



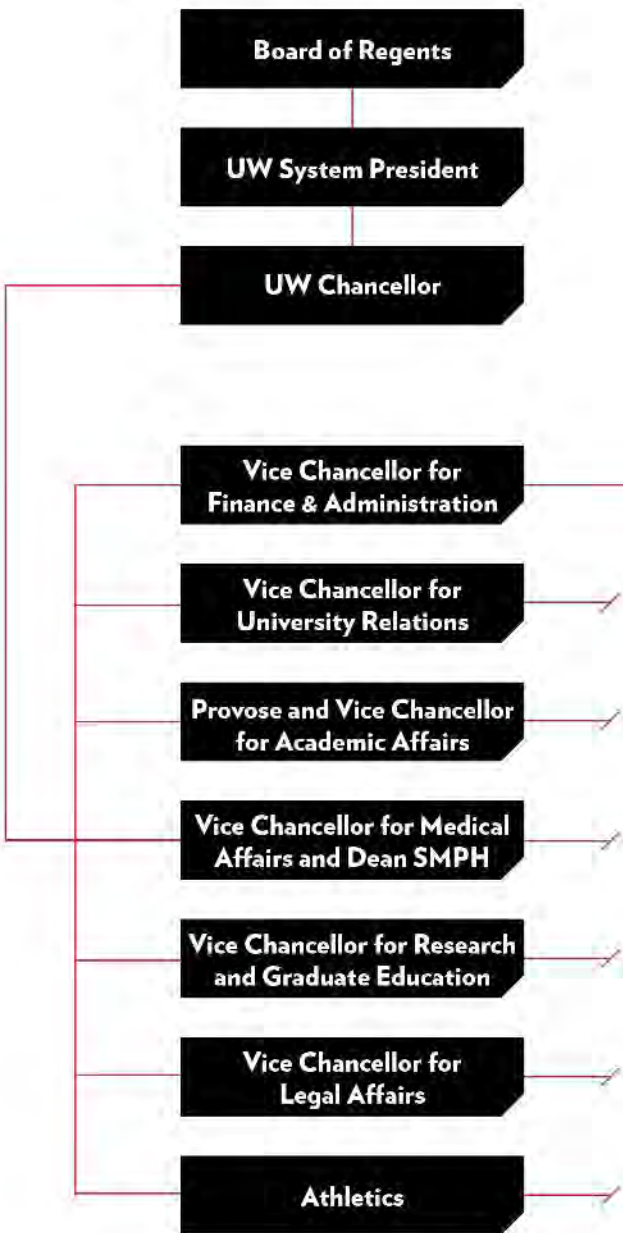
WISCONSIN
UNIVERSITY OF WISCONSIN-MADISON

CAMPUS MASTER PLAN

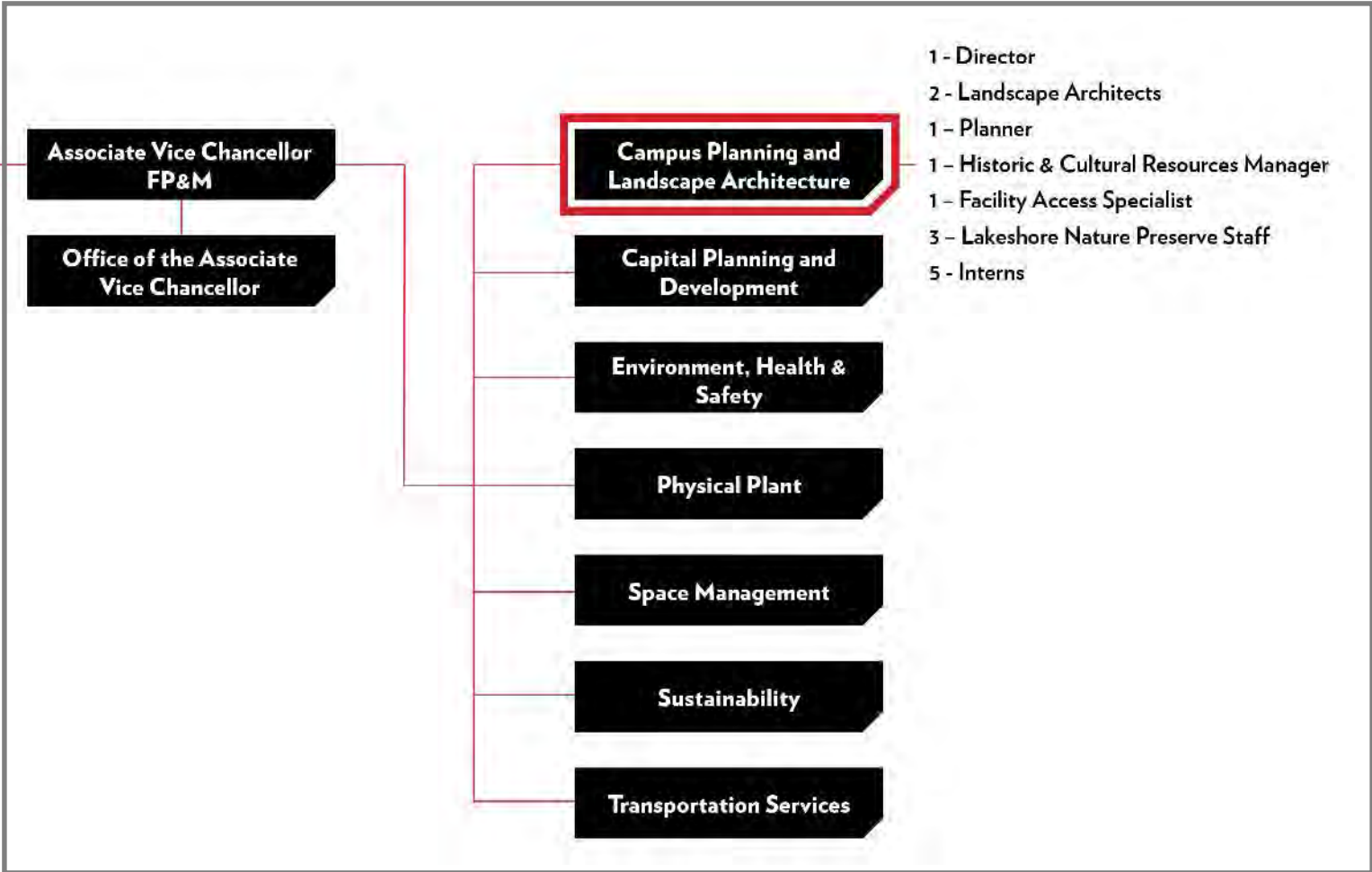
UW-Madison Office of Sustainability

August 1, 2019

EXTENDING OUR HISTORY - EMBRACING OUR FUTURE



**Facilities Planning
& Management**
UNIVERSITY OF WISCONSIN-MADISON



FAST FACTS - CAMPUS OVERVIEW

- Founded in **1848** as Wisconsin's land-grant university
- Flagship campus of the 26-campus University of Wisconsin System
- **936-acre** main campus (incl. 300-acre Lakeshore Nature Preserve)
- Largest land owner on Lake Mendota with 4 miles of lakefront
- **9,647** acres statewide incl. ag research stations, experimental farms, arboretum lands and other off-campus properties
- Total headcount enrollment (Fall 2016): **43,336**
- Total headcount faculty/staff (Fall 2016): **21,752**
- Total population: **65,088** (7th largest "city" in Wisc. by population)
- Approximately **16M ASF** in over **350 buildings**
- **13,000 parking spaces** (2nd lowest per capita nationally) (9K+2K+2K)
- ~ \$3B annual operating budget
- Ranked 6th nationally in research funding (\$1B annually)
- Over **435,000** living alumni





CAMPUS MASTER PLAN OVERVIEW

CAMPUS MASTER PLAN

“Extending Our History - Embracing Our Future”



Focus Areas:

1. Develop our first ever comprehensive Landscape Master Plan.
2. Develop and expand our Stormwater Management/Green Infrastructure Plan.
3. Update the 2005 Campus Master Plan for building capacity on the main campus.
4. Update the 2005 Utilities Master Plan.
5. Update the 2005 Long Range Transportation Plan.

Goals:

1. Support the university's mission in accordance with the Wisconsin Idea and our land grant heritage.
2. Sustainably manage our physical, financial and cultural resources for future generations.
3. Preserve and celebrate our natural lakeside setting and historic resources.
4. Make travel on campus easy for all users.
5. Revitalize, expand and connect our memorable outdoor spaces.
6. Be good neighbors in maintaining a high quality of life for everyone.



OPEN & COLLABORATIVE PROCESS

- Based on a strong culture of shared governance & community involvement at UW-Madison ("hyper-democracy")
- Built on strong Town-Gown relationships with city planning, mayor's office, alders and 7 local neighborhood associations
- Monthly joint city/neighborhood & university committees (east & west)
- Lots and lots of meetings! On and off campus, in the community and out in the neighborhoods.
- Campus Planning is a Participatory Sport – Stay Involved!



NEED FOR A CAMPUS MASTER PLAN

State Building Commission Policy

General Policies, Long Range Planning -
...long-range plans shall be developed to guide the physical development of each state institution....

Wis. Stats. 13.48 (1) State Building Commission:

Long Range Public Building Program -
"The long-range program shall include the necessary lands, new buildings, and all facilities and equipment required and also the remodeling, reconstruction, maintenance and re-equipping of existing buildings and facilities..."

City of Madison Zoning Ordinance Requirement MGO. 28.096

Permits predictable institutional growth within approved boundaries.

Expedites local zoning approval processes and SAVES TIME and MONEY.

Approved Campus Master Plans are effective for 10 years.

Establishes the UW Design Review Board.

Balances the institutions need for change with public benefits gained and with the impact to local neighborhoods.

Board of Regents Policy – 19-15 Physical Development Principles

Integrated planning driven by programmatic needs, physical concerns and within financial realities.

Cooperative planning with host community.

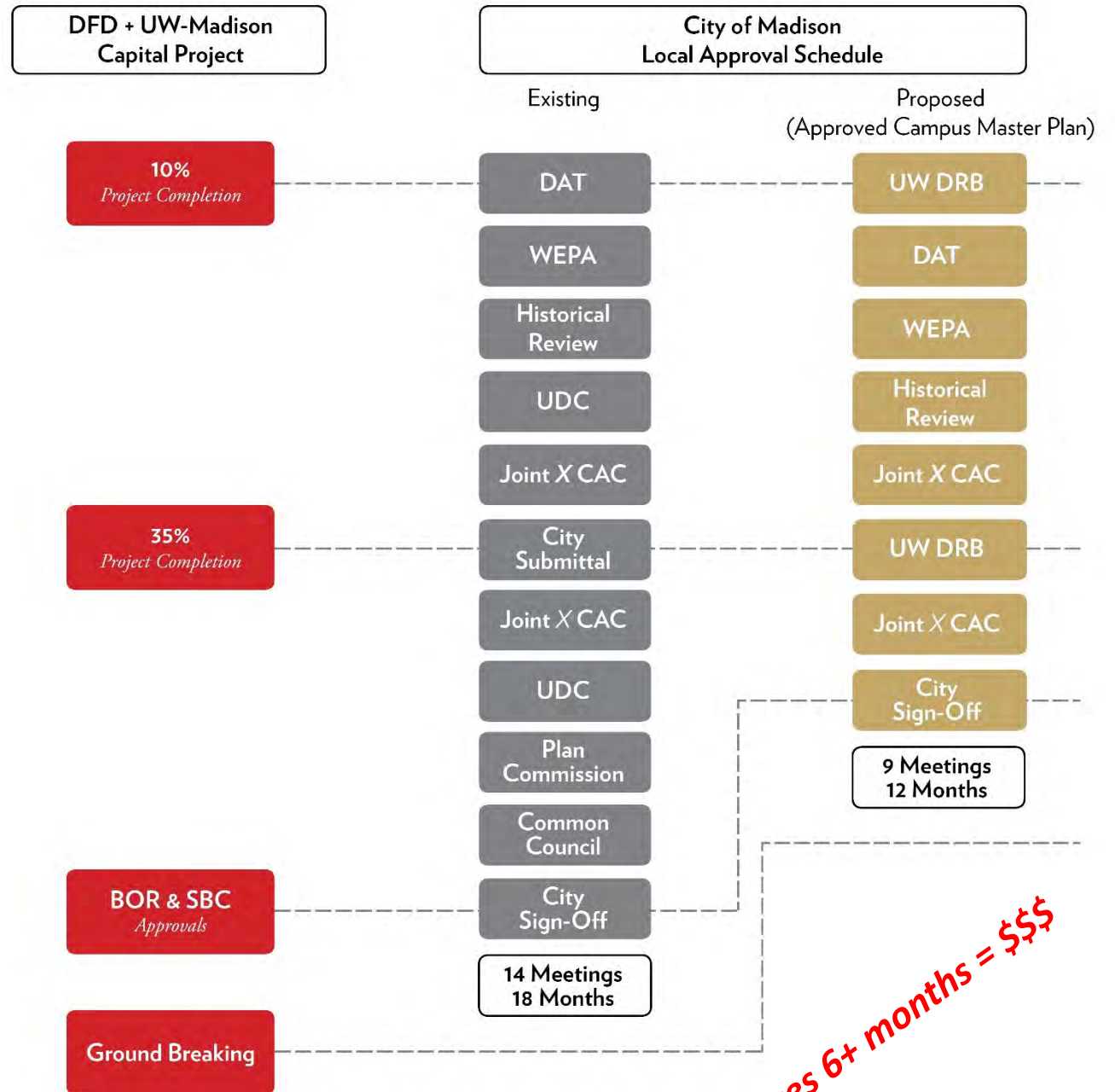
Campus master plans address:

- Space needs
- Image, Identity, aesthetics
- Multimodal transportation & parking
- Open Space
- Building Sites
- Infrastructure & Utilities
- Sustainability
- Accessibility
- Health & Safety

Stewardship of physical assets.

ZONING REVIEW

- Overall review process reduced by 4-6 months
- Removes the city's Urban Design Commission, Plan Commission and Common Council and replaces with more robust Design Review Board
- Continues review and input from neighbors & stakeholders at Joint West & Joint Southeast Campus Area Committees
- City Staff retains final sign-off to assure projects meet the intent of the master plan



Major Recommendations

- Focus on our campus landscape by preserving and integrating our lakeside setting into the campus. Create new campus greenspaces, open areas, courtyards, plazas and quadrangles to tie and extend the main campus north of University Avenue into the more urban south campus area.
- Continue to update and renovate our existing building inventory to make them more flexible for reprogramming and reuse while providing capacity to grow and decompress our existing facilities. Build new buildings when programmatically necessary and with available funding identified.
- Assure our aging utility infrastructure is updated and our utility capacity stays ahead of our new future building needs. Maximize our opportunities for renewable energy.
- Reduce our facility operating costs and wisely manage our fiscal, physical and cultural resources.

Major Recommendations

- Reduce stormwater runoff and increase permeability of the campus landscape wherever possible to assure a healthy Yahara Lakes System and improve water quality. Become a national leader in stormwater management research, teaching and outreach.
- Promote bicycling, walking and using alternatives modes of transportation to and from campus.
- Maintain and expand our nationally known Transportation Demand Management Plan to reduce single occupancy vehicles coming to and from campus.
- Add approximately 2,000 visitor parking spaces to our existing overall parking capacity of 13,000 spaces over the next 20-40 years, maintaining our low permit ratios of 0.34 spaces/employee.

MAJOR BUILDING INITIATIVES

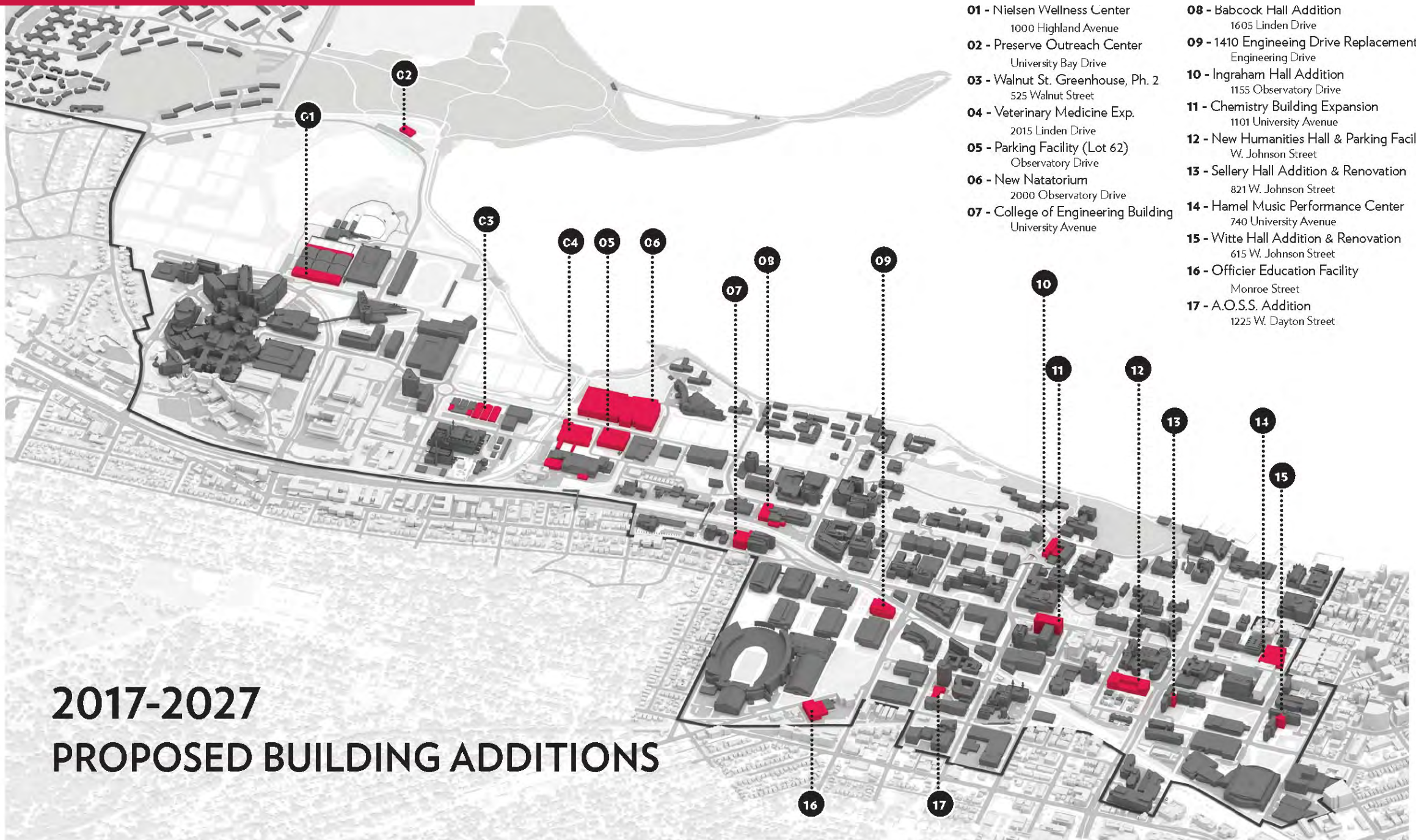
-  In Completion
-  Going Forward
-  Proposals

Major Building Initiatives

- 1 Health Science Research
- 2 Indoor Recreation
- 3 Agricultural and Life Sciences
- 4 Academic/Research
- 5 Engineering Campus
- 6 Wisconsin Institute of Discovery II
- 7 Music Performance
- 8 Facilities and Grounds
- 9 Visual Arts



2017-2027 PROPOSED BUILDING ADDITIONS



LANDSCAPE INITIATIVES



Actively Planning

Major Landscape Initiatives

- 1 Naturalized Observatory Hill
- 2 Sewell Social Sciences Stair and Boardwalk
- 3 Southern Urban Campus Quad
- 4 Revitalized Willow Creek
- 5 Henry Mall Extension to Camp Randall Memorial Park
- 6 Health District Lake Mendota Connection
- 7 Open Space Commons at Horse Barn

--- Campus Development Plan Boundary
Existing Building
Proposed Building

North

LAKE MENDOTA

SOUTH CAMPUS QUAD



University Avenue

W. Johnson Street

N. Charter Street

N. Mills Street

N. Park Street

W. Dayton Street



North

SOUTH CAMPUS QUAD

- Civic Scale - new, contemporary quad
- Simplicity
- Increase sidewalk capacity
- Improve the pedestrian experience – “Brooks Walk”
- Dayton Street as an event street
- Green infrastructure strategies





W. Dayton Street at N. Brooks Street - Existing



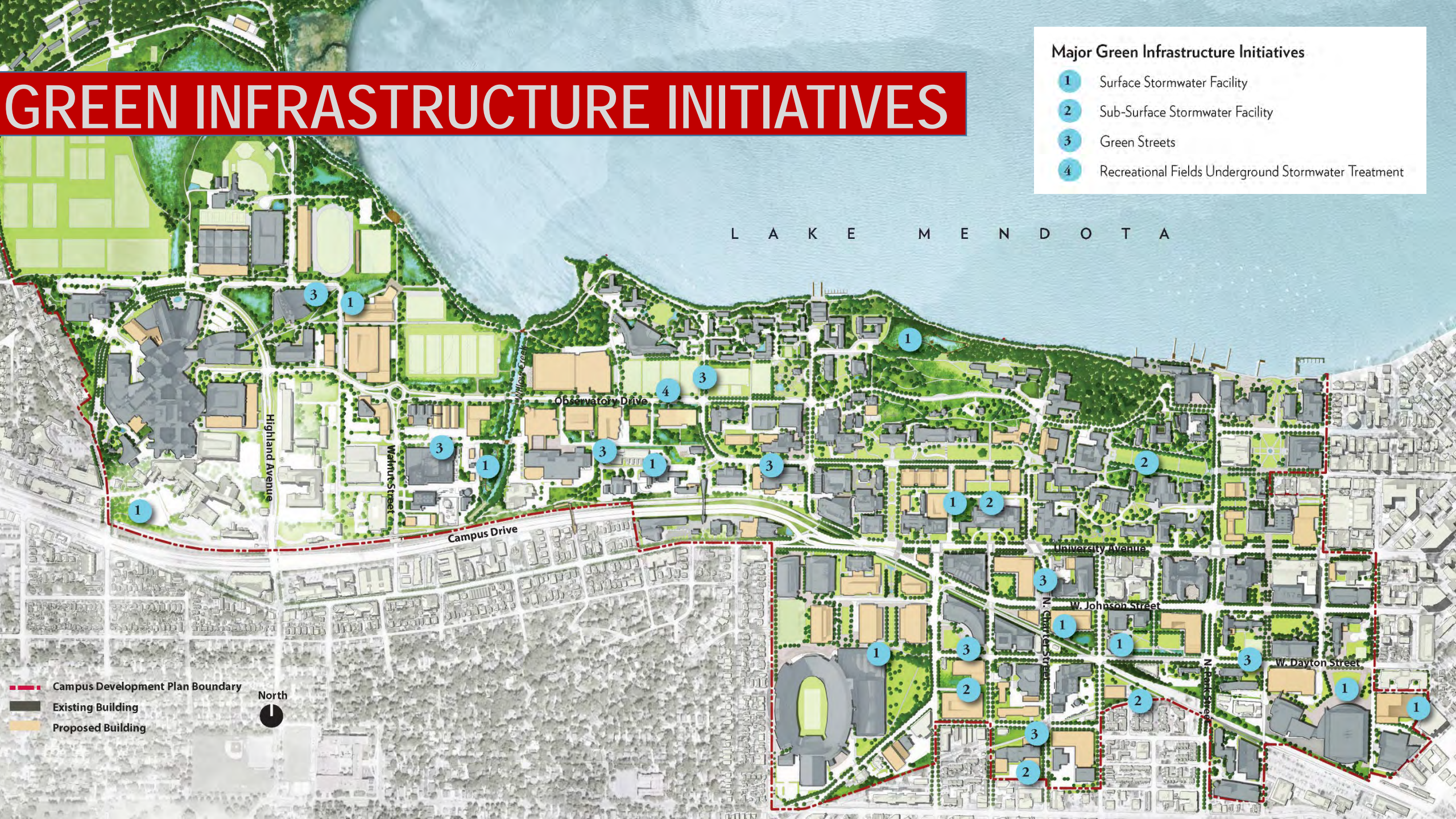
W. Dayton Street at N. Brooks Street - Proposed

GREEN INFRASTRUCTURE INITIATIVES

Major Green Infrastructure Initiatives

- 1 Surface Stormwater Facility
- 2 Sub-Surface Stormwater Facility
- 3 Green Streets
- 4 Recreational Fields Underground Stormwater Treatment

L A K E M E N D O T A



WILLOW CREEK



Campus Drive

Vet Med

Dejope Hall

Willow Creek

Observatory Drive



North

LAKE MENDOTA

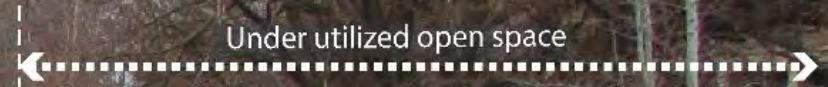
Rennebohm Hall



Obscured view to the lake



Under utilized open space

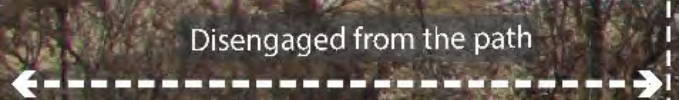


Lawn runoff
polluted creek

Narrow Planting Strip



Disengaged from the path



Erosion



Trees in poor condition



Channelized stream

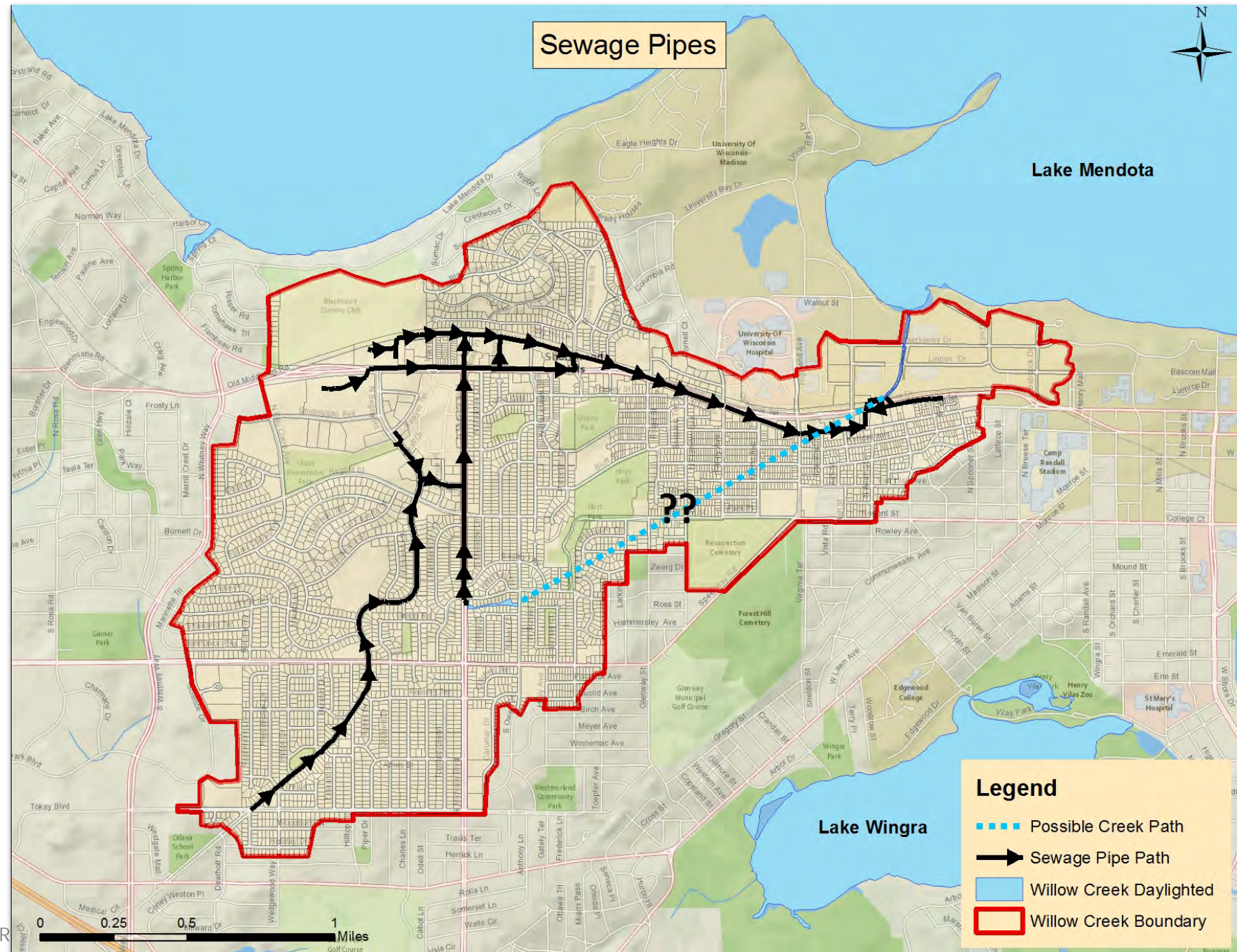




WILLOW CREEK PROPOSAL UW-MADISON



+/-2000 acres – urbanized
134 acres - campus





UW-Madison

Working Landscape

Near West Campus “Green District”

- Aesthetics | Function | Performance
- Rain water and green infrastructure
- Right sizing relationship of hard to soft
- Population growth
- Creek as amenity









Bird Collisions & Architecture

A Panel Discussion on the Economics, Ecology,
and Design Methods to Reduce Bird Strike Incidence

Friday, April 7, 2017

Signe Skott Cooper Hall Auditorium
University of Wisconsin-Madison
701 Highland Avenue
1:30-3:00 pm



Facilities Planning & Management
UNIVERSITY OF WISCONSIN-MADISON



Stanley Temple - moderator

Professor Emeritus, UW-Madison Forest & Wildlife Ecology

Matt Reetz

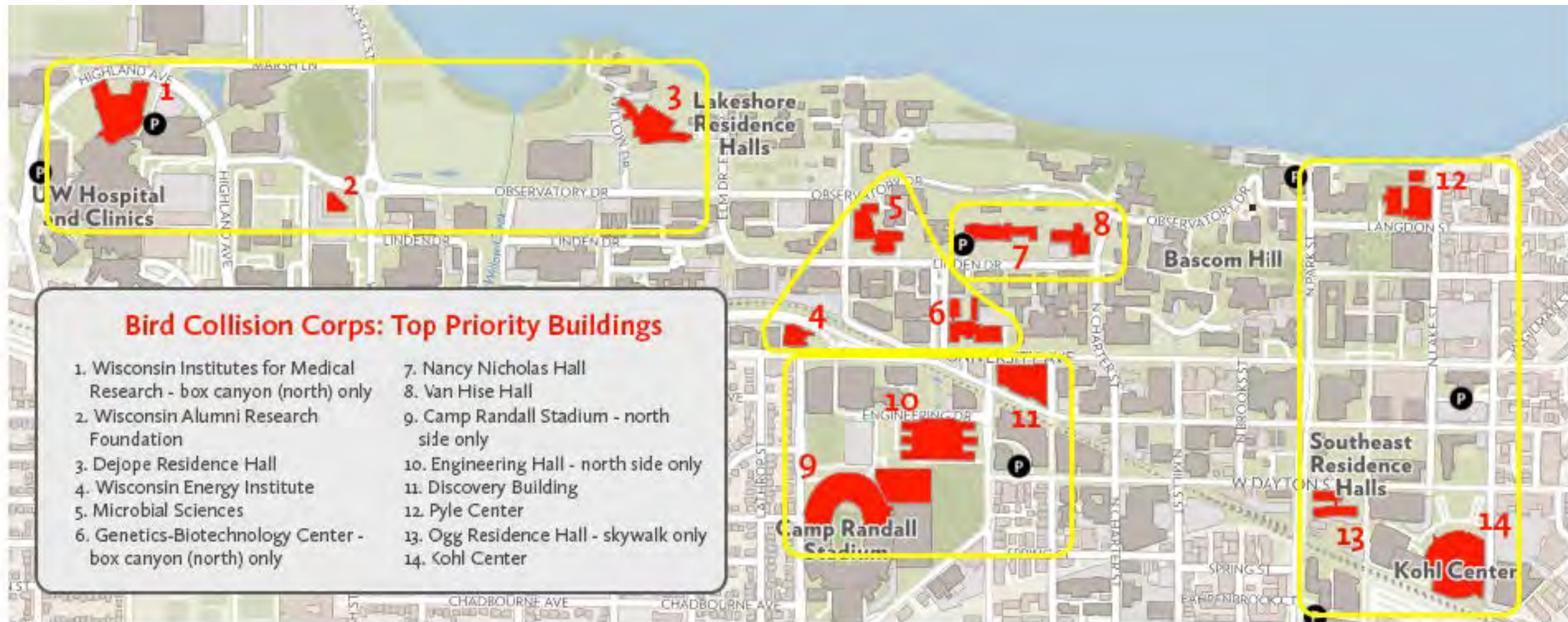
Executive Director, Madison Audubon

Anna Pidgeon

Faculty, UW-Madison Forest & Wildlife Ecology

Stefan Knust

Director of Sustainability, Ennead Architects

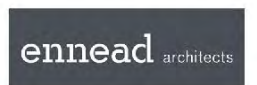






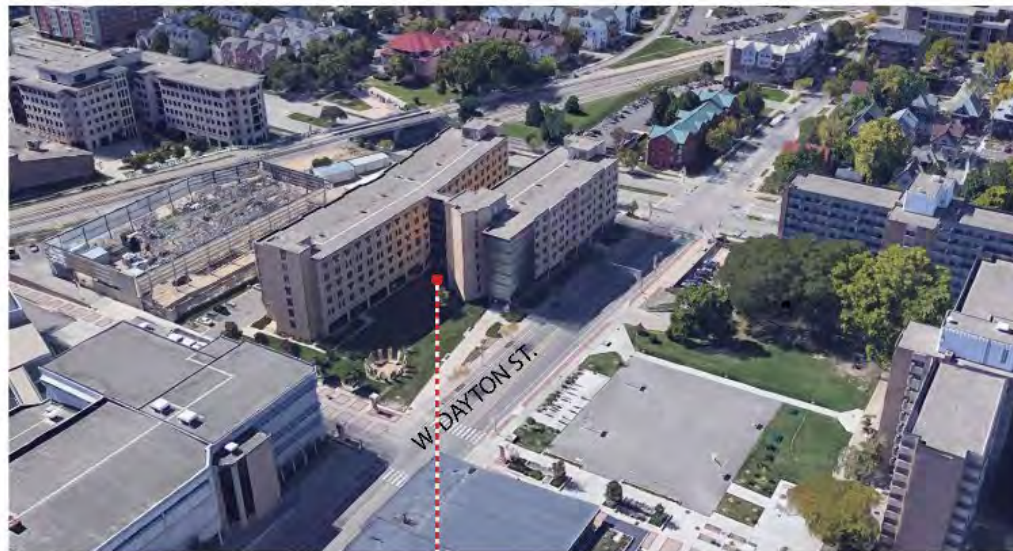
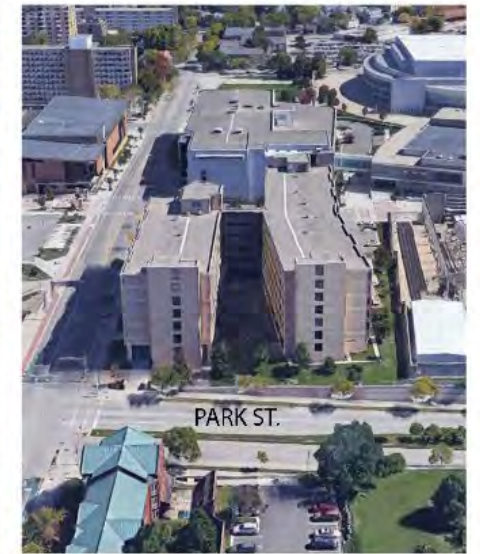
Ogg Hall Connector

Partners:





Ogg Hall Connector



Ogg Hall Connector





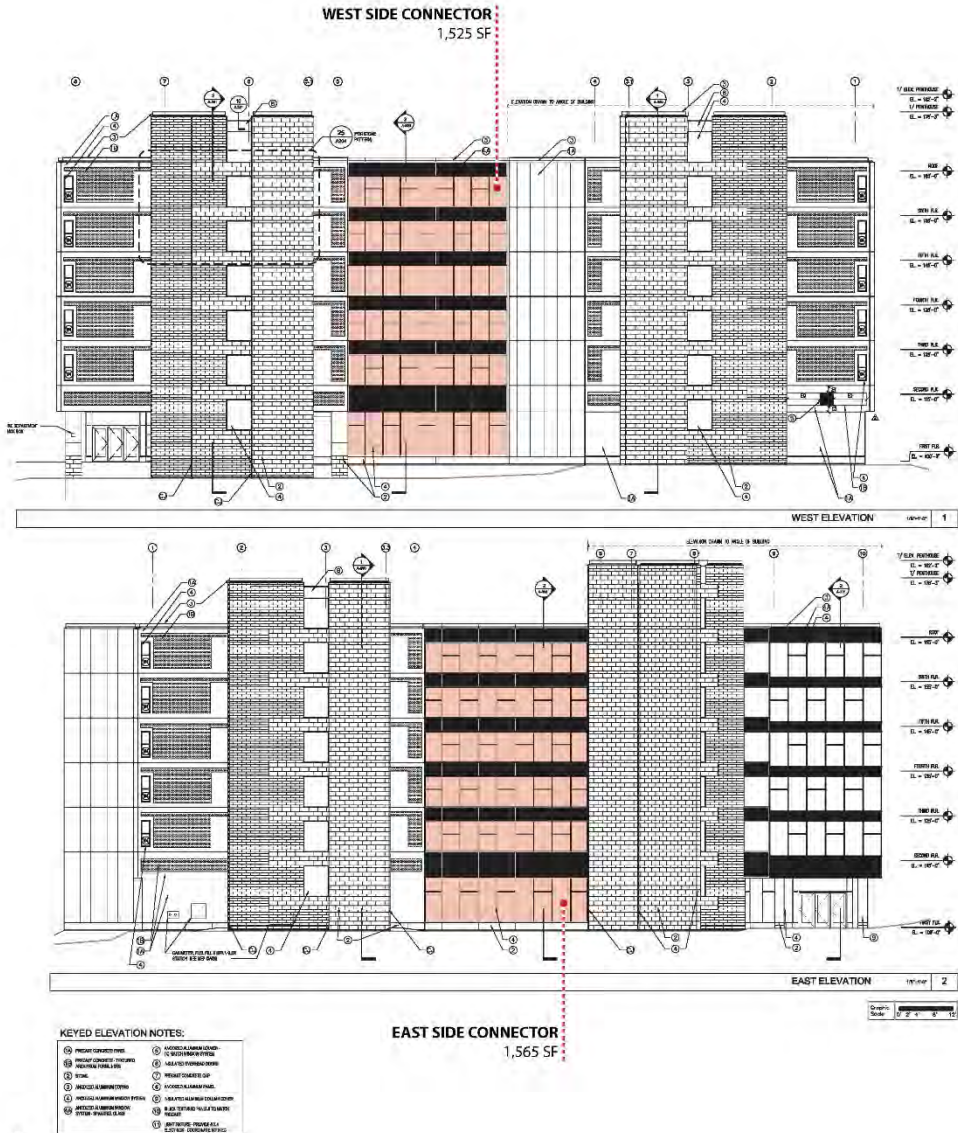
View East

- Note amount of vegetation (current leaf off condition)
- Building south wing extends for ~150'
- Building north wing extends for ~150'



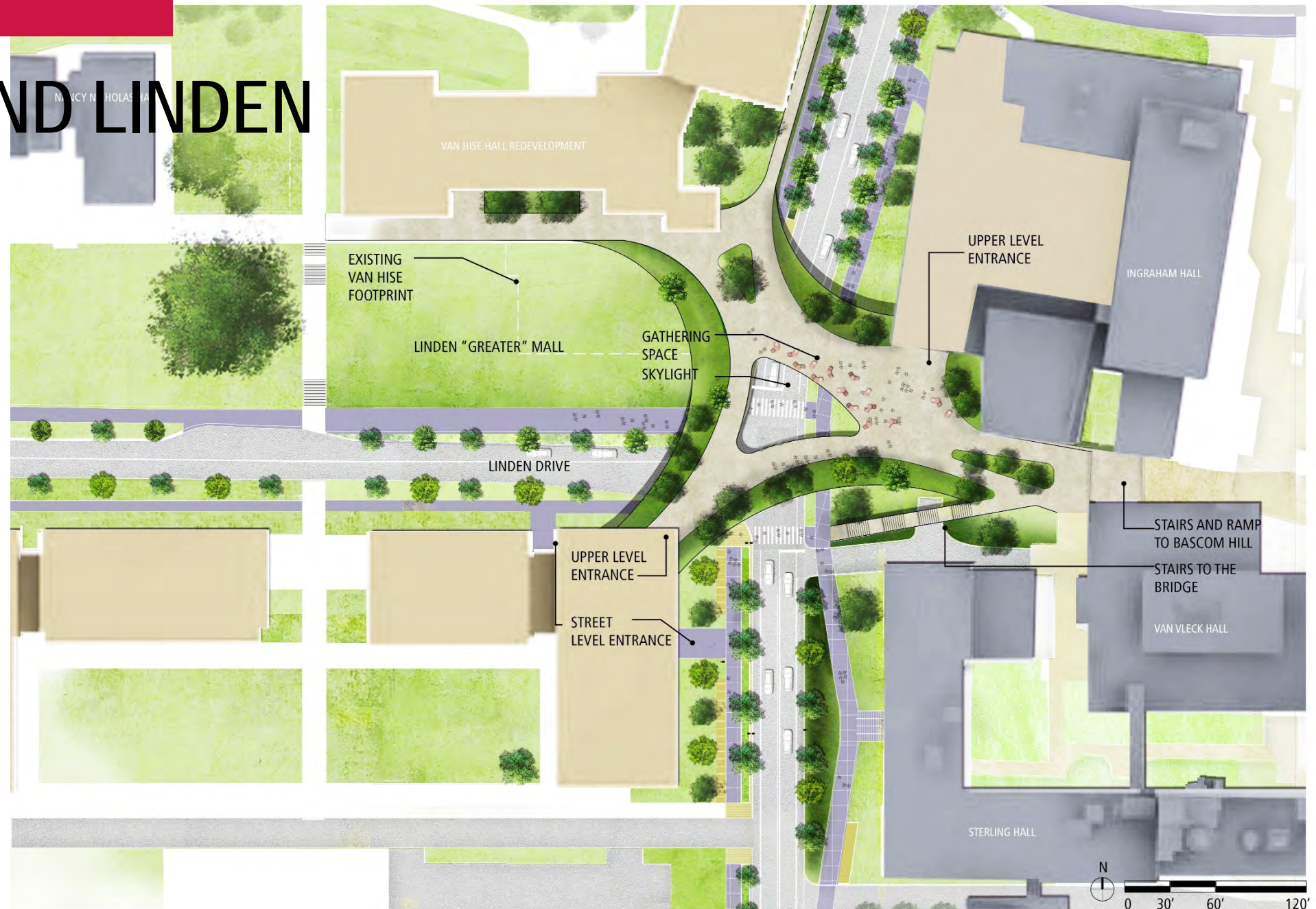
View West

- Groundcover vegetation only in this area
- Building south wing extends for ~150'
- Building north wing extends for ~20'



CHARTER AND LINDEN

- Most challenging intersection
- Iconic land bridge
- Open design
- Improve circulation
- Create destination





Charter and Linden Intersection - Existing



Charter and Linden Intersection - Proposed

TRANSPORTATION INITIATIVES

Major Transportation Initiatives

- 1 Willow Creek Bridge
- 2 Iconic Pedestrian Bridge
- 3 Walnut Street Removal
- 4 University Avenue Transformation
- 5 N. Brooks Street Pedestrian Mall
- 6 N. Charter Street Two-Way Conversion
- 7 Historic to Southern Urban Campus Connection
- 8 New Underground Parking Structure
- 9 New Above Grade Parking Structure

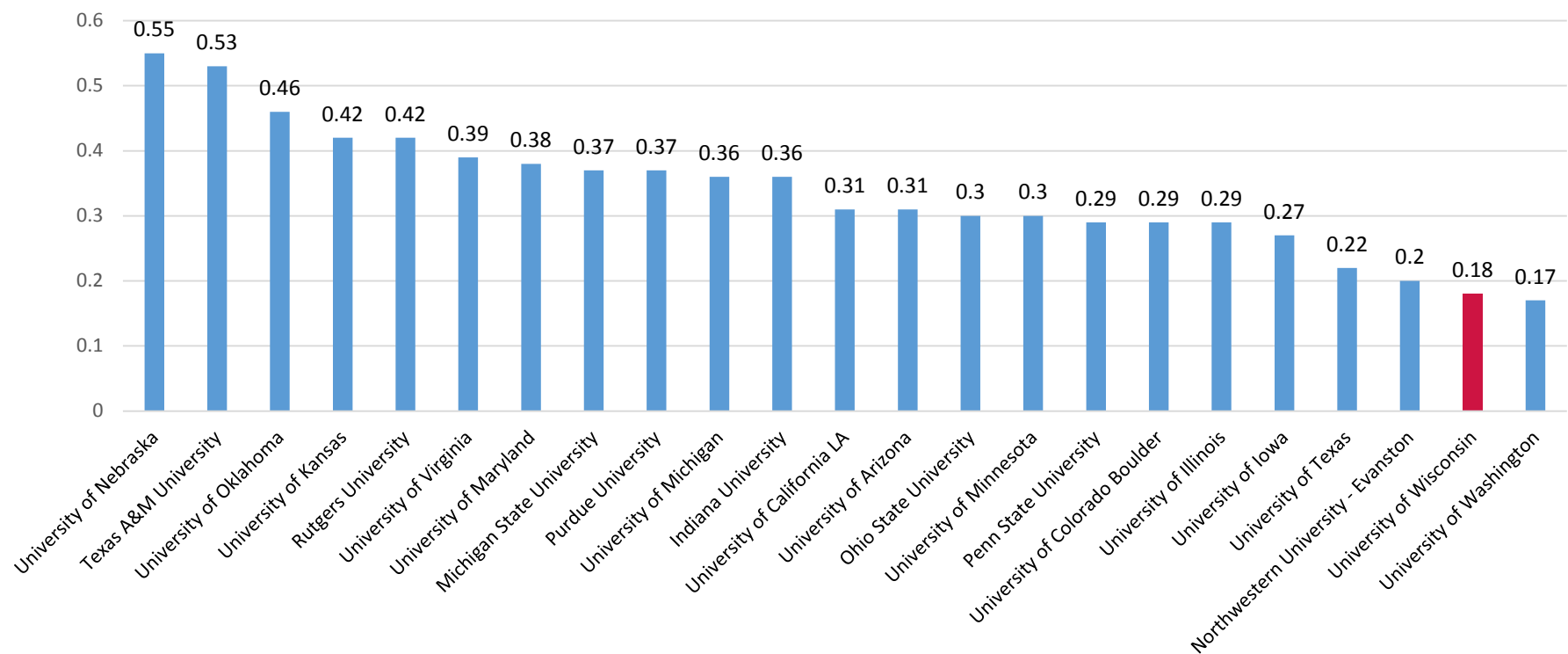


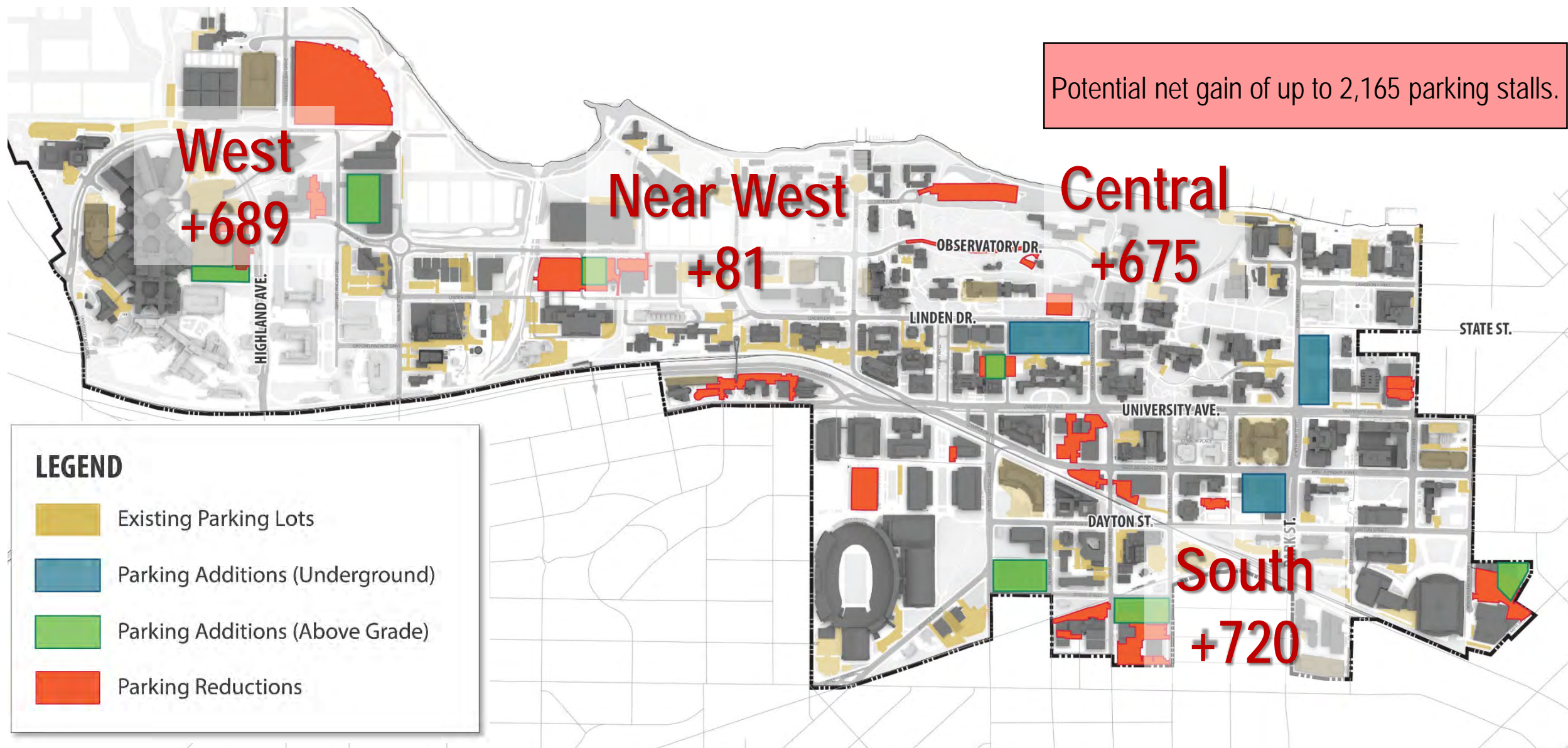
Transportation Recommendations

- National leader for those coming to campus via alternative modes (transit, walking, biking, scooters etc.)
- Improve connections to existing regional and campus bike paths.
- Improve transit services, both on campus and to/from campus, including bus rapid transit.
- Create pedestrian connections, esp. around N. Charter Street and Linden Drive intersection.
- Complete intersection improvements on University Ave., N. Park Street, and N. Charter Street.
- Consolidate major existing surface parking lots to above or below ground parking structures to free up land for building & open space development. Add +/- 2,000 visitor parking spaces over the next 20-40 years and continue to monitor changes in modes of transportation.

MINIMAL PARKING TO MEET NEEDS

Selected Big Ten and Peer Universities
Parking Spaces Per Person (employees and students)





There h-e-r-e!!!



UTILITY INITIATIVES

- Identified utility improvements
 - Needed because of proposed new construction (e.g. steam and chilled water piping with capacities exceeded)
 - Needed because of age of existing utilities (e.g. Bascom Hill/Lathrop utilities)
 - Needed because of new master plan initiatives (e.g. Dayton Street)
- Steam, Chilled Water, Electrical, Potable Water
- Focus on reliability and sustainability



Sustainability in the Campus Master Plan

- **Building Capacity Plan**

- Fully study options for renovation & reuse to meet program needs before demo and building new is considered
- If demo is the best financial option, then deconstruct the existing building & recycle materials
- Reduce our overall footprint of maintainable space yet allow for future building options
- Design guidelines and update of our technical guidelines
- Continue to promote sustainable design and materials selection
 - Incorporation of COTE Top 10 Toolkit
 - Sustainability Tracking, Assessment, & Rating System (STARS)

- **Landscape Master Plan**

- Convert mowed lawns and heavily maintained landscapes to more naturalized landscapes
- Utilize native plants whenever possible as they are better adaptable to urban & climate extremes
- Focus landscape improvements on green infrastructure to help with stormwater mitigation
- Increase urban tree canopy

Sustainability in the Campus Master Plan

- Green Infrastructure / Stormwater Management Plan
 - Meet and go beyond state requirements
 - Developing MOU's with city and regional partners – MS4 Permit
 - Be a leaders in demonstration projects and how we manage stormwater on campus
 - Provide opportunities for research projects and educational interpretation of stormwater BMPs
- Utility Master Plan
 - Reduce existing building energy use
 - Maximize purchase and generation of sustainable alternative power
 - Track consumption & emissions
 - Review options for photovoltaics, geothermal, transpired solar collectors, solar thermal, wind & nuclear power as well as biomass production & use

GRAY INFRASTRUCTURE

Gray

- **Streets**
- **Utility Lines**
- **Sewer**
- **Water Distribution**
- **Internet**
- **Bridges**
- **Geo Systems**
- **Built Structures**
- **PV/Geo/Hydro/Wind Power**

Human-made single purpose (mono-functional) systems that typically segregate and separate the following basic provisions:

- Water
- Waste
- Transport
- Food
- Energy

GREEN INFRASTRUCTURE

*Green infrastructure uses vegetation, soil and natural hydrologic features to manage water **AND** provide environmental and community benefits*



Green

- Green Roofs
- Porous Pavements
- Bioretention Systems
- Rainwater Harvesting
- Urban Tree Canopy
- Native Vegetation
- Reduced Impervious
- Green Streets
- Waterways

Gray

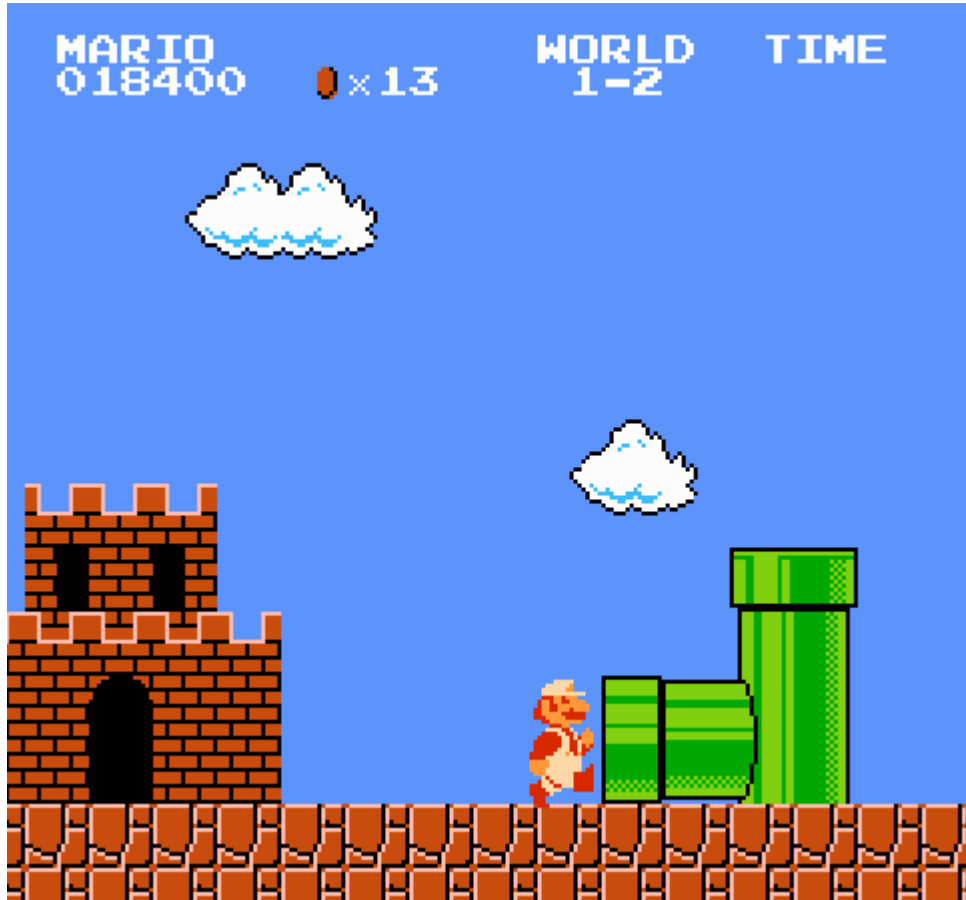
- Streets
- Utility Lines
- Sewer
- Water Distribution
- Internet
- Bridges
- Geo Systems
- Built Structures
- PV/Geo/Hydro/Wind Power



Green

- Green Roofs
- Porous Pavements
- Bioretention Systems
- Rainwater Harvesting
- Urban Tree Canopy
- Native Vegetation
- Reduced Impervious
- Green Streets
- Waterways

WHAT IS NOT GREEN INFRASTRUCTURE



Sustainability in the Campus Master Plan

- Transportation Master Plan
 - Continue Transportation Demand Management
 - Continue improvements to bicycle, pedestrian and transit modes, including Bus Rapid Transit
 - Electric bikes
 - Scooters
 - Ride-share troling
 - Provide 2,200 +/- new visitor parking spaces bringing total up to about 15,000 spaces on campus

Sustainability in the Campus Master Plan

- Capital Planning Goals, 2021-23 Capital Budget and the 2021-27 Six-Year Plan
 - Maximize the use and reuse of existing facilities.
 - Design adaptable, efficient and easily maintainable facilities.
 - Reduce deferred maintenance (\$1.6B)
 - Strategic alignment to optimize use of limited resources.
 - Reduce project lead time & increase delivery efficiencies

ALIGNING ENVIRONMENTS WITH POLICIES AND SYSTEMS FOR WELLNESS

0715 | 2019

SCUP 2019

The Society for College and University Planning



Nicole Youngberg | UW-Madison Employee Wellness Leader

Valerie Donovan, MS | UW-Madison Suicide Prevention & Mental Health Promotion Coordinator

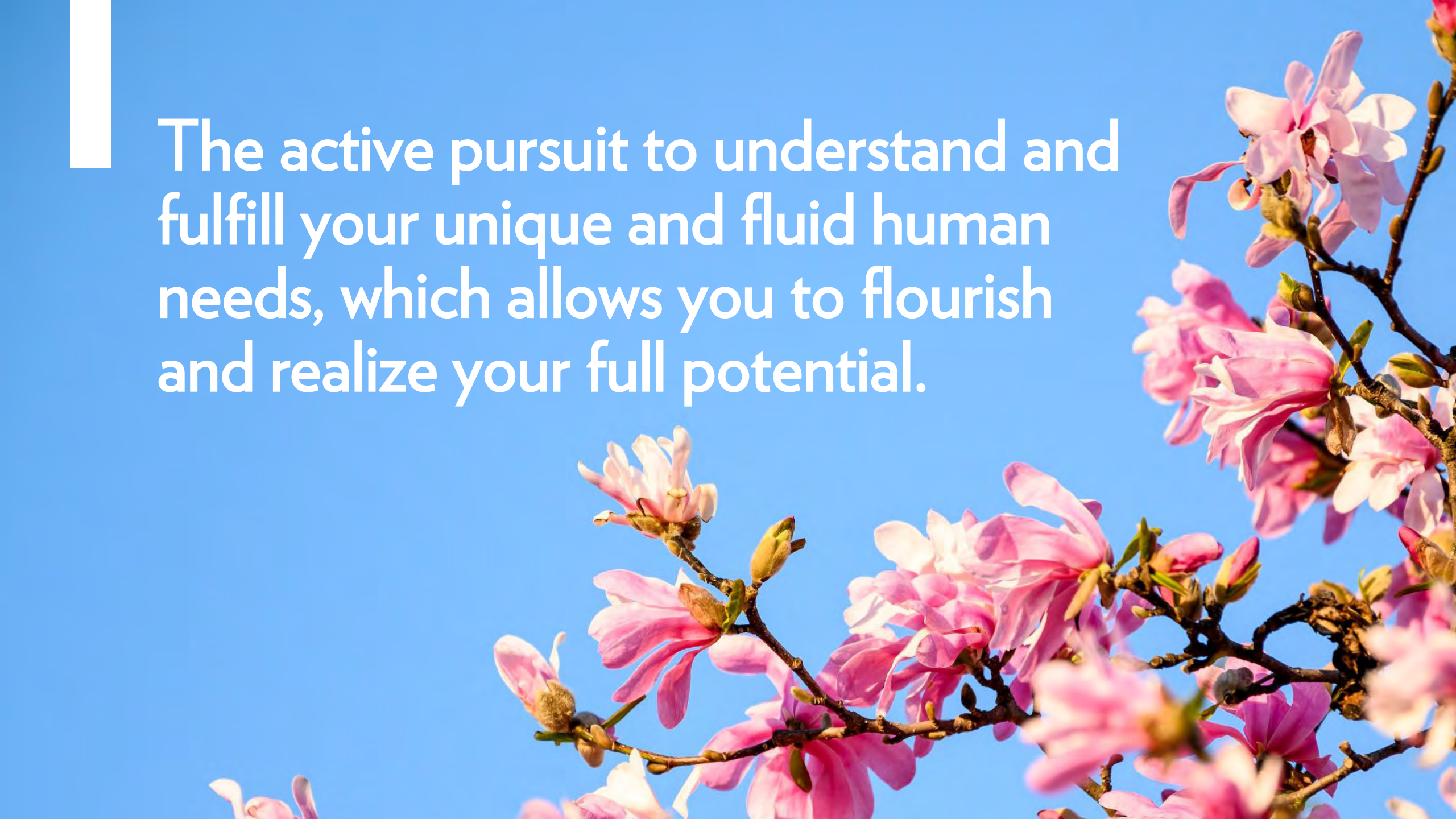
Stan Szwalek, PLA, ASLA | Associate Principal Hoerr Schaudt

Aaron Williams, PLA, ASLA | UW-Madison Assistant Campus Planner



WISCONSIN
UNIVERSITY OF WISCONSIN-MADISON

HOERR SCHAUDT

A close-up photograph of pink flowers, likely cherry blossoms, in full bloom. The flowers are delicate with multiple layers of petals, some showing a gradient from light pink to a deeper magenta. They are attached to dark brown, woody branches. The background is a clear, vibrant blue sky. The lighting is bright, suggesting a sunny day, which makes the colors of the flowers and the sky appear very saturated. The composition is a low-angle shot, looking up at the branches, which adds a sense of height and aspiration.

The active pursuit to understand and fulfill your unique and fluid human needs, which allows you to flourish and realize your full potential.

UW-Madison Metrics

Understanding campus population and tracking local data points



TOP STUDENT HEALTH CONCERNS

- **Mental Health & Stress**
 - 92% felt overwhelmed by all they had to do (last year)
 - 27% report being diagnosed with a mental health condition (lifetime)
 - 9% report suicidal ideation (last year)
 - Stress is the #1 reported health factor that impacts academic success
- **Sense of Belonging**
 - 66% felt very lonely (last year)
 - Lower sense of belonging scores for students of color, international students, financially struggling students, nondrinkers, students in recovery, students with disabilities
- **College students reported feeling very safe:**
 - On campus (daytime) - 85% women, 95% men
 - On campus (nighttime) - 14% women, 53% men
 - Off/near campus – lower for both men and women during either time
- **Stress and noise are the top reported reasons for poor sleep among students.**
- **High risk drinking culture is tied to sense of belonging, safety, and health outcomes.**

UW-Madison Metrics

Understanding campus population and tracking local data points



TOP EMPLOYEE RISK FACTORS

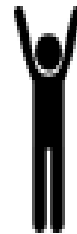
- **Weight**
 - 58% are overweight or obese
- **Stress/Burnout**
 - 54% of employees
 - 62% of graduate assistants
 - sometimes feels troubled by stress and do not handle stress well;
or almost always feels troubled by stress*
- **Environmental Impact**
 - 1 in 5 employees do not rate their work environment as favorable

Population Health and Wellness on Campus

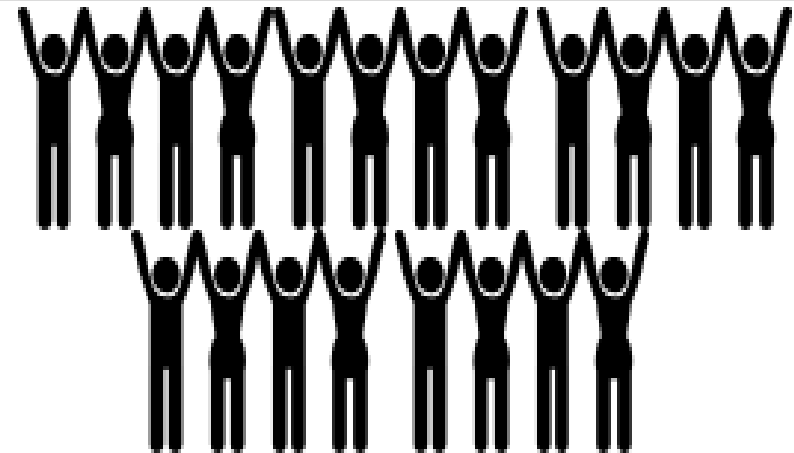


Select
Strategies with the
Greatest Impact
(Reach X Dose)

PROGRAMS

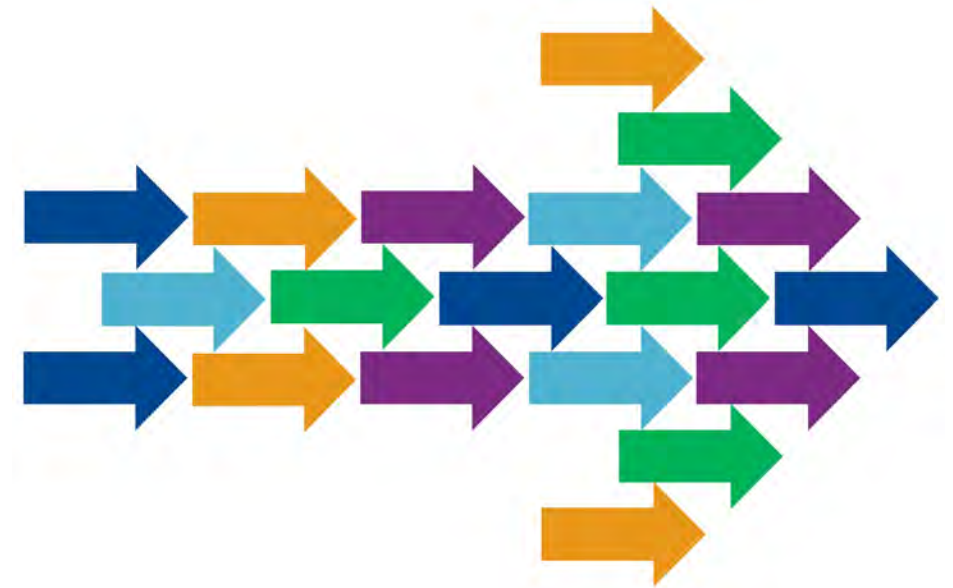


ENVIRONMENT



UWell Partnership Council

- Infrastructure for a **multidisciplinary** group of stakeholders (representing **units/departments**) to come together around the UWell mission
- Committed to collaboration around a **common agenda**, shared **measurement**, continuous **communication** and **aligned** activities
- The **collective approach** of the UWell Partnership Council ensures that no single department need to fully finance, own, or staff wellness initiatives in their entirety, and recognizes that multiple units possess expertise and influence to achieve desired outcomes



Capital Project Process

Strategic Opportunity to Enhance User Wellness

Capital Building Program

- SCD Strategic Plans

Planning I

- Internal Planning

Planning II

- Advanced Planning
- Feasibility, Budget, Timeline

Project Delivery

- Schematic Design
- Design Development
- Construction Administration

Completed Project

RESOURCES

Studies, Plans, Research
Guidelines, References,
Municipal Zoning Code

- Campus Master Plan
- Landscape Master Plan
- Campus Design Guidelines
- COTE Toolkit – BRIK
- Landscape Performance Series
- Technical Guidelines
- City Zoning Code

ENTITIES

Boards, Commissions,
Faculty, Champions,
CPLA, Municipality

- Design Review Board
- Faculty Research
- Joint Campus Area Committee
- Public Information Meetings
- Project Champions
- Campus Planning & LA
- City of Madison (Agencies/Boards)

Physical Environment

Project Principles

Strategic Opportunity to Enhance User Wellness

1. Enhance Connection to Nature
2. Promote Active Lifestyles
3. Environments that Foster Community
4. Reinforce Safety on Campus
5. Improve Inclusivity and Accessibility of Spaces
6. Embrace Shared Governance





NATURE IN SPACE

- [P1] Visual Connection with Nature
- [P2] Non-Visual Connection with Nature
- [P3] Non-Rhythmic Sensory Stimuli
- [P4] Access to Thermal & Airflow Variability
- [P5] Presence of Water
- [P6] Dynamic & Diffuse Light
- [P7] Connection with Natural Systems



NATURAL ANALOGUES

- [P8] Biomorphic Forms & Patterns
- [P9] Material Connection with Nature
- [P10] Complexity & Order



NATURE OF THE SPACE

- [P11] Prospect
- [P12] Refuge
- [P13] Mystery
- [P14] Risk/Peril



Gym/Nat Biophilic Design Patterns



NATURE IN SPACE

- [P1] Visual Connection with Nature
- [P2] Non-Visual Connection with Nature
- [P3] Non-Rhythmic Sensory Stimuli
- [P4] Access to Thermal & Airflow Variability
- [P5] Presence of Water
- [P6] Dynamic & Diffuse Light
- [P7] Connection with Natural Systems



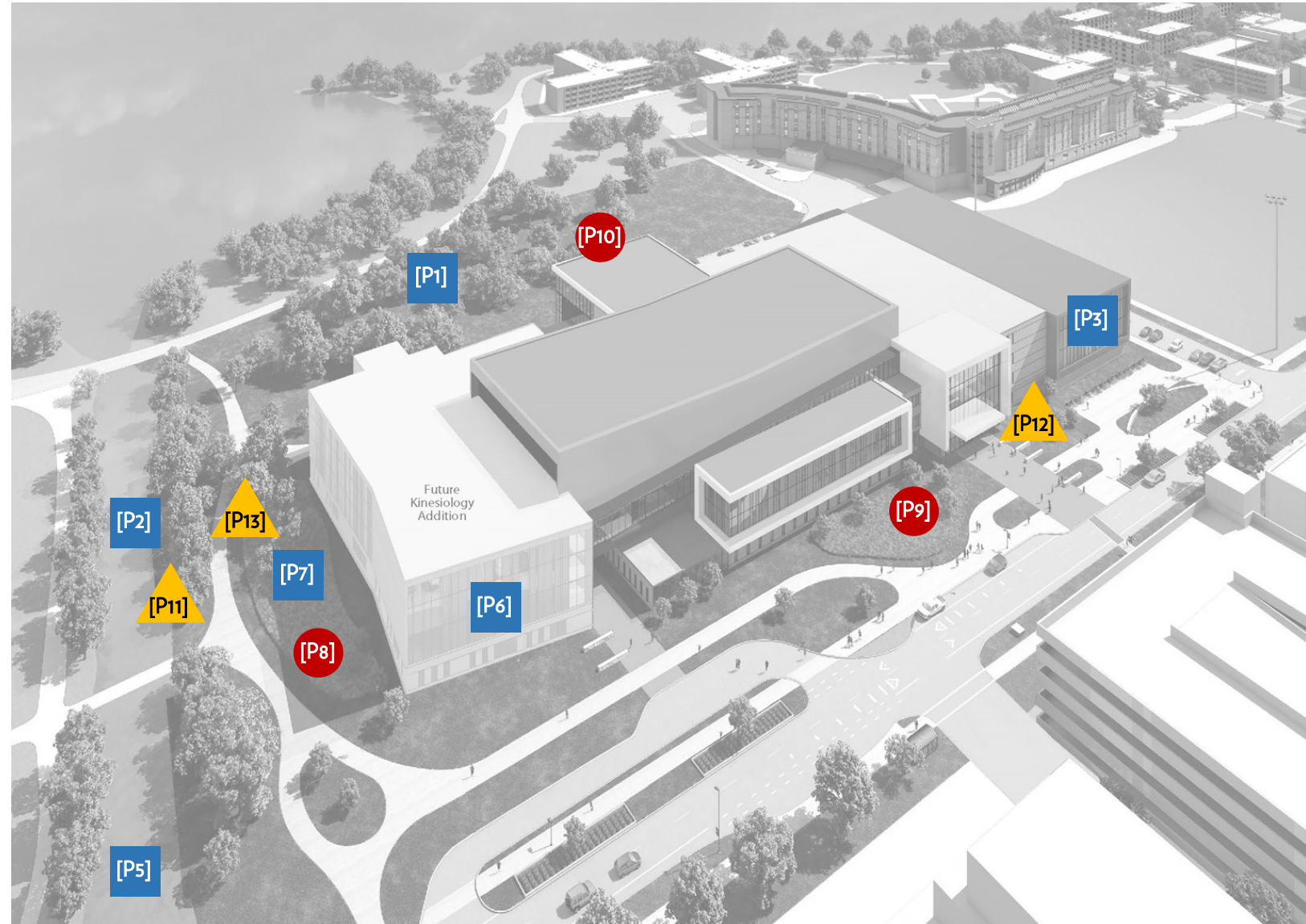
NATURAL ANALOGUES

- [P8] Biomorphic Forms & Patterns
- [P9] Material Connection with Nature
- [P10] Complexity & Order



NATURE OF THE SPACE

- [P11] Prospect
- [P12] Refuge
- [P13] Mystery
- [P14] Risk/Peril



Gym/Nat Biophilic Design Patterns



WISCONSIN
UNIVERSITY OF WISCONSIN-MADISON

LAKE MENDOTA

Campus Development Plan Boundary

Existing Building

Proposed Building

North

