

University of Wisconsin-Madison 2015 Campus Master Plan Update: Extending Our History & Embracing our Future





EXTEND OUR HISTORY

The campus master plan is a vision to capture the best characteristics of our historic campus core, and extend them throughout our evolving campus.




The careful balance of Bascom Hill – architecturally prominent and mixed use buildings surrounding and defining a well-designed and active open space.

The ease and safety of Library Mall and East Campus Mall – easy walking and biking with careful interaction with vehicles.





The activity of the Memorial Union Terrace – indoor and outdoor places for people to gather and exchange ideas with a focus on Lake Mendota.



The preservation of Muir Woods – a place of respite for humans and habitat for flora and fauna.



EXTEND OUR HISTORY

It is these elements that the master plan will extend and strengthen south of University Avenue and west of North Charter Street.



EMBRACE OUR FUTURE

We will continue to recreate ourselves in place, yet also reduce the impact of the campus and its activities on our environment.



As the campus infiltrates and treats not only the water that falls upon it, but also a portion of water from the region, the water of Lake Mendota will be cleaner.

As we strengthen our national leadership in those taking transit, carpooling, biking, and walking to campus, we will support the region's growth toward a more balanced and effective transportation system.



As we maximize opportunities for generating and using renewable energy, we will continue to reduce our carbon footprint.



As we meticulously plan and improve our facilities, we will reduce our operating costs and wisely manage the state's financial contributions.



EMBRACE OUR FUTURE

We will promote our resource stewardship and improve our service delivery and efficiency. In short, the UW-Madison physical campus will continue to enable the university to remain a preeminent center for discovery, learning and engagement.

2015 MASTER PLAN GOALS

Our goals are to:




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

1. SUPPORT OUR MISSION



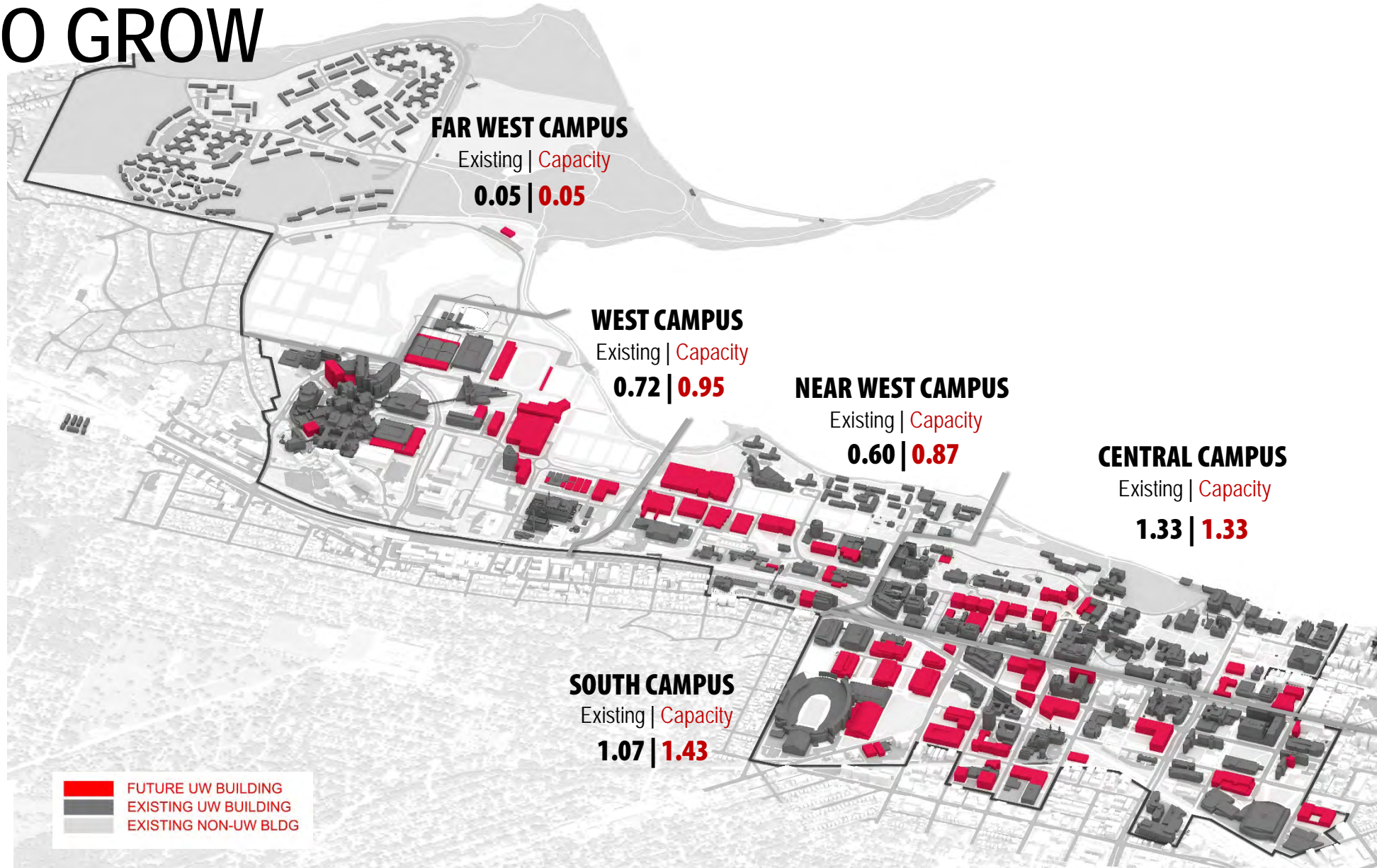
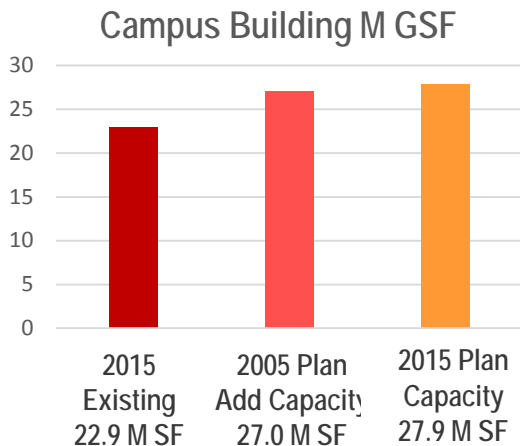
North

2015 Master Plan Illustration

-  Future UW Building
-  Existing UW Building
-  Existing Non-UW Building

CAPACITY TO GROW

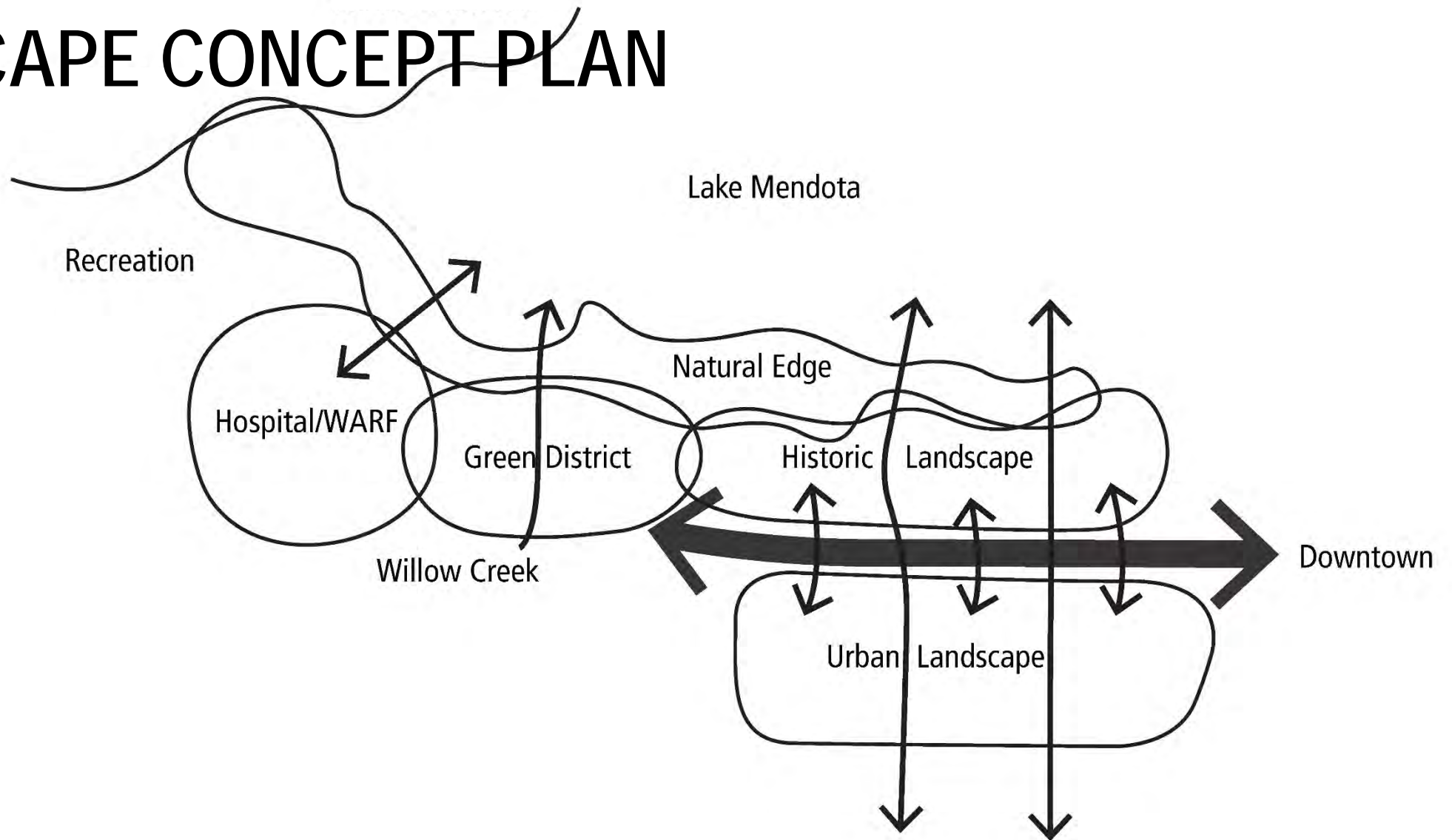
- 2015 Master Plan Update increases 2005 Plan capacity by 930,000 SF
- 2005 MP capacity: 4.08 M additional GSF
- 2015 MP capacity: 5.01 M additional GSF



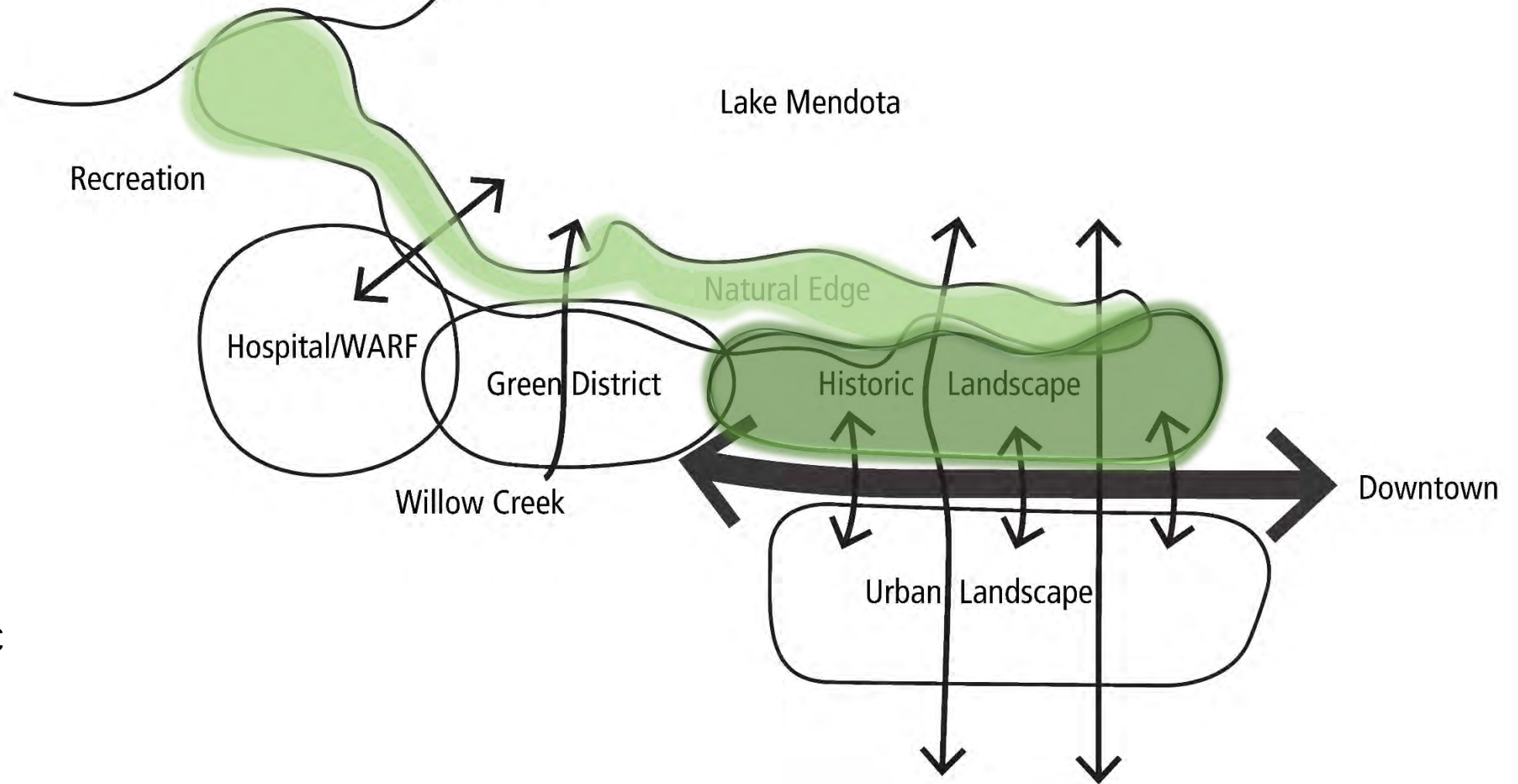
2. MANAGE OUR RESOURCES



LANDSCAPE CONCEPT PLAN

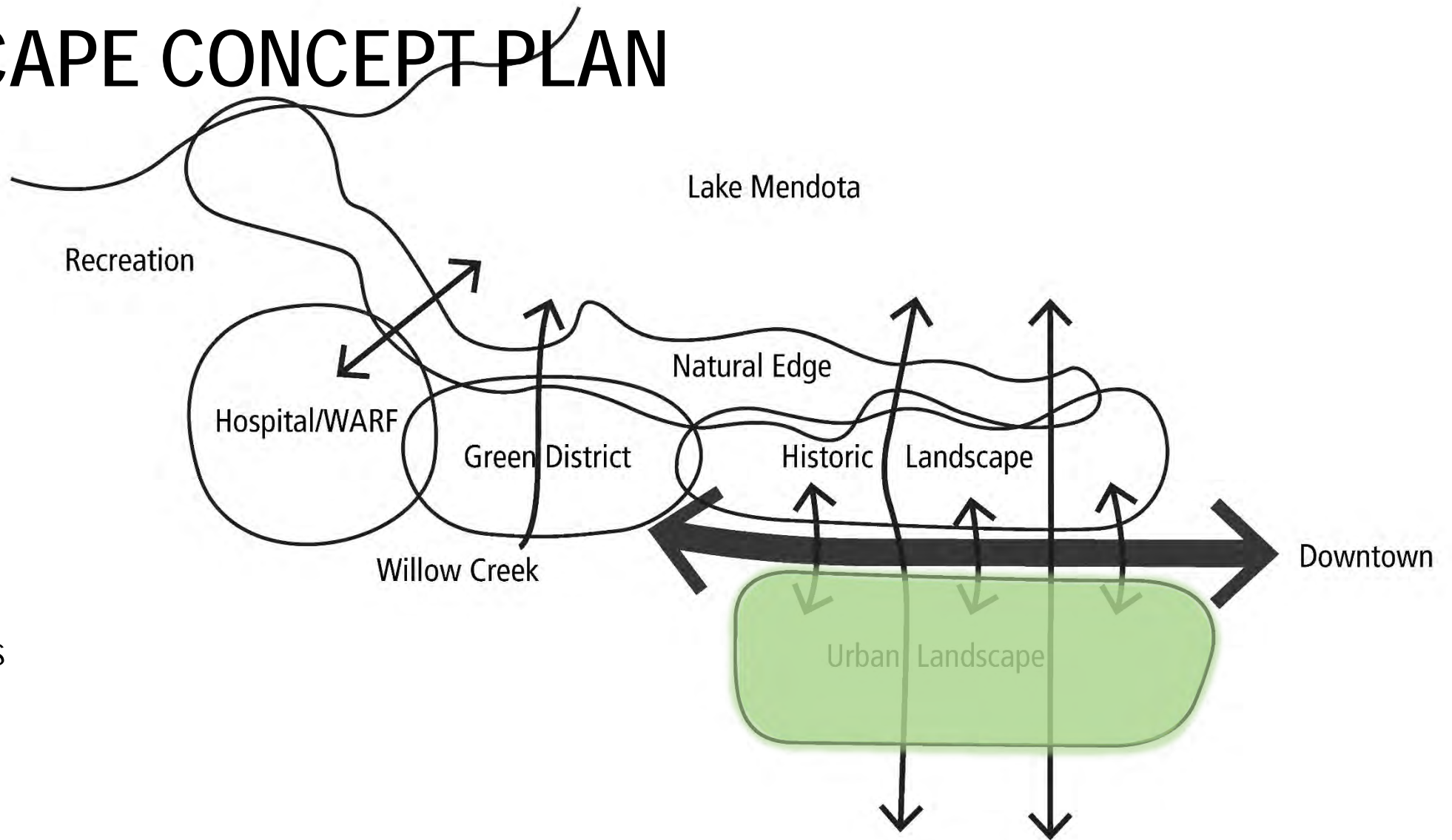


LANDSCAPE CONCEPT PLAN



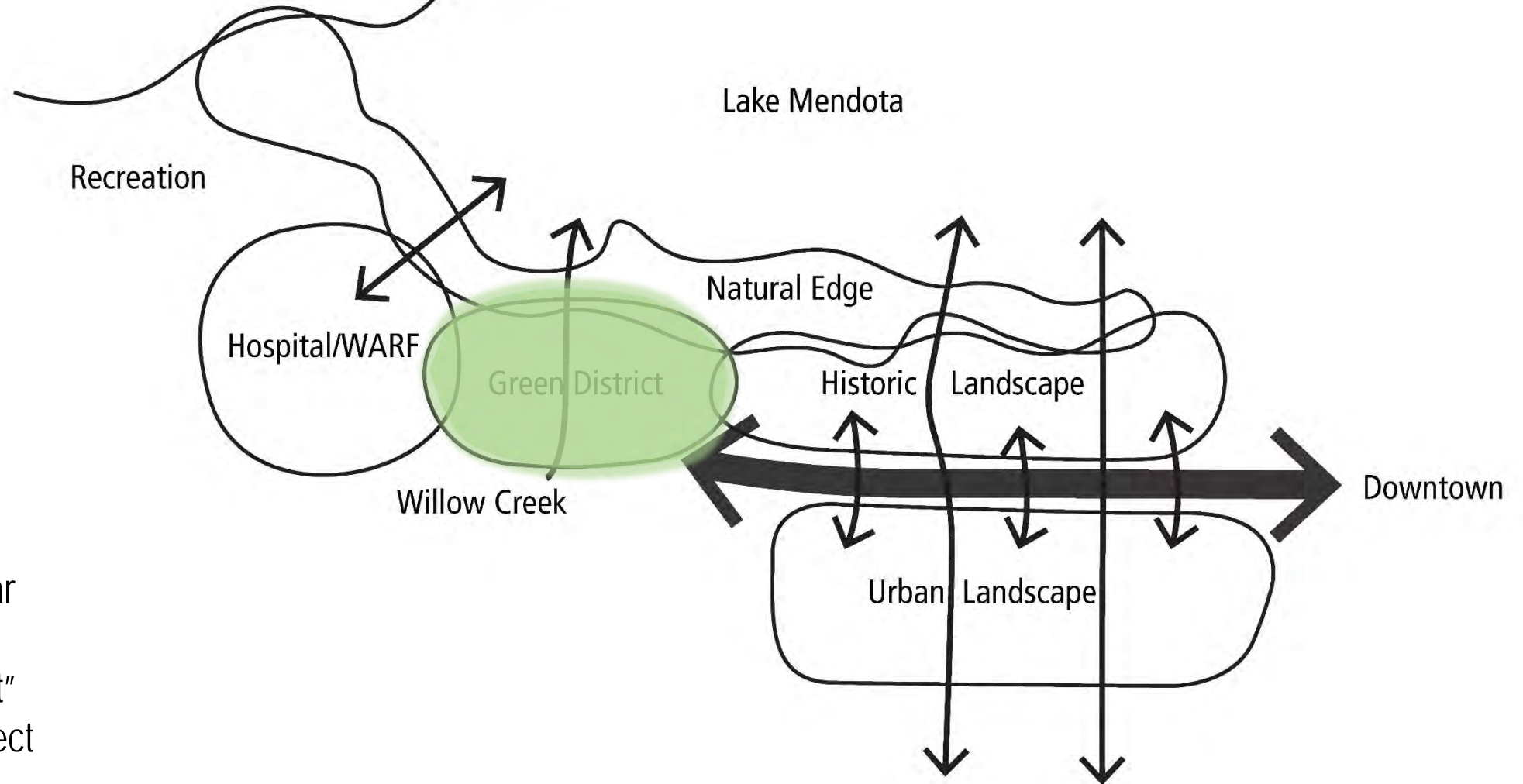
1. Preserve and enhance historic central campus and natural lakeside setting.

LANDSCAPE CONCEPT PLAN



2.
Improve campus
corridors and
south campus
streetscapes

LANDSCAPE CONCEPT PLAN

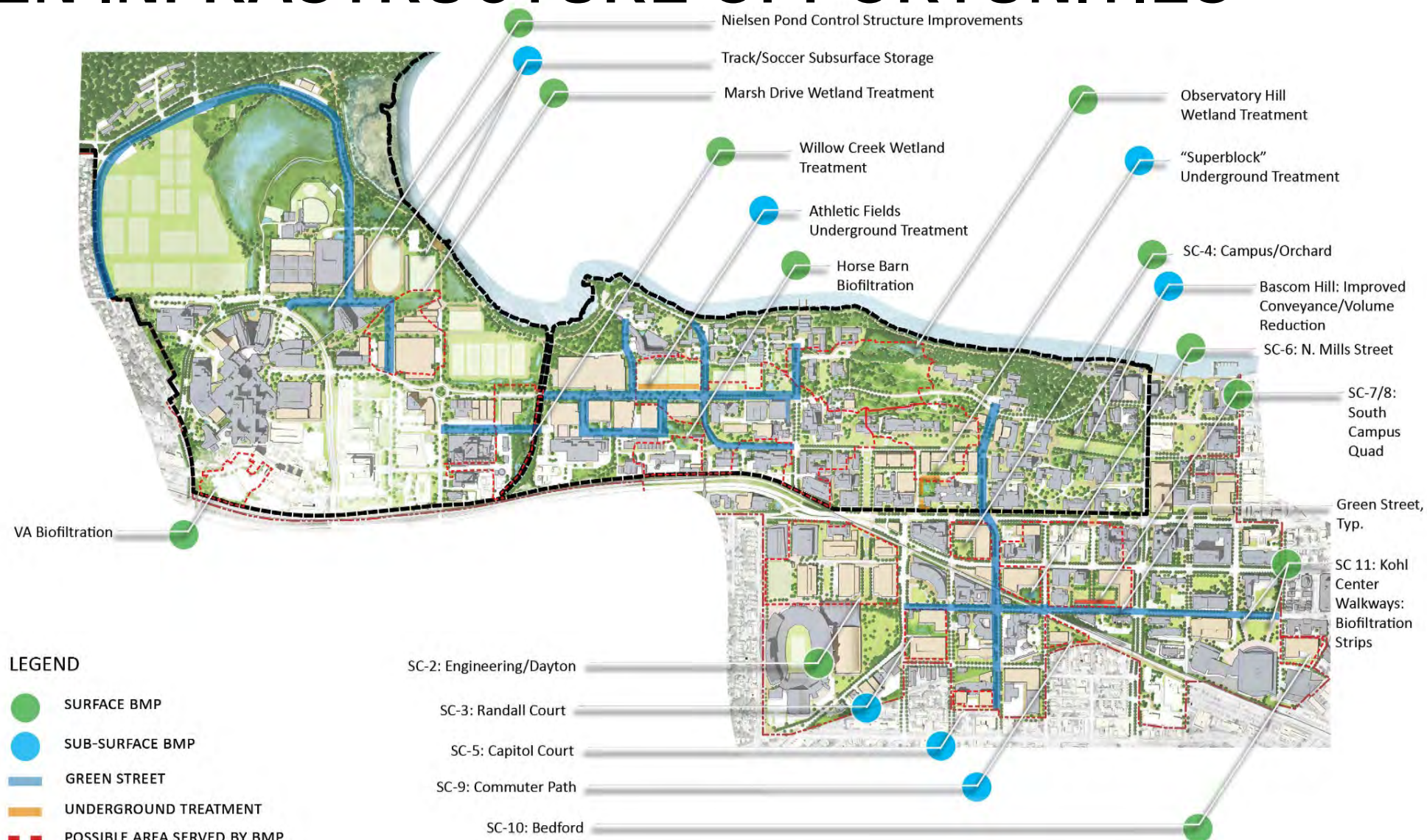


3.
Develop the near west campus as a "Green District" to visually connect the west and central campuses

North

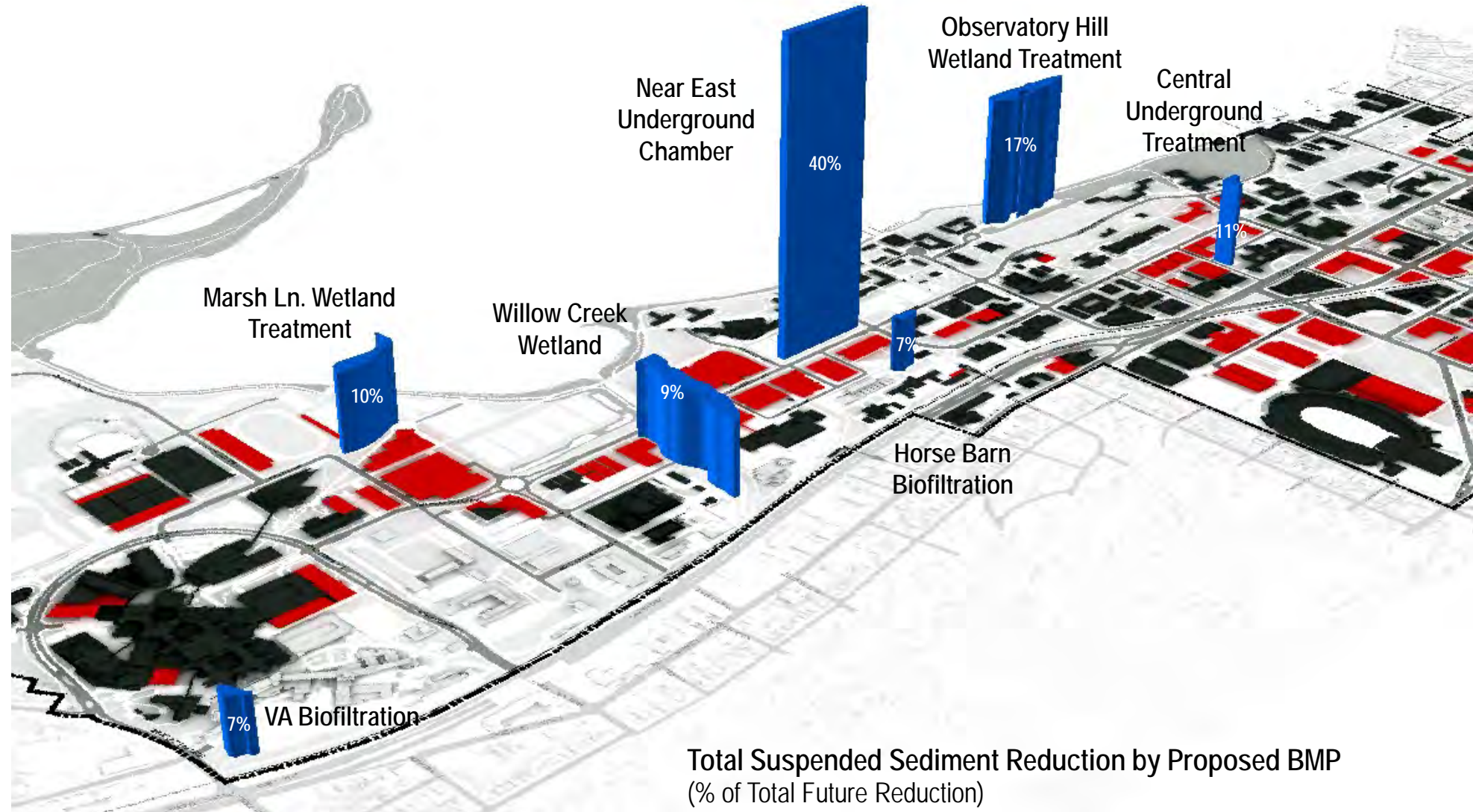


GREEN INFRASTRUCTURE OPPORTUNITIES

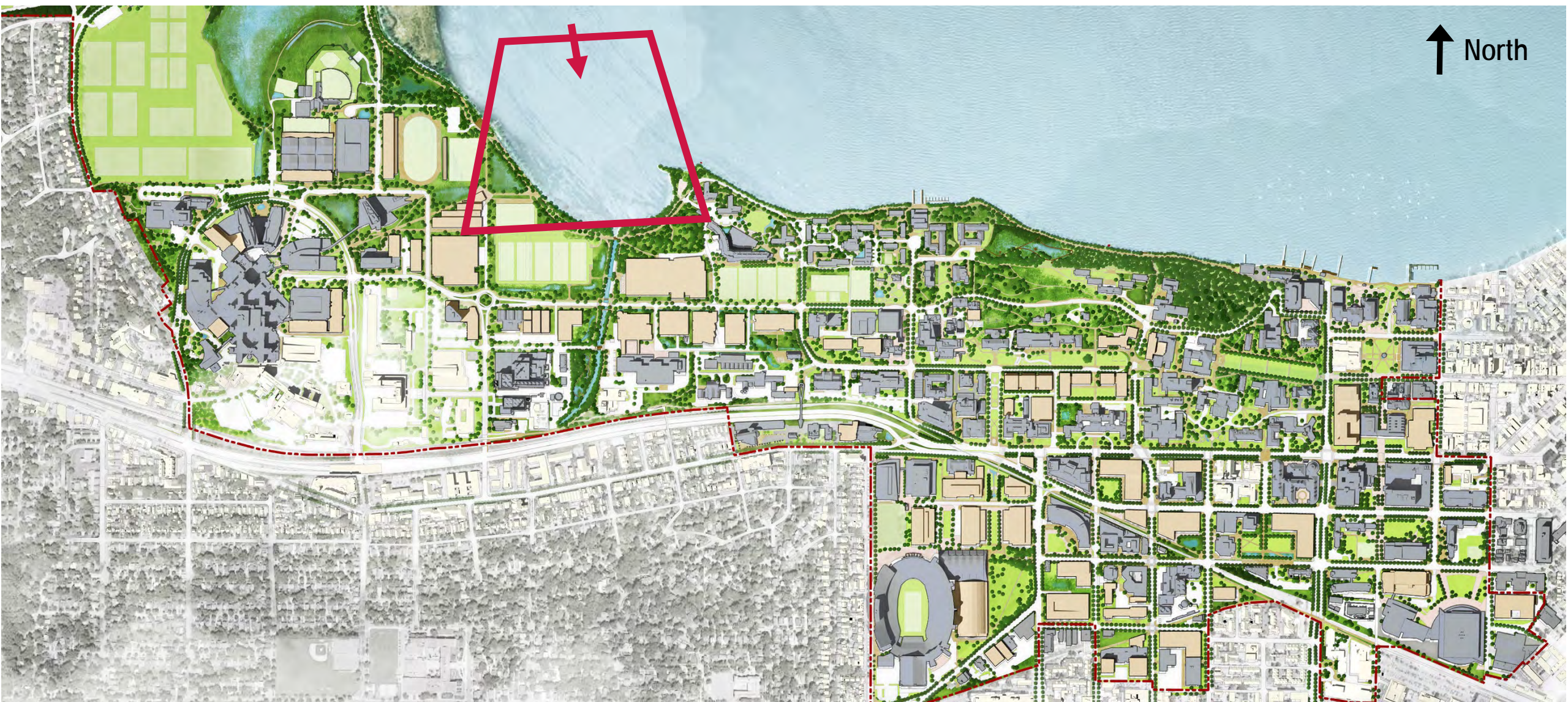


DISTRICT WIDE BEST MANAGEMENT PRACTICES

- Treat over 80 acres campus development
- Capture over 22,000 pounds of sediment annually
- Near East Chamber could be very effective



ENVIRONMENTAL LEADERSHIP



2. MANAGE OUR RESOURCES



ENVIRONMENTAL LEADERSHIP

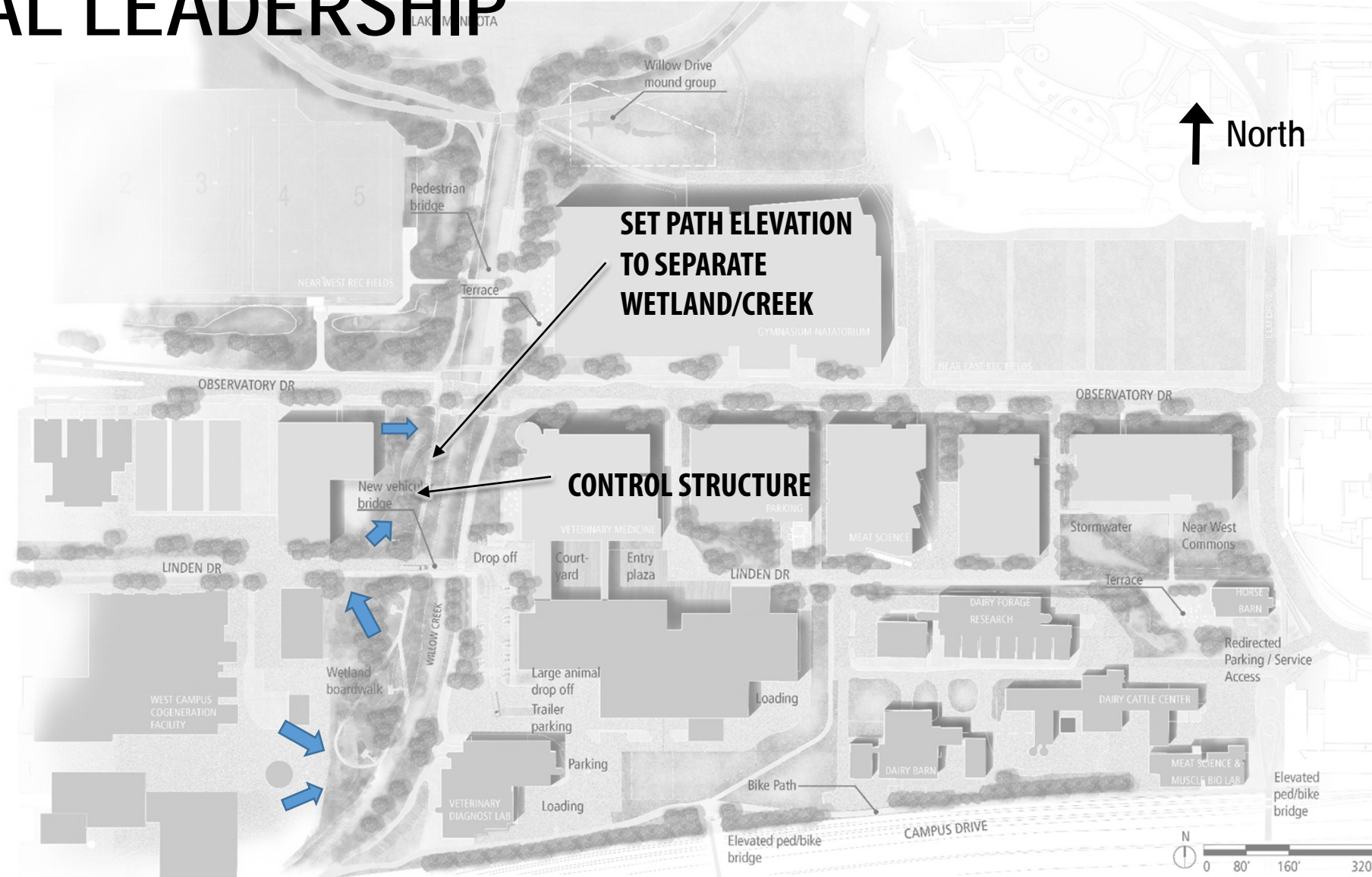
- Near West Commons - Renovate the Horse Barn and site to create a new commons at the west terminus of the Greater Linden Mall
- Vet Med Expansion
- Activate Willow Creek
- Working Landscapes



ENVIRONMENTAL LEADERSHIP

Willow Creek Wetland

- Drainage Area Served:
8.3 acres
- Runoff Volume Captured:
358,000 cubic feet
- TSS Captured: 2,100
pounds/year



2. MANAGE OUR RESOURCES



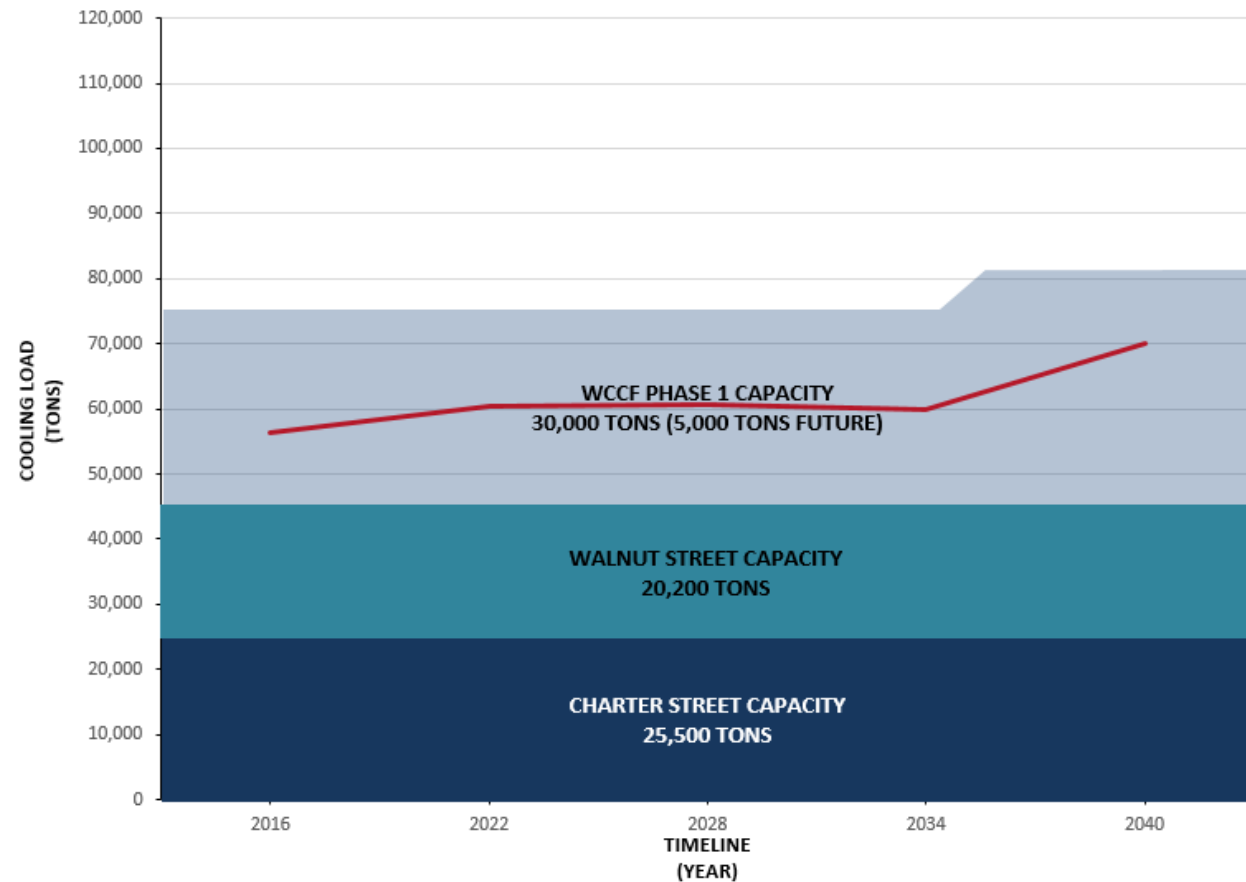
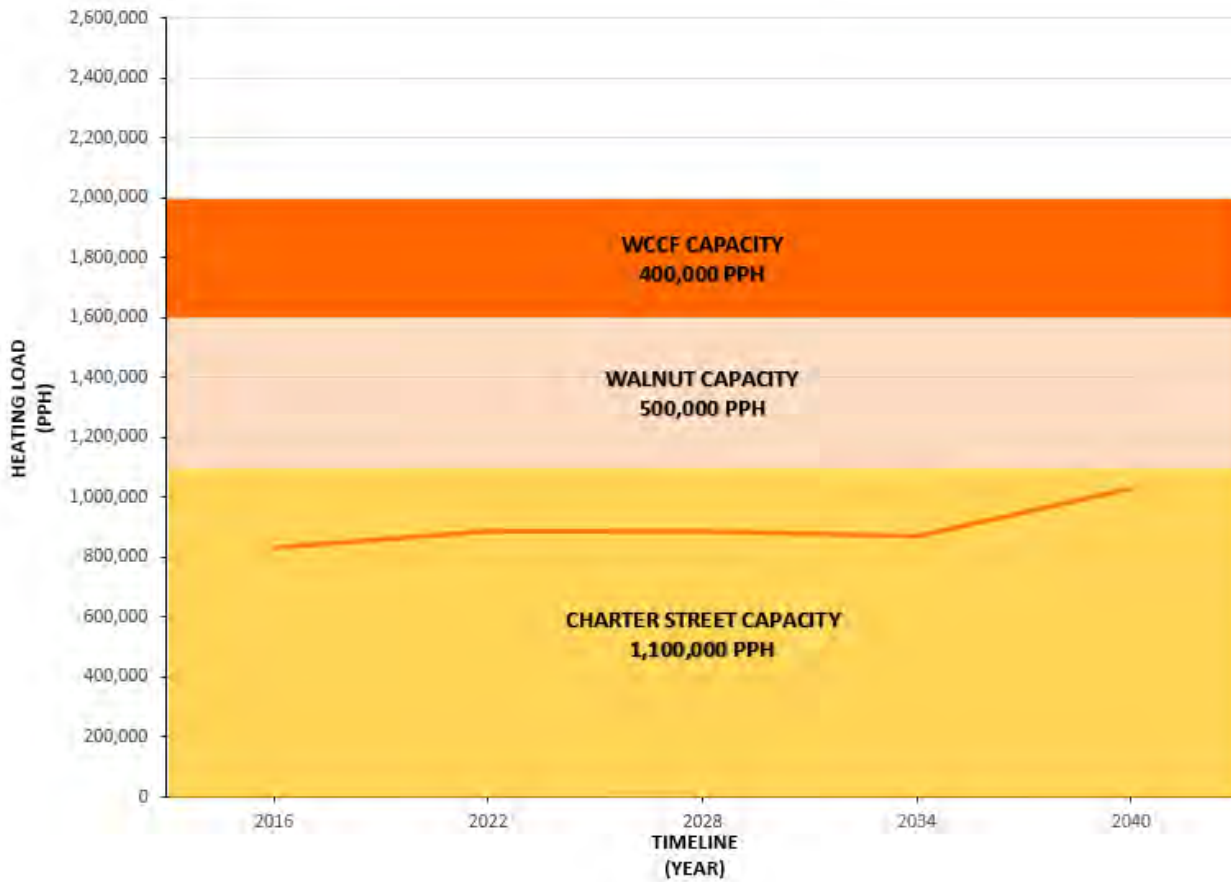


RELIABLE UTILITY INFRASTRUCTURE

	Steam	Chilled Water	Electrical
Updated 1-line Diagram			✓
Calculated Existing Building Loads and Calibrated to Central Plant Meter Data	✓	✓	✓
Calculated Future Building Loads Based on Proposed Future Buildings	✓	✓	✓
Completing Adaptable Informative Flow Models	✓	✓	
Updating Deficiency/Future Utility Project Lists and Respective Location Map	✓	✓	✓

RELIABLE UTILITY INFRASTRUCTURE

Sufficient Capacity



RELIABLE UTILITY INFRASTRUCTURE

Major Recommendations

- Identified by utility flow models for future phases (e.g. Steam and chilled water piping with capacities exceeded)
- Identified through review of utility vintage maps (e.g. Bascom/Lathrop Utilities)
- Identified by recommendations from master plan focus areas (e.g. Dayton Street)
- Identified through discussions with UW FP&M (e.g. Piping systems with operational issues)

Above will be reviewed and coordinated to define utility recommendations by phase.

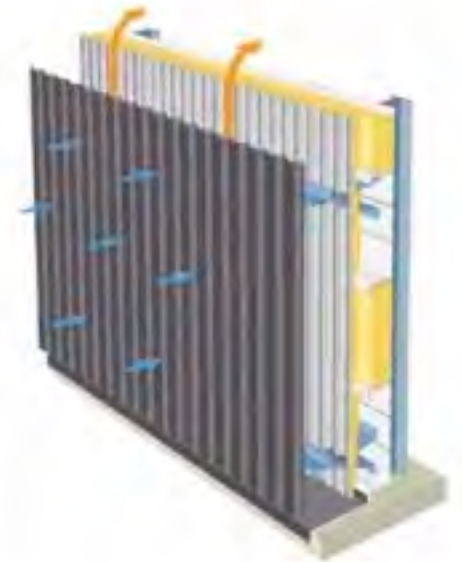
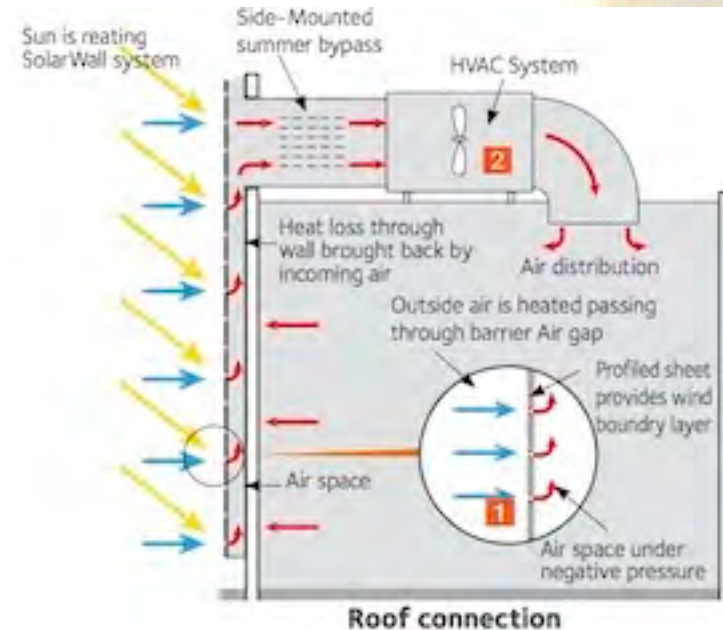
RENEWABLE ENERGY GENERATION

Annual Campus Renewable Energy Generation Summary								
Month	Current		Future		Renewable Energy			
	Elec (MWh)	Steam (MMBtu)	Elec (MWh)	Steam (MMBtu)	Wind PPA Elec (MWh)	PV Elec (MWh)	Solar Th Steam (MMBtu)	TSW Steam (MMBtu)
Jan	29,105	436,707	34,105	511,732	-5,116	-1,568	(319)	-18,933
Feb	27,281	378,754	31,968	443,823	-4,795	-1,730	(371)	-15,606
Mar	29,793	321,596	34,912	376,845	-5,237	-2,092	(529)	-10,008
Apr	28,171	210,726	33,011	246,927	-4,952	-2,299	(580)	-6,816
May	30,120	197,478	35,294	231,403	-5,294	-2,950	(664)	-2,227
Jun	30,803	209,456	36,095	245,440	-5,414	-2,963	(693)	-1,277
Jul	32,140	214,943	37,662	251,869	-5,649	-2,953	(673)	-1,333
Aug	34,904	225,484	40,900	264,221	-6,135	-2,791	(640)	-1,511
Sep	31,449	207,149	36,852	242,736	-5,528	-2,358	(567)	-2,382
Oct	30,976	218,197	36,297	255,683	-5,445	-1,946	(439)	-6,371
Nov	29,626	299,763	34,716	351,261	-5,207	-1,320	(313)	-11,642
Dec	29,984	320,909	35,135	376,040	-5,270	-1,255	(246)	-17,584
Totals	364,351	3,241,162	426,945	3,797,980	-64,042	-26,224	-6,034	-95,690
			Percent Reduction		15%	6%	0.2%	3%

RENEWABLE ENERGY GENERATION

Transpired Solar Collectors

- Unglazed, dark colored perforated collector that is used to preheat ventilation air.
- Outside air is drawn through the collector with a ventilation fan and is heated by the warm surface of the perforated metal panel.
- Collection efficiency can exceed 70% at high air flow rates.



RENEWABLE ENERGY GENERATION

Photovoltaics

- Installed PV = 20,121 kW
- Energy Generated = 26,780,870 kWh/yr

Transpired Solar Collectors

- Energy Generated = 93,100 MMBtu/yr

Solar Hot Water

- Energy Generated = 6,007 MMBtu/yr



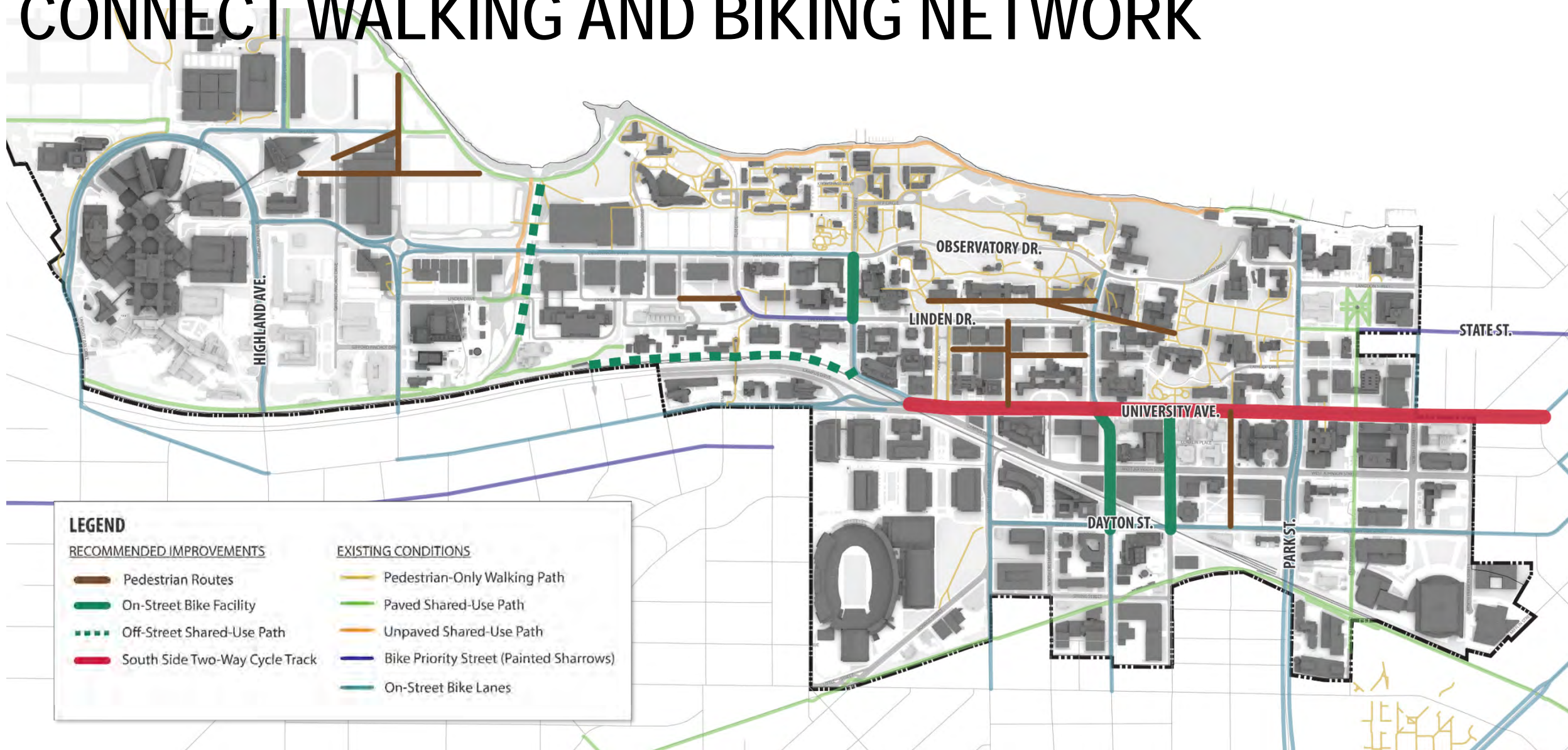
3. MAKE TRAVEL EASY



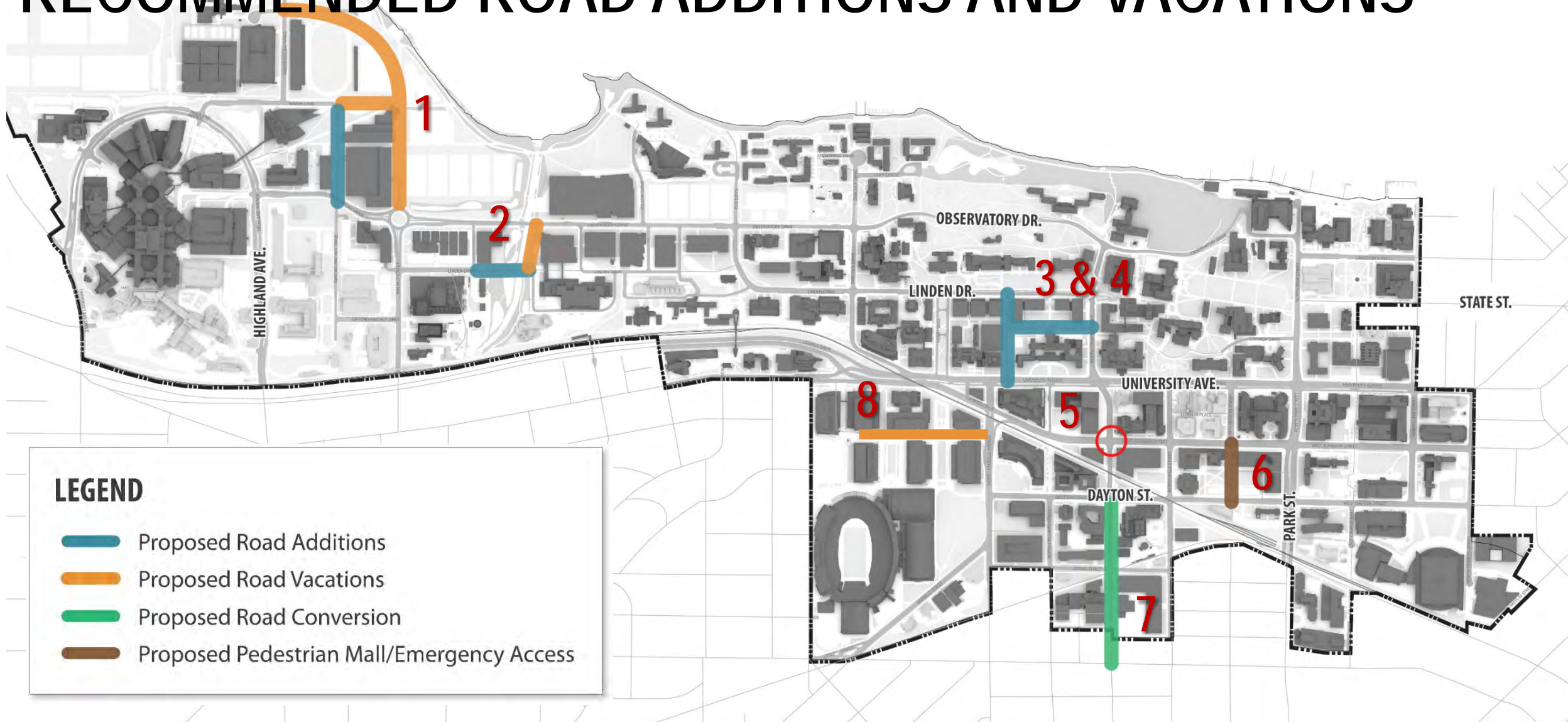
IMPROVE INTERSECTIONS



CONNECT WALKING AND BIKING NETWORK



RECOMMENDED ROAD ADDITIONS AND VACATIONS



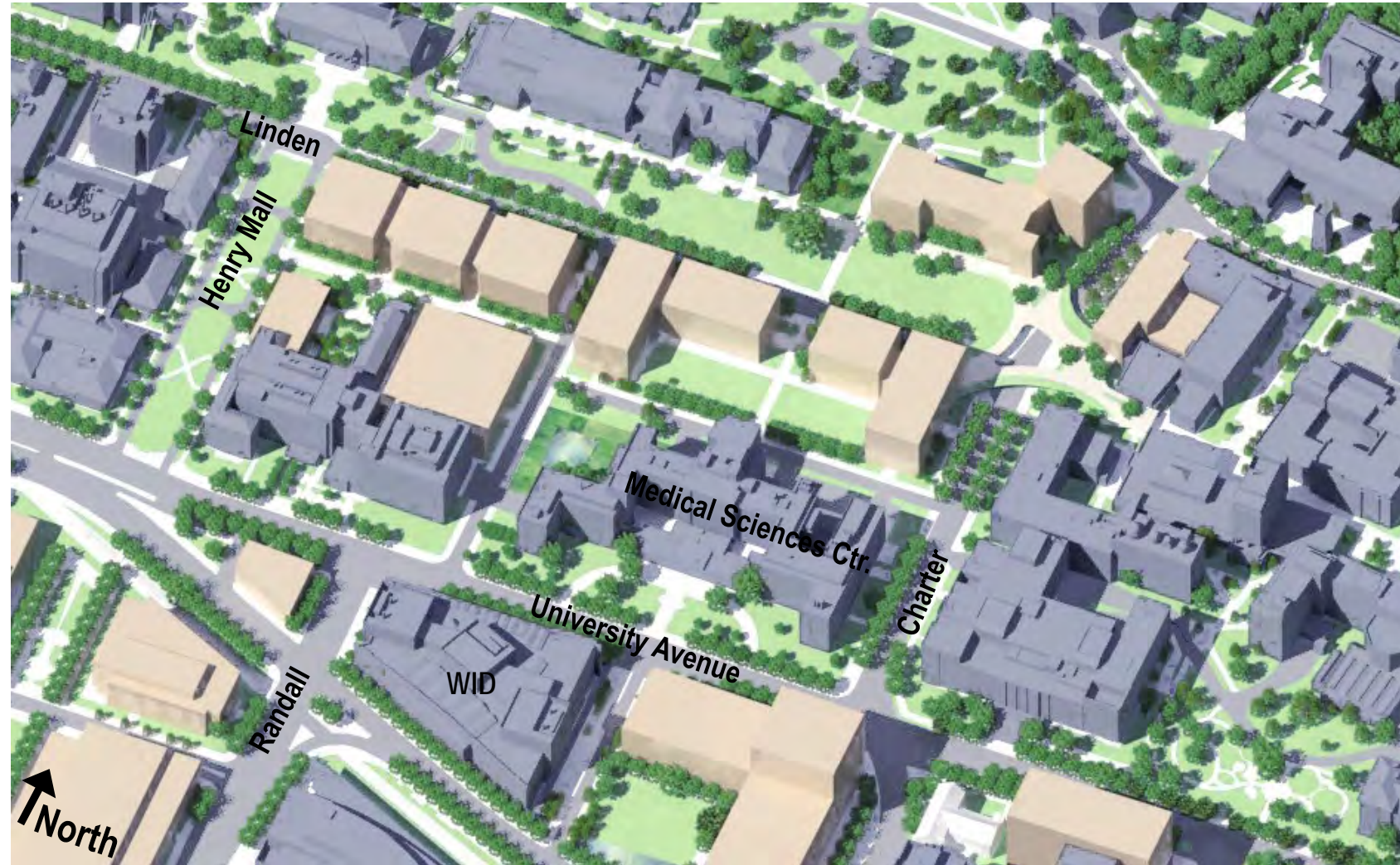
RECOMMENDED ROAD ADDITIONS AND VACATIONS

1. Vacate parts of Marsh Dr, Willow Dr, and Walnut St, install new north-south road from Marsh Dr to Observatory Dr to accommodate new planned land uses
2. Vacate Easterday Ln and add an east-west connection across Willow Creek
3. Install new north-south access drive from University Ave to Linden Dr, west of Charter St
4. Install new east-west parallel access road south of Linden Dr, west of Charter St
5. Install protected left turn phase for Charter St southbound vehicles turning left on to Johnson St to accommodate added central block parking demand
6. Convert Brooks St from Johnson St to Dayton St into pedestrian mall/shared emergency drive
7. Convert Charter St from Dayton St to Regent St from one-way to two-way and add on-street bicycle lanes in each direction to create a new gateway from the south
8. Convert Engineering Drive to a wide pedestrian path that could accommodate deliveries to buildings, including semi and gas tanker access.

MOVE AROUND CAMPUS EFFICIENTLY

Central Campus – Improve Bike/Ped Movement

- Interior circulation provided for vehicular and service access as well as pedestrian and bike movement
- Demolition of McArdle Labs allows for expansion and redesign of structured parking
- Future district green with parking below
- Replacement parking for Lot 34 & Observatory Hill spaces
- Future development creates consistent streetwall fronting Linden Drive



CONVENIENT BICYCLE/PEDESTRIAN FACILITIES

North Charter Street at Linden

- Iconic - Create an iconic land bridge at the east terminus to Greater Linden Mall to mitigate multi-modal conflicts.
- Circulation
- Destination
- Open
- Green - Redevelop North Charter Street as a pilot Green Street project on campus.

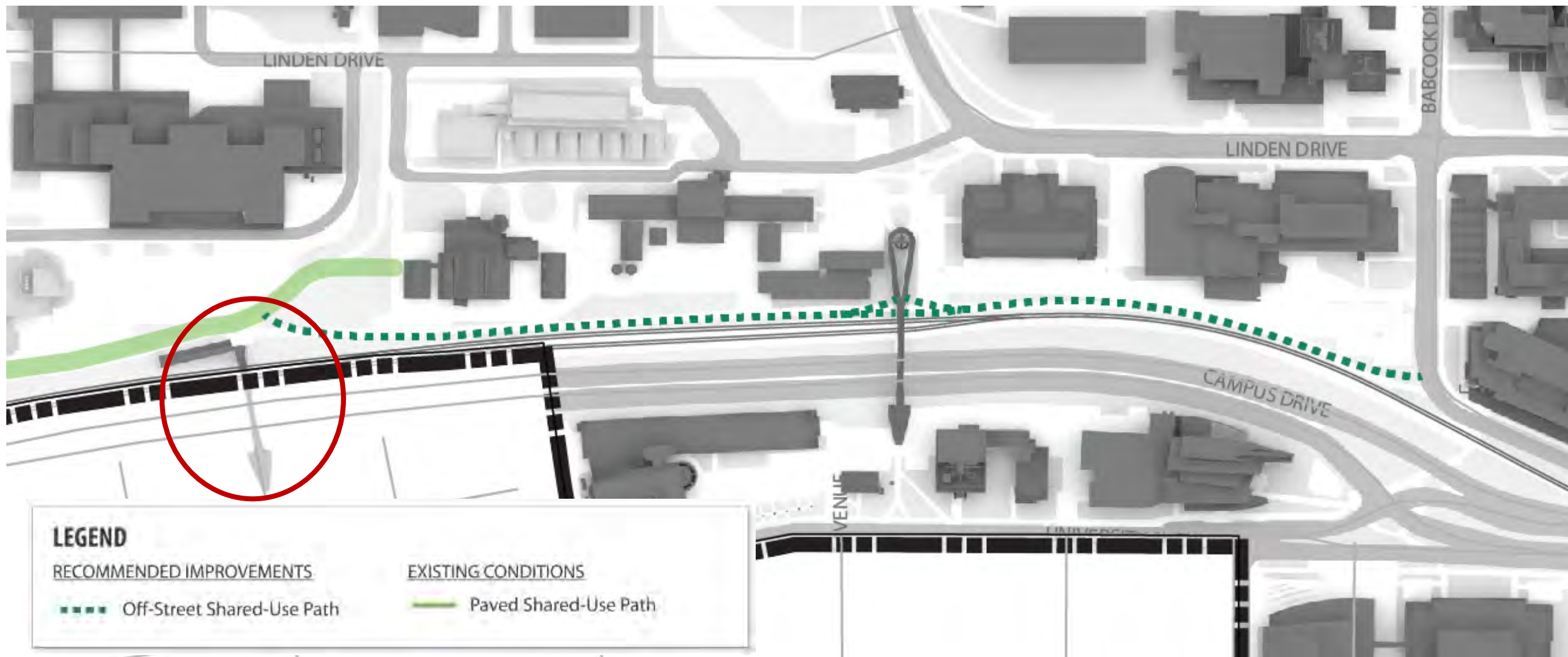






CONVENIENT BICYCLE/PEDESTRIAN FACILITIES

Campus Drive Path Connection to Babcock Drive and Chamberlain Ave Bridge



MINIMAL PARKING TO MEET NEEDS

- UW-Madison is a national leader in transportation demand management (TDM) and alternative commuting communication and marketing strategies
 - Allows for management of constrained parking resources and maintenance of lower than average parking ratios
- Convenient and balanced alternative travel options available for students, faculty, and staff
 - Walking and biking
 - Transit
 - Park-and-Ride
 - Carpool and vanpool

MINIMAL PARKING TO MEET NEEDS

Current (Constrained) Parking Demand

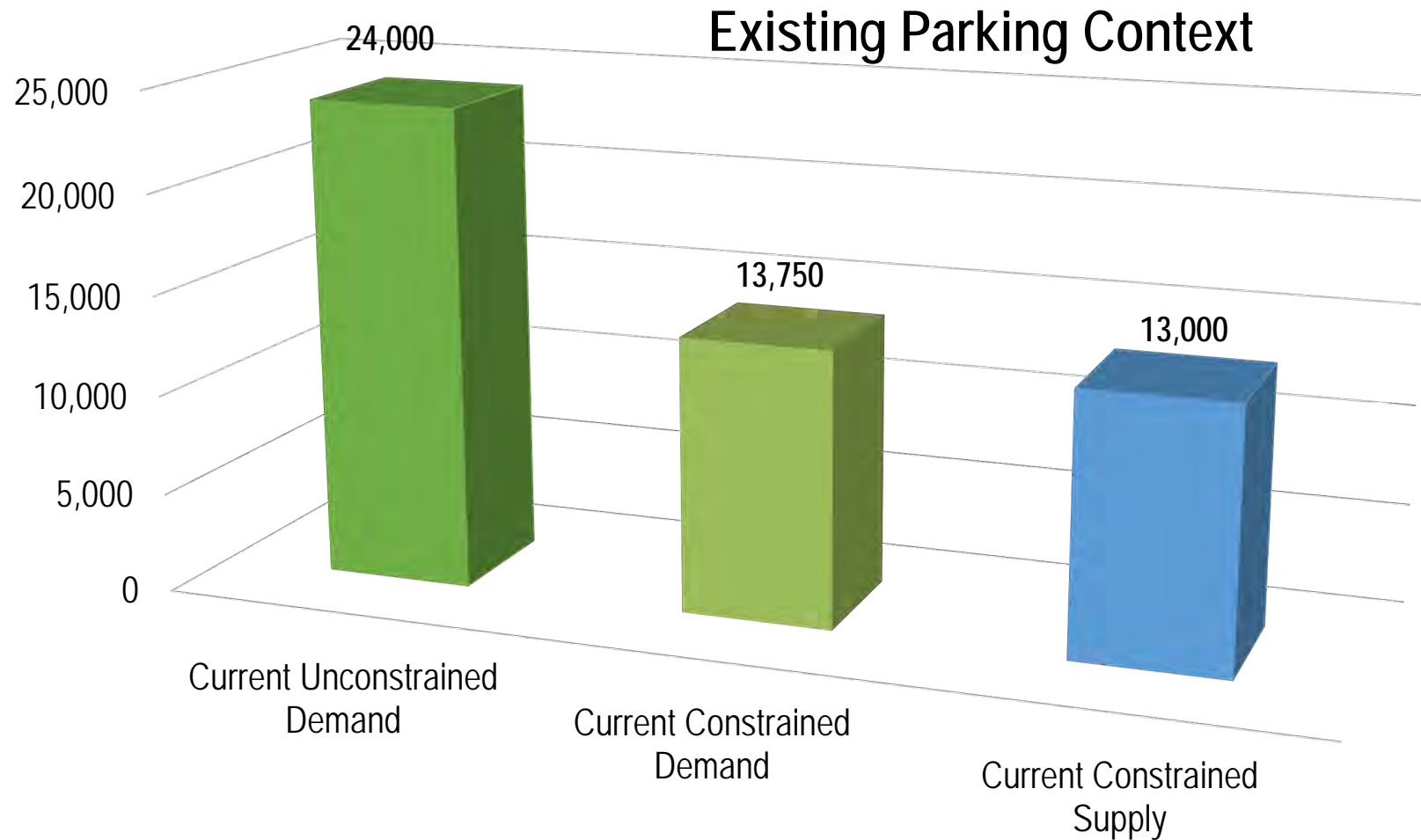
- UW-Madison has 22,000 faculty and staff, 6,300 hospital employees, and 43,000 students
- Campus currently has ~13,000 parking spaces (9,400 faculty/staff, 1,600 visitor, 2,000 service/fleet)
 - Plus demand: 371 cars park in UW Park Street/Wingra, University Crossing, and Research Park park-and-ride lots
 - Plus demand: 374 people are on the waiting list for parking permits with no existing parking
- Parking ratio of 0.18 spaces/person
- Second lowest parking ratio of peer universities in the United States

MINIMAL PARKING TO MEET NEEDS

Existing Parking Context: Unconstrained Parking Demand

- **IF** there were unlimited resources and no constraints, existing UW-Madison faculty, staff, employees, and campus visitors would require ~24,000 parking spaces on campus
 - If students were permitted to park on UW Madison campus, this number would be much greater (as many as 18,000 more parking spaces)
- UW-Madison will **never reach an equilibrium** of placing an adequate quantity of spaces **directly adjacent** to each building
 - Space for parking must be evaluated relative to the demand for building sites for academic and research uses
 - Parking, in some capacity, will always occur in adjacent districts

MINIMAL PARKING TO MEET NEEDS



MINIMAL PARKING TO MEET NEEDS

Future Modeled Parking Conditions

- Future parking demand modeled on future campus capacity
- Redistributed and added parking supply across campus for future condition
- Forecasted deficit of 18 spaces
- West Campus has higher parking generation ratios than other districts
 - Best opportunity to provide enhanced TDM options
 - Opportunity to divert parkers to transit with enhanced express transit service

MINIMAL PARKING TO MEET NEEDS

Parking Recommendations

- **Maintain TDM leadership** by continuing to limit parking for faculty and staff (0.34 spaces per employee)
- Provide **enough parking** to support the University's academic, research, and outreach missions
- Provide **visitor/swing space** to give flexibility, and allow for parking phasing and construction
 - Add ~2,000 spaces over the next 20-40 years

MINIMAL PARKING TO MEET NEEDS

Parking Reductions		
Lot/Location	District	Stall Count
Lot 3	Central	62
Lot 13	Central	34
Lot 17	South	787
Lot 22	South	65
Lot 23	Central	42
Lot 26	Central	88
Lot 34	Central	267
Lot 41	Near West	71
Lot 43	Near West	56
Lot 50	South	176
Lot 51	South	33
Lot 56	South	43
Lot 60	West	1,311
Lot 62	Near West	417
Lot 79	West	244
Lot 81	South	81
Lot 85	West	36
Lot 91	South	160
Lot 92	South	28
Lot 114	South	7
Lot 20	Central	207
Total		4,215



Parking Additions		
Lot/Location	District	Stall Count
Humanities (N-11B)	Central	450
Lot 75 (W-02)	West	780
Linden Superblock (N-06B)	Central	550
Engineering (Z-10)	South	1,050
Vet Med (X-05)	Near West	625
Nursing/Pharmacy (W-09A)	West	1,500
Mills and Spring (S-10A)	South	400
Grainger South (S-13)	South	350
Art Lofts (S-16A)	South	300
Lot 20 (Z-11)	Central	375
Total		6,380

Potential net gain of up to 2,165 parking stalls.

MINIMAL PARKING TO MEET NEEDS

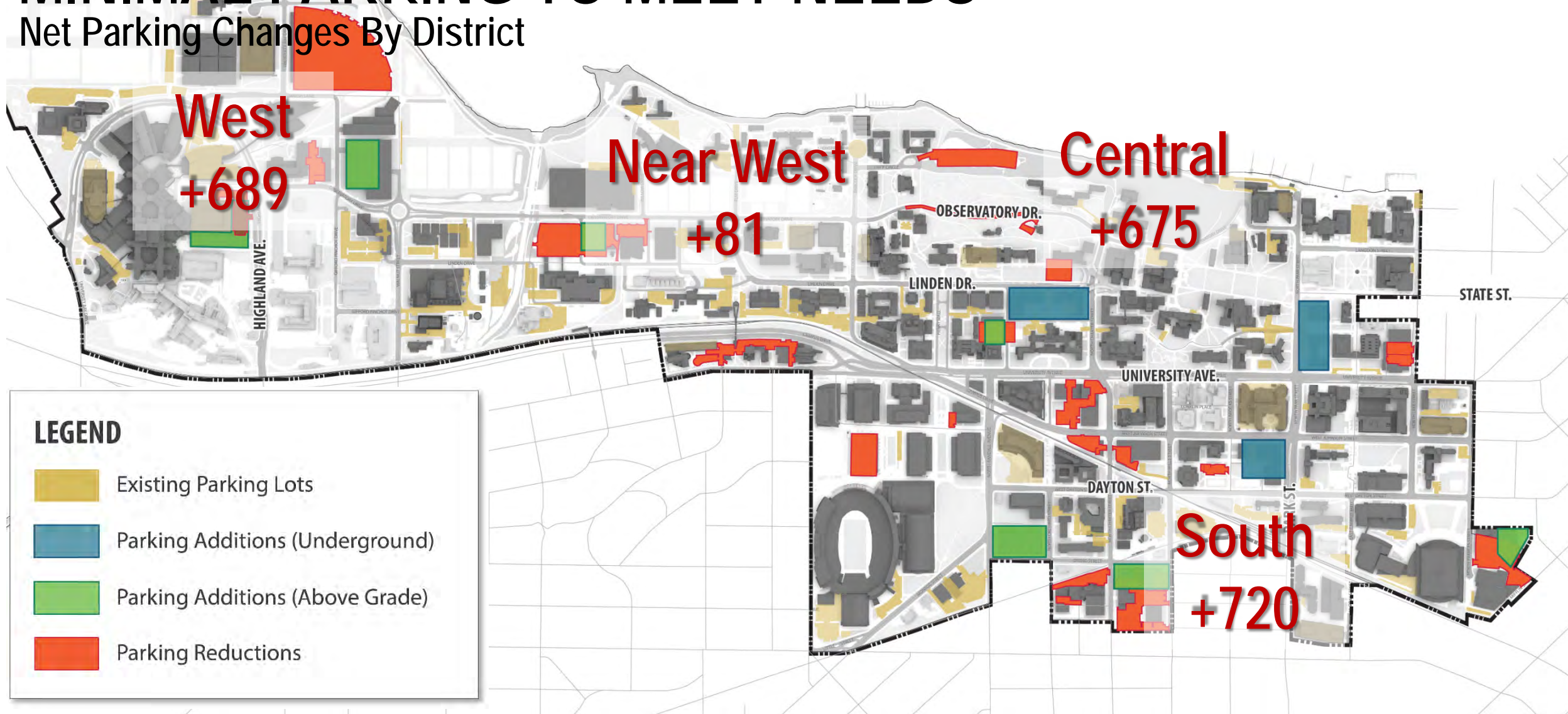


MINIMAL PARKING TO MEET NEEDS



MINIMAL PARKING TO MEET NEEDS

Net Parking Changes By District



4. CELEBRATE OUR LAKESIDE SETTING



PROTECT AND CELEBRATE OUR LAKESIDE SETTING





University Avenue

Henry Mall

Charter

Observatory Dr.

Sewell
Social
Sciences

North ↓

Lake Mendota

PROTECT AND CELEBRATE OUR LAKESIDE SETTING

Observatory Hill

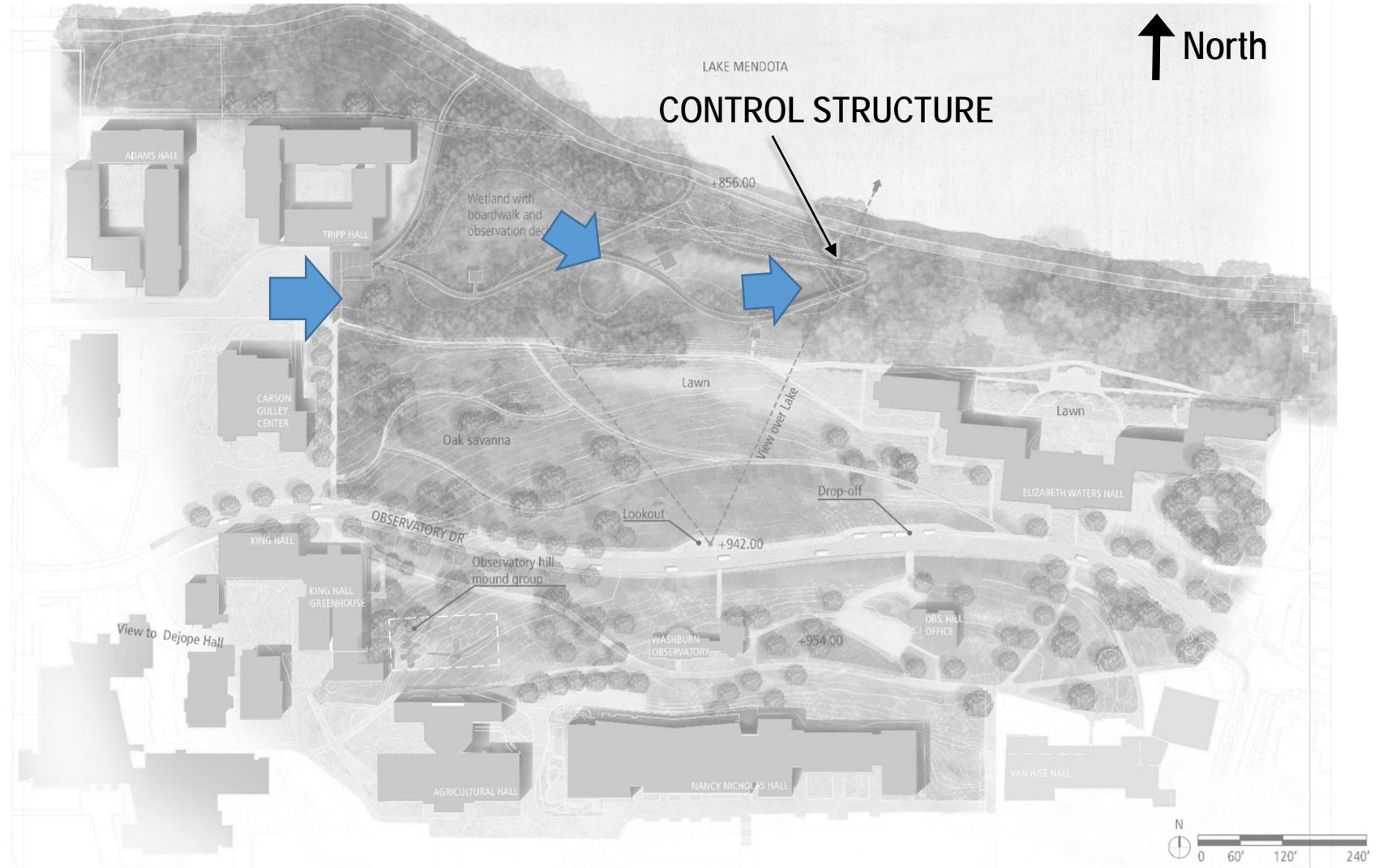
- Landscape Aesthetic
 - Stormwater
 - Wellness
 - Cultural
-
- Remove Lot #34 from historic landscape.
 - Provide restorative, functional and educational landscapes on Observatory Hill.



PROTECT AND CELEBRATE OUR LAKESIDE SETTING

Observatory Hill Wetland

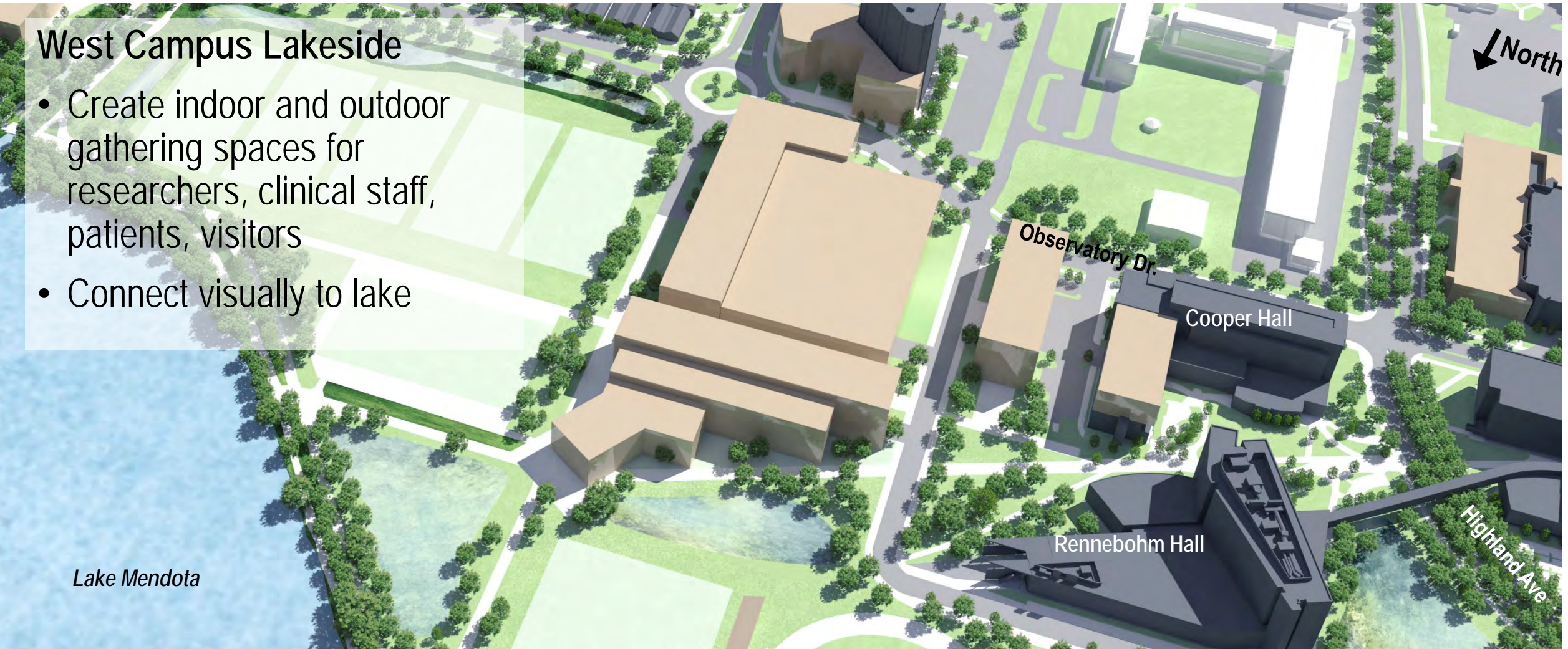
- Drainage Area Served:
16.3 acres
- Runoff Volume Captured:
503,000 cubic feet
- TSS Captured: 3,700
pounds/year



PROTECT AND CELEBRATE OUR LAKESIDE SETTING

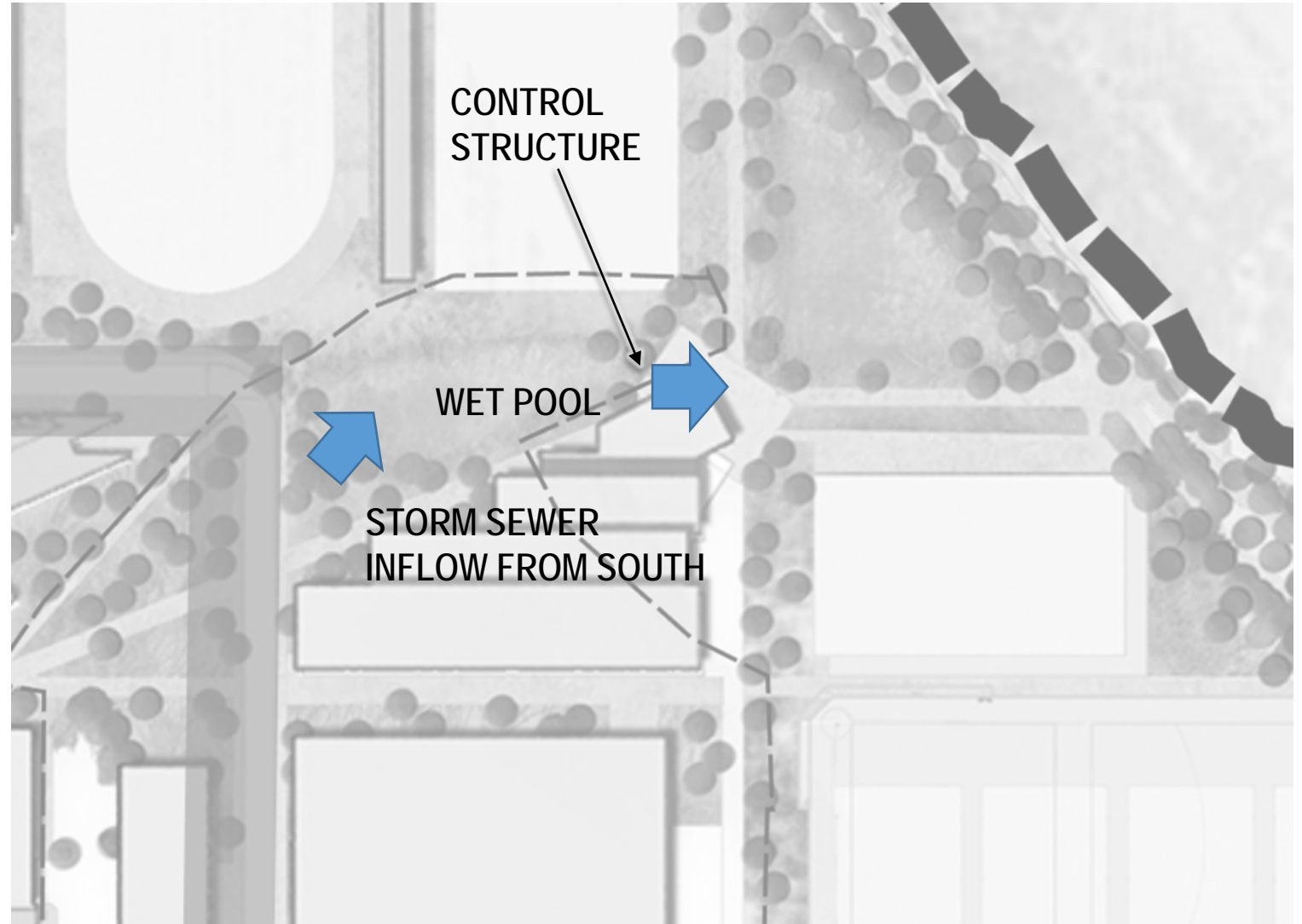
West Campus Lakeside

- Create indoor and outdoor gathering spaces for researchers, clinical staff, patients, visitors
- Connect visually to lake



PROTECT AND CELEBRATE OUR LAKESIDE SETTING

- Marsh Lane Wetland
- Drainage Area Served: 9.8 acres
- Runoff Volume Captured: 543,000 cubic feet
- TSS Captured: 2,100 pounds/year



5. REVITALIZE OUTDOOR SPACES



5. REVITALIZE OUTDOOR SPACES

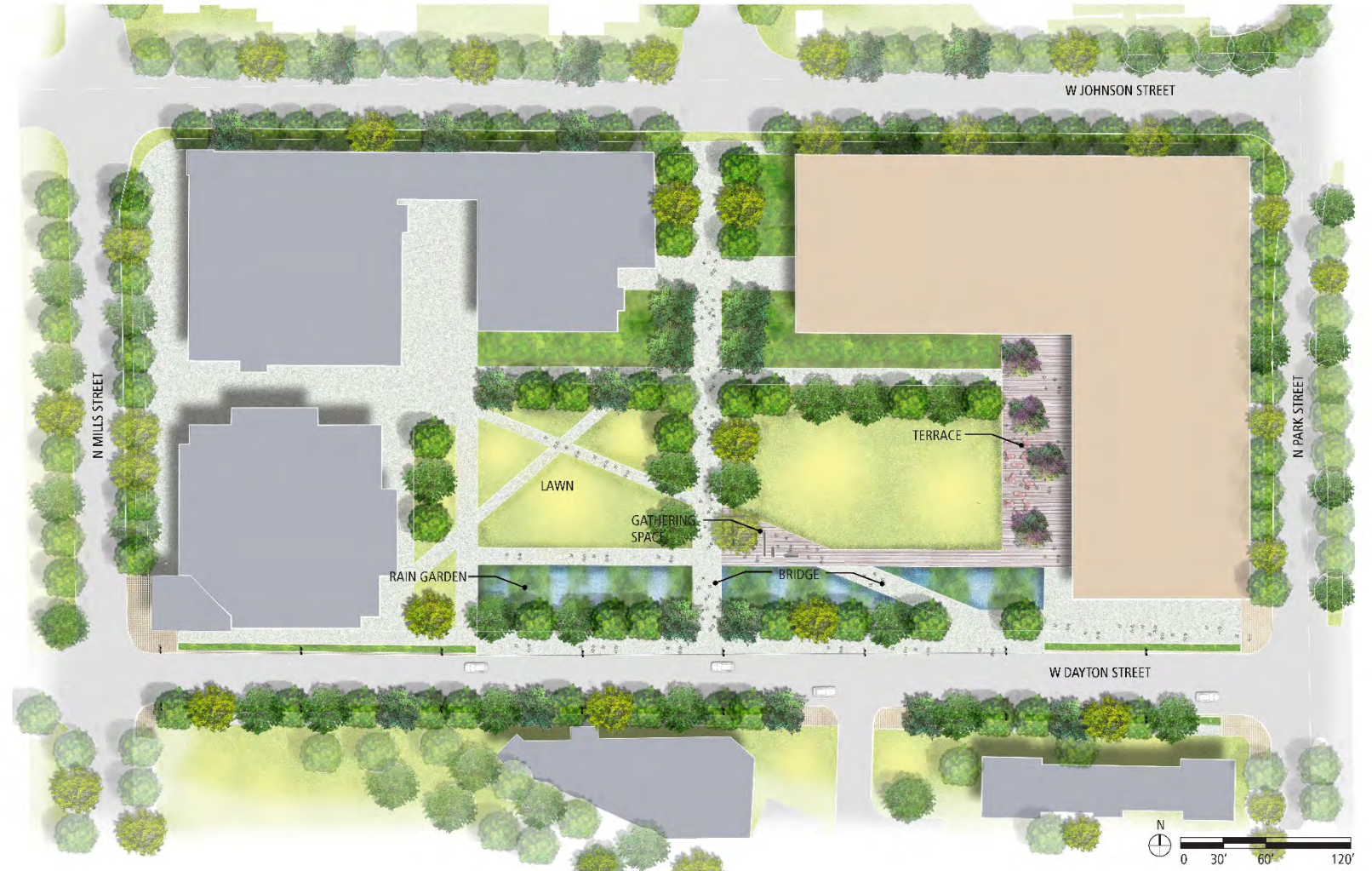




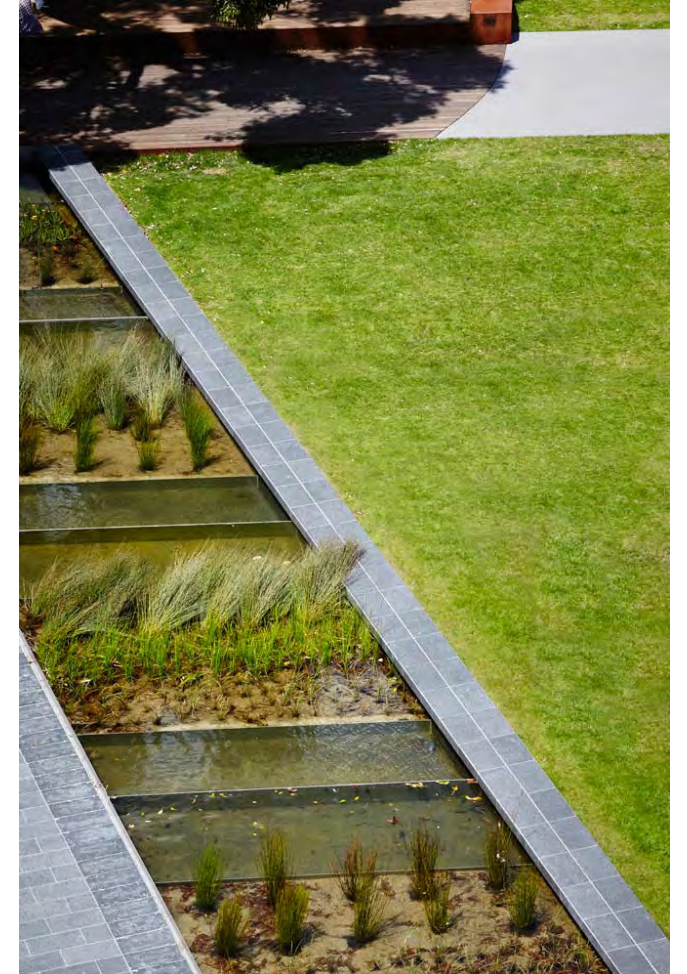
PROMOTE A CLEAR SENSE OF PLACE

South Campus Quad

- Civic Scale - Provide a new, contemporary quad
- Simplicity
- Function - Increase sidewalk capacity, improve the pedestrian experience – “Brooks Walk”
- Events - Use Dayton Street as an events street connecting Camp Randall & Kohl Center
- Stormwater - Implement green infrastructure strategies:
 - Visible urban practices
 - Infiltration/re-use as feasible
 - Underground treatment
 - Green roofs



PROMOTE A CLEAR SENSE OF PLACE



Monash University Caulfield Campus Green, Australia





Dayton Street at Brooks Street - Proposed

6. BE GOOD NEIGHBORS



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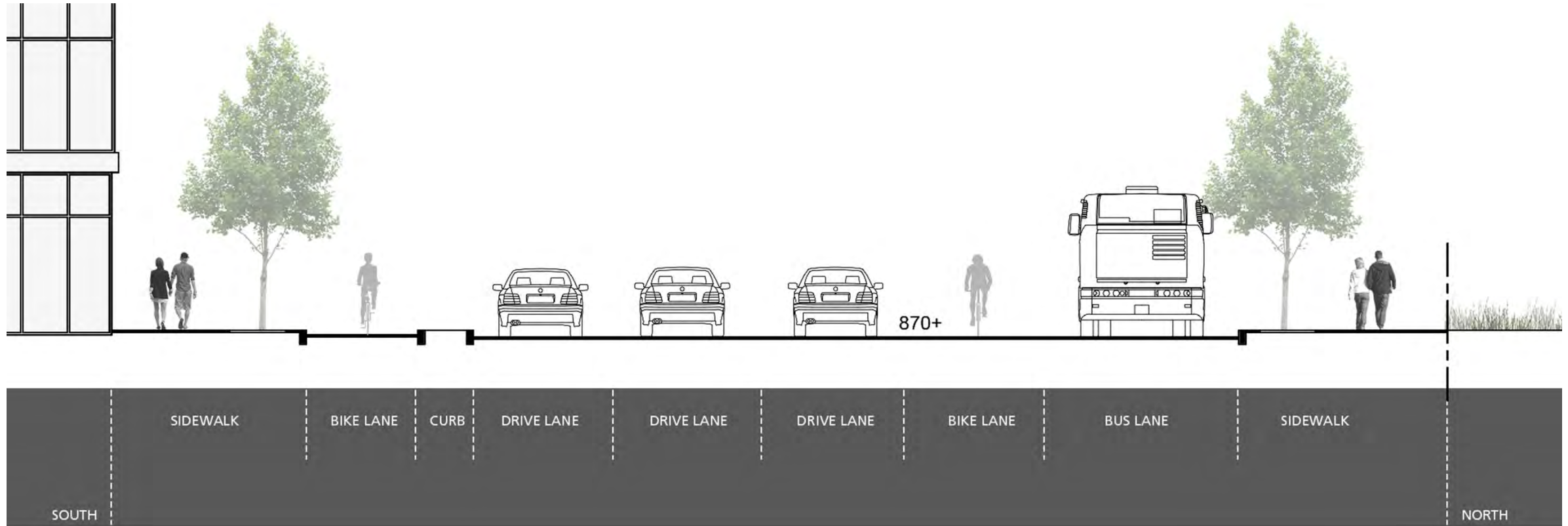


ENHANCE GATEWAYS

WELCOME VISITORS TO CAMPUS

UNIVERSITY AVENUE

Existing Section



WELCOME VISITORS TO CAMPUS

UNIVERSITY AVENUE

Proposed Section



- Enhance the appearance and function
- Two-way protected bike lane on the south side
- North side transit lane reserved for future Bus Rapid Transit
- Planted median between protected bike lane and motor vehicle traffic
- Protected motor vehicle left turn lane at intersections

WELCOME VISITORS TO CAMPUS

UNIVERSITY AVENUE

Proposed Section – at Narrower R.O.W.

- Enhance the appearance and function
- Two-way protected bike lane on the south side
- North side transit lane reserved for future Bus Rapid Transit
- Planted median between protected bike lane and motor vehicle traffic
- Protected motor vehicle left turn lane at intersections



WELCOME VISITORS TO CAMPUS

UNIVERSITY AVENUE



Paul Krueger, Flickr

Dunsmuir Street, Vancouver, British Columbia, Canada

WELCOME VISITORS TO CAMPUS

UNIVERSITY AVENUE

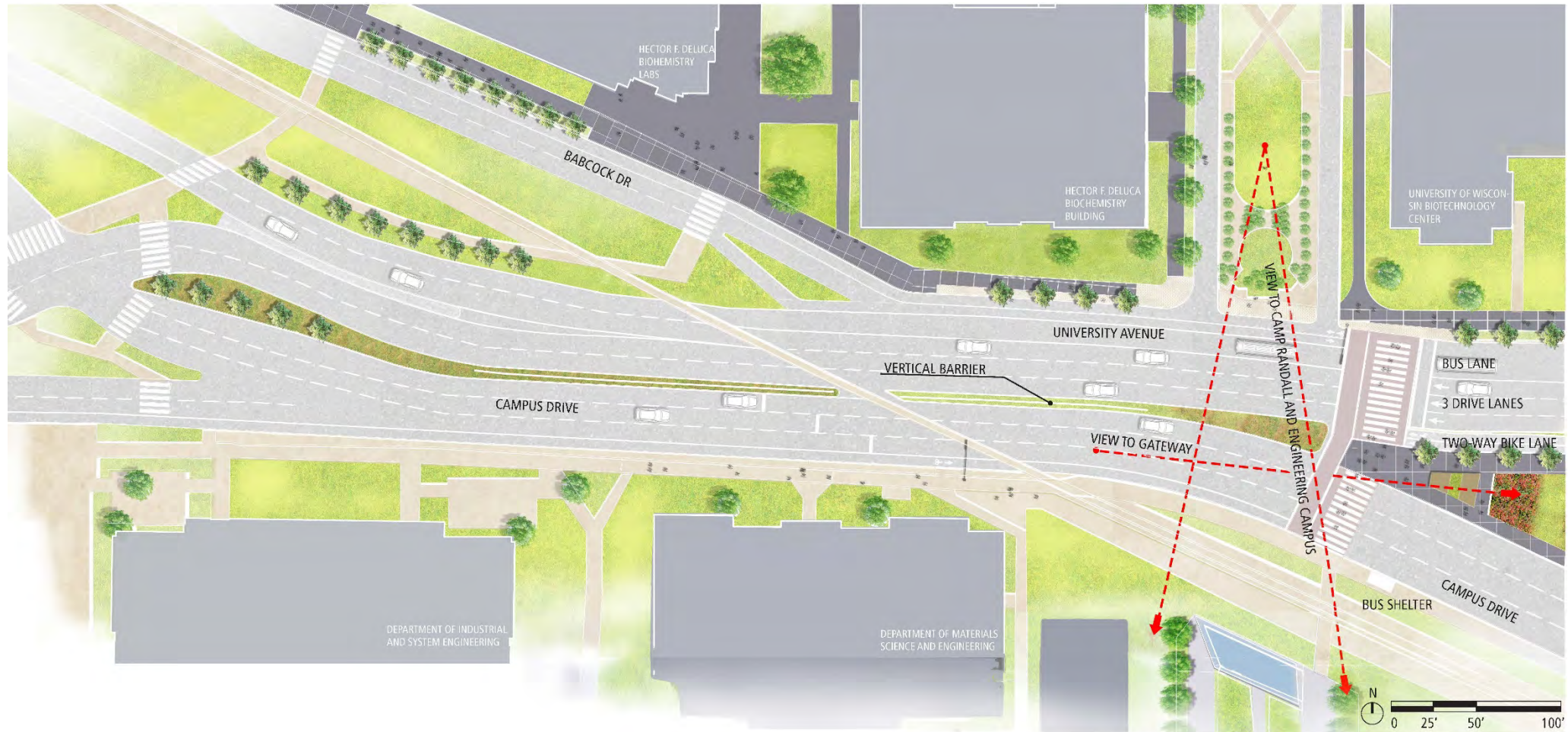
Typical Intersection



WELCOME VISITORS TO CAMPUS

UNIVERSITY AVENUE

Henry Mall Intersection





NEXT STEPS



NEXT STEPS

- Draft Final Master Plan: Review and Approval
 - Recommend to Chancellor: **Campus Planning Steering Committee, April 14, 2016**
 - Design Guidelines Review: Design Review Board, July 2016
 - Acceptance: Executive Leadership Team, September 2016
 - Review and Approval: City of Madison, October/November 2016

MORE INFORMATION AND DISCUSSION

- <http://masterplan.wisc.edu/>
- <http://engageuwmadisonmasterplan.com/>





WISCONSIN
UNIVERSITY OF WISCONSIN-MADISON

