14" on concrete base   | At Eng'g  |
|                                      | Stainless steel pipe handrail                             | 300      | LF    | \$ 40.00    | \$ 12,000           | 1 1/2" dia., #4 finish  | Allowance   |
|                                      |   |          |       |             | <b>\$ 1,809,913</b> |   |   |
| <b>6.0 Site Furnishings</b>          |   |          |       |             |                     |   |   |
|                                      | Linear Benches: LF Lakeside Side Opening, Grass design    | 20       | EA    | \$ 1,750.00 | \$ 35,000           | 1895 unit + 14% shipping + 50% installation   | Allowance   |
|                                      | Bench: LF Banca 88" Backless Bench                        | 15       | EA    | \$ 2,771.50 | \$ 41,573           | 1893 unit + 14% shipping + 50% installation   | Allowance   |
|                                      | Bench: LF Banca 108" Half Backed Bench                    | 15       | EA    | \$ 5,674.60 | \$ 85,119           | 3460 unit + 14% shipping + 50% installation   | Allowance   |
|                                      | Table & Chair: LF Park Centre                             | 25       | EA    | \$ 2,280.00 | \$ 57,000           | 2000 unit + 14% shipping  | Allowance   |
|                                      | Bike Rack: LF Bala Powdercoated                           | 150      | EA    | \$ 475.50   | \$ 71,325           | 290 unit + 14% shipping + 50% installation  | Allowance   |
|                                      | Picnic Table: LF Harvest                                  | 20       | EA    | \$ 4,208.00 | \$ 84,160           | 3700 unit + 14% shipping  | Allowance   |
|                                      |   |          |       |             | <b>\$ 374,597</b>   |   |   |
| <b>7.0 Landscaping</b>               |   |          |       |             |                     |   |   |
|                                      | Shade Trees, Deciduous                                    | 108      | EA    | \$ 500.00   | \$ 54,000           | 2 1/2" - 3"   | Small trees (incl. fruit tree species)            |
|                                      | Shade Trees, Deciduous                                    | 45       | EA    | \$ 500.00   | \$ 22,500           | 3" - 3 1/2"   | Medium trees                                      |
|                                      | Shade Trees, Deciduous                                    | 48       | EA    | \$ 800.00   | \$ 38,400           | 3 1/2" - 4"   | Large trees                                       |
|                                      | Conifer Trees, Evergreen                                  | 36       | EA    | \$ 500.00   | \$ 18,000           | 10-12' Ht.  | Spruce and other coniferous trees (planted small) |
|                                      | Perennials & Grasses                                      | 15,000   | EA    | \$ 21.00    | \$ 315,000          | #1 Container / 1 gal. - Hosta, Bluestem, Echinacea, etc.  | 50% of stormwater and other planted areas         |
|                                      | Perennials & Grasses                                      | 15,000   | EA    | \$ 2.50     | \$ 37,500           | 4" Plugs  | 50% of stormwater and other planted areas         |
|                                      | Mulching  | 103,302  | SF    | \$ 1.00     | \$ 103,302          | Aged bark, 3" depth, hand spread  | Mulch in non-lawn areas                           |
|                                      | Sod   | 82,658   | SF    | \$ 1.40     | \$ 115,721          | Large commercial - includes scarifying subsoil, topsoil (1"), fert., lime, raking, rolling, straw | Sod in lawn areas                                 |
|                                      |   |          |       |             | <b>\$ 797,523</b>   |   |   |
| <b>8.0 Special Elements</b>          |   |          |       |             |                     |   |   |
|                                      | Boulderscapes   | 2,400    | TON   | \$ 100.00   | \$ 240,000          | Approximately 0.08 tons/sf  | Price data from UW                                |
|                                      |   |          |       |             | <b>\$ 240,000</b>   |   |   |
| <b>Sub-Total</b>                     |   |          |       |             | <b>\$4,906,777</b>  |   |   |
| General Conditions (10%)             |   |          |       |             | \$490,678           |   |   |
| <b>Sub-Total w/out Contingencies</b> |   |          |       |             | <b>\$5,397,455</b>  |   |   |
| Pricing Contingency (0%)             |   |          |       |             | \$539,746           |   |   |
| Design Contingency (3%)              |   |          |       |             | \$161,927           |   |   |
| <b>TOTAL CONSTRUCTION COSTS</b>      |   |          |       |             | <b>\$6,746,871</b>  | 2019 Cost (Assume 4% Escalation Annually)   |   |





## LEWIS ST. MASTER PLAN – SCIENCE INITIATIVE LANDSCAPE

|  | <u>Total Cost</u> |           |
|--|-------------------|-----------|
| <b>1.0 Site Preparation &amp; Demolition</b> | <b>\$ -</b>       |           |
| <b>2.0 Earthwork</b>                         | <b>\$ -</b>       |           |
| <b>3.0 Utilities &amp; Stormwater</b>        | <b>\$ -</b>       |           |
| <b>4.0 Hardscape</b>                         | <b>\$68,636</b>   |           |
| <b>5.0 Site Furnishings</b>                  | <b>\$48,524</b>   |           |
| <b>6.0 Landscaping</b>                       | <b>\$260,542</b>  |           |
| <b>7.0 Special Elements (Boulderscape)</b>   | <b>\$23,040</b>   |           |
| <b>Subtotal</b>                              | <b>\$400,742</b>  | \$2.09/sf |
| GENERAL REQUIREMENTS & CONDITIONS (10%)      | \$40,074          |           |
| <b>Subtotal w/out Contingency</b>            | <b>\$440,816</b>  |           |
| 10% PRICING CONTINGENCY                      | \$44,082          |           |
| 15% DESIGN CONTINGENCY                       | \$66,122          |           |
| <b>Total Construction Cost</b>               | <b>\$551,020</b>  |           |

**General Requirements & Conditions:** Permit fees, builder's risk insurance, performance bond, material testing, inspection services, temporary utilities, field office, construction aids (temporary cranes, hoists, etc.), equipment mobilization, construction surveying & layout, temporary signage, cleaning & waste management, and protection of installed construction

**Pricing Contingency:** pricing errors & omissions, price fluctuations

**Design Contingency:** items not in documented scope, or for scope documented with insufficient information

**SCIENCE INITIATIVE LANDSCAPE**

Concept Plan and Design Guidelines Cost Estimate  
 Project Number: 05265.05

Sasaki  
 University of Wyoming Lewis St. Master Plan  
 June 26, 2019

| Item No.                                     | Item   | Quantity | Units | Unit Cost   | COST         | Details  | Notes   |
|--|--|----------|-------|-------------|--------------|--|---|
| <b>1.0 Site Preparation &amp; Demolition</b> |  |          |       |             |              |  |   |
| 1.1 Site Preparation                         |  |          |       |             |              |  |   |
| 1.2 Site Clearing                            |  |          |       |             |              |  |   |
| 1.3 Utility Demolition                       |  |          |       |             |              |  |   |
| 1.4 Site Demolition                          |  |          |       |             |              |  |   |
| 1.5 Special Demolition                       |  |          |       |             |              |  |   |
|  |  |          |       |             | \$ -         |  | Site Already Prepared                             |
| <b>2.0 Earthwork</b>                         |  |          |       |             |              |  |   |
|  |  |          |       |             | \$ -         |  | TBD   |
| <b>3.0 Utilities &amp; Infrastructure</b>    |  |          |       |             |              |  |   |
| 3.1 Storm Drainage System                    |  |          |       |             |              |  |   |
| 3.2 Fire Protection System                   |  |          |       |             |              |  |   |
| 3.3 Potable Water System                     |  |          |       |             |              |  |   |
| 3.4 Irrigation Water System                  |  |          |       |             |              |  |   |
| 3.5 Sewer System                             |  |          |       |             |              |  |   |
| 3.6 Lighting and Electrical System           |  |          |       |             |              |  |   |
| 3.7 Special Utilities                        |  |          |       |             |              |  |   |
|  |  |          |       |             | \$ -         |  | TBD   |
| <b>4.0 Hardscape</b>                         |  |          |       |             |              |  |   |
|  | Cost-in-place Concrete Paving Ped - Broom Finish         | 3,878    | SF    | \$ 7.80     | \$ 30,248    | 3000psi, mesh reinforced   | Pedestrian only sidewalks                         |
|  | Precast concrete pavers, 2 3/8" thick over concrete slab | 1,737    | SF    | \$ 22.00    | \$ 38,388    | 14" excavation (0.63/sf), 6" base (0.89/sf), 4" conc (\$3.12), Setting bed (0.68/sf), pavers (\$3.50/sf) | Specialty paving at building entries              |
|  |  |          |       |             | \$ 68,636    |  |   |
| <b>5.0 Site Furnishings</b>                  |  |          |       |             |              |  |   |
|  | Litter Receptacle LF Lakeside Side Opening, Grass design | 4        | EA    | \$ 1,760.00 | \$ 7,040     | 1185 unit + 14% shipping + 50% installation  | Allowance   |
|  | Bench LF Banca 88" Backless Bench                        | 2        | EA    | \$ 2,771.60 | \$ 5,543     | 1690 unit + 14% shipping + 50% installation  | Allowance   |
|  | Bench LF Banca 168" Half Backed Bench                    | 2        | EA    | \$ 5,614.40 | \$ 11,349    | 3460 unit + 14% shipping + 50% installation  | Allowance   |
|  | Table & Chair LF Park Centre                             | 5        | EA    | \$ 2,280.00 | \$ 11,400    | 2000 unit + 14% shipping   | Allowance   |
|  | Bike Rack LF Bold Powdercoated                           | 30       | EA    | \$ 475.60   | \$ 4,756     | 290 unit + 14% shipping + 50% installation   | Allowance   |
|  | Picnic Table LF Harvest                                  | 2        | EA    | \$ 4,218.00 | \$ 8,436     | 3700 unit + 14% shipping   | Allowance   |
|  |  |          |       |             | \$ 48,524    |  |   |
| <b>7.0 Landscaping</b>                       |  |          |       |             |              |  |   |
|  | Shade Trees, Deciduous                                   | 11       | EA    | \$ 500.00   | \$ 5,500     | 2 1/2" - 3"  | Small trees (incl. fruit tree species)            |
|  | Shade Trees, Deciduous                                   | 8        | EA    | \$ 600.00   | \$ 4,800     | 3" - 3 1/2"  | Medium trees                                      |
|  | Shade Trees, Deciduous                                   | 6        | EA    | \$ 800.00   | \$ 4,800     | 3 1/2" - 4"  | Large trees                                       |
|  | Conifer Trees, Evergreen                                 | 4        | EA    | \$ 600.00   | \$ 2,400     | 10-12' ht.   | Spruce and other coniferous trees (planted small) |
|  | Perennials & Grasses                                     | 10,519   | EA    | \$ 21.00    | \$ 220,899   | #1 Container / 1 gal - Hosta, Bluestem, Echinacea, etc.  | 50% of stormwater and other planted areas         |
|  | Mulching   | 10,510   | SF    | \$ 1.00     | \$ 10,510    | Aged bark, 3" depth, hand spread   | Mulch in non-town areas                           |
|  | Sod  | 8,309    | SF    | \$ 1.40     | \$ 11,632.60 | Large commercial - includes scarifying subsoil, topsoil (6"), fert., lime, raking, rolling, scrow        | Sod in town areas                                 |
|  |  |          |       |             | \$ 260,542   |  |   |
| <b>8.0 Special Elements</b>                  |  |          |       |             |              |  |   |
|  | Boulderscapes  | 192      | 10N   | \$ 120.00   | \$ 23,040    | Approximately 0.08 tons/sf   | Price data from UW                                |
|  |  |          |       |             | \$ 23,040    |  |   |



| Item No.                             | Item                      | Quantity | Units | Unit Cost | Cost             | Details | Notes                                     |
|--------------------------------------|---------------------------|----------|-------|-----------|------------------|---------|---|
| <b>Sub-Total</b>                     |                           |          |       |           | <b>\$400,742</b> |         |   |
|                                      | General Conditions (10%)  |          |       |           | \$40,074         |         |   |
| <b>Sub-Total w/out Contingencies</b> |                           |          |       |           | <b>\$440,866</b> |         |   |
|                                      | Pricing Contingency (10%) |          |       |           | \$44,087         |         |   |
|                                      | Design Contingency (5%)   |          |       |           | \$22,722         |         |   |
| <b>TOTAL CONSTRUCTION COSTS</b>      |                           |          |       |           | <b>\$511,020</b> |         | 2019 Cost (Assume 4% Escalation Annually) |



University of Wyoming Exterior  
Design and Aesthetics Committee  
(EDAC) and other university members  
guiding the design process

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SASAKI