



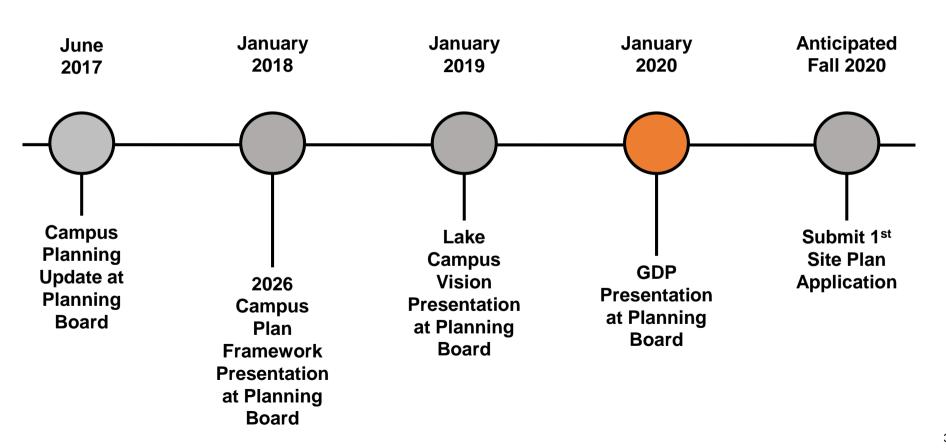
Lake Campus General Development Plan

West Windsor Township Planning Board January 15, 2020

The Lake Campus General Development Plan ("GDP")

- This is not a site plan application. This is a GDP application.
- Complies with current zoning
- Provides the Township with a framework for the orderly development of the University's Lake Campus over the next 20 years
- The starting point for what we hope be many years of continued review and development that will create a new asset for both the University and the Municipality.

Process and Timeline: Lake Campus Development



GDP Ordinance Requirements

Section 200-115 Contents of General Development Plan requires that a general development plan application include the following:

- A. A general land use plan indicating the tract area and general locations of the land uses to be included in the planned development
- B. A circulation plan showing the general location and types of transportation facilities, including facilities for pedestrian access, within the planned development and any improvement to the existing transportation system outside the planned development.
- C. An open space plan showing the proposed lane area and general location of parks and any other land area to be set aside for conservations and recreational purposes.
- D. A utility plan indicating the need for an showing the proposed location of sewage and water lines and drainage facilities necessitated by the physical characteristics of the site.
- E. A stormwater management plan setting forth the proposed method of controlling and managing stormwater on the site.
- F. An environmental inventory including a general description of the vegetation, soils, topography, geology, surface hydrology, climate and cultural resources of the site.

GDP Ordinance Requirements

- G. A community facility plan indicating the scope and type of supporting community facilities which may include, but not be limited to, educational and cultural facilities and historic sites.
- H. A housing plan outlining the number of housing units to be provided and the extent to which any housing obligation assigned to the municipality pursuant to P.L. 1985, c. 222 (N.J.S.A. 52:27D-301 et seq.) will be fulfilled by the development.
- I. A local service plan indicating those public services which the applicant proposes to provide and which may include, but not be limited to, water, sewer, cable and solid waste disposal.
- J. A fiscal report describing the anticipated demand on municipal services to be generated by the planned development and any other financial impacts to be faced by the Township or school district as a result of the completion of the planned development.
- K. A proposed timing schedule in the case of a planned development whose construction is contemplated over a period of years.
- L. A municipal development agreement which shall mean a written agreement between a municipality and a developer relating to the planned development.

Agenda

- 1. History and Vision
- 2. What this University Investment Means for West Windsor
- 3. The Lake Campus Plan
- 4. Specific Approvals Requested
- 5. Compliance with the E District Standards
- 6. Plan Elements
 - ✓ Circulation, Traffic and Parking
 - ✓ Existing Princeton University Parking Strategies
 - √ Fiscal Impact
 - ✓ Open Space and Community Facilities
 - ✓ Environmental Inventory
 - ✓ Utilities
 - ✓ Stormwater Management

History and Vision

- History of the Lake Campus
- Shared goals

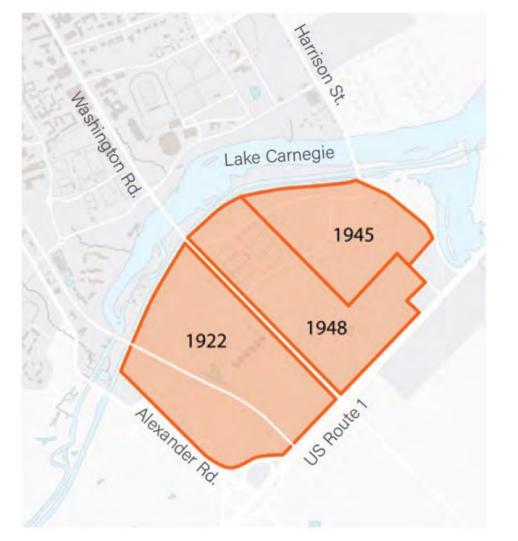
History of the Lake Campus

1922: The University acquired 216 acres of land between Washington Road and Alexander Road.

1945: The University acquired a third farm.

1948: The University acquired a fourth farm.

1980: E Education District zoning adopted by the Township



Shared Goals for the Lake Campus

(As identified at January 10, 2018 and January 2, 2019 meeting with West Windsor Planning Board)

- Develop a state of the art campus that Princeton University and West Windsor Township can take pride in
- Create an attractive "gateway" to both West Windsor Township and Princeton University
- Respect and enhance the Washington Road Elm allée
- Use best practices in sustainable development
- Make walkable and bikeable connections to and through the Lake Campus for both the campus community and the community at large
- Advance opportunities that encourage alternative transportation: walking, biking, mass transit
- Incorporate open space in the campus to encourage recreation and reflection

What this University Investment means for West Windsor

Development of the Lake Campus will:

- Provide community benefits
- Create a vibrant and welcoming community
- Create a distinctive sense of place that is connected, walkable and bikeable
- Foster an ethos of sustainability

Community Benefits

- 1. Long-term "blueprint" for development
- Opportunities for access to social, cultural and athletic events
- 3. Commitments to construct and maintain infrastructure improvements
- 4. Enhanced state of the art stormwater management
- 5. An open campus
- 6. Stabilizing fiscal presence in the community
- 7. Encourage economic development
- Model for sustainability

A Vibrant Campus: Active Throughout the Day



A Vibrant Campus with an Array of Uses

- 1. Continuous exchange of ideas in common areas engaging students, faculty, staff and researchers
- 2. A central hub of community activity at the heart of the plan
- 3. Community/convening space open to the Yard
- 4. Social spaces rich with activity and amenities
- 5. Varsity and club athletic facilities in both indoor and outdoor facilities
- 6. Housing for post docs and graduate students
- 7. Flexible outdoor spaces for education and research
- 8. Maker spaces embedded throughout the innovation cluster
- 9. Modern working spaces for faculty, researchers, and industry partners

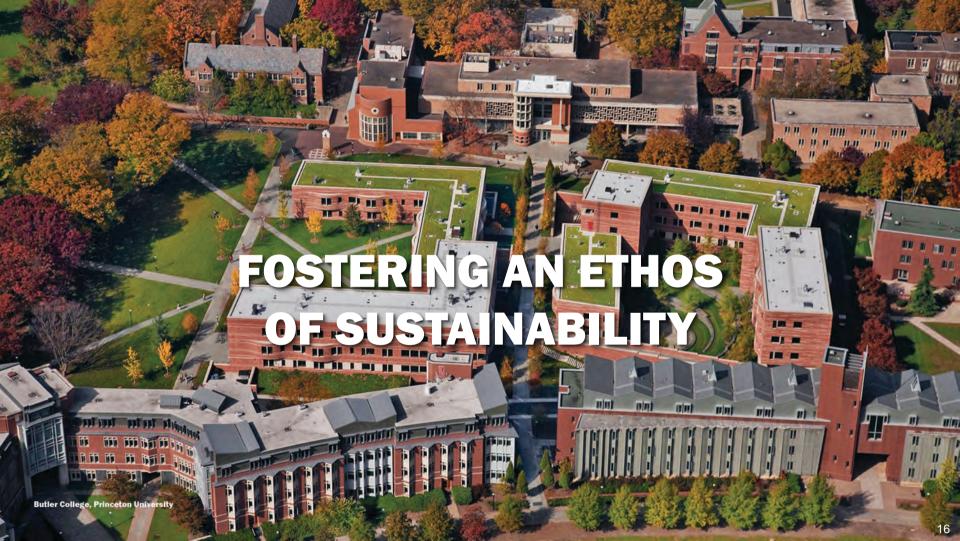






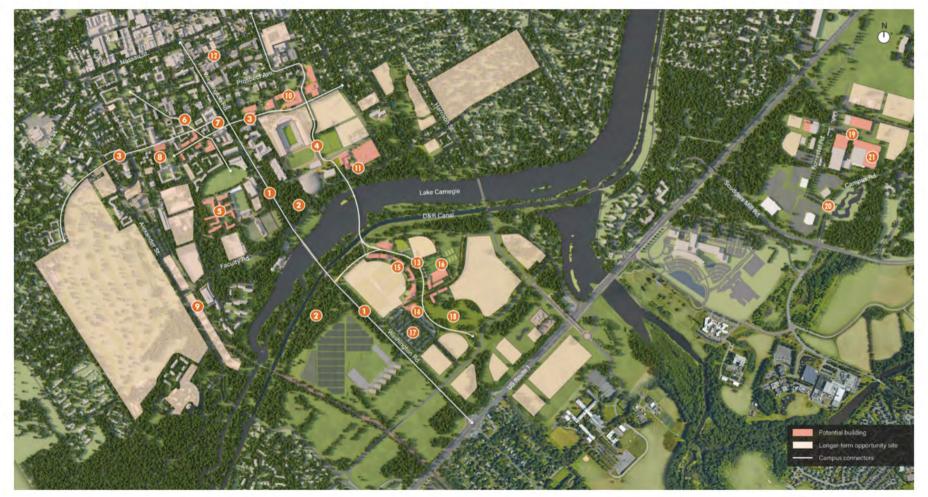






The Lake Campus Plan

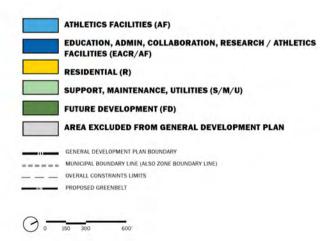
- 2026 Campus Plan Framework
- 2020 General Development Plan



2026 Campus Plan: Initial framework plan for Lake Campus as presented to the West Windsor Township Planning Board in January 2018 18



General Land Use Plan





Example of Near-Term Potential Development Plan Design

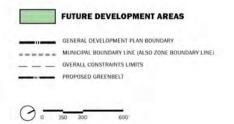


Example of Mid-Term Potential Development Plan Design



Future Development

Future Development = 47.93 acres





Approvals Requested

- General Land Use Plan
- Lake Campus Connector Alignment
- 20-Year Vesting
- Flexible Timing Schedule
- Waiver for Scale of Submission
- Variance for Athletic Lighting

Approvals Requested: Land Use Plan

- Up to 500 units of Post-Doctorate and/or Graduate Student Housing;
- Up to 985,000 square feet of nonresidential uses, consisting of:
 - Education, Administrative, Collaboration and Research facilities;
 - Athletic facilities and Campus recreation;
 - Support, Maintenance and Utility facilities; and,
 - Campus Retail, Services and Amenities.

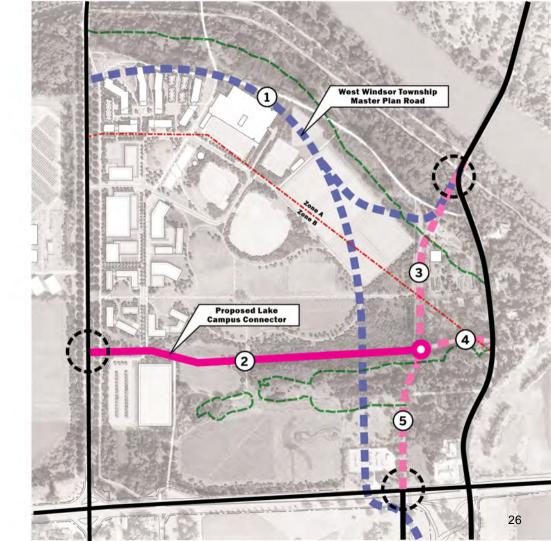




Millstone By-pass + Lake Campus Connector

- 1. West Windsor Township Master Plan Road
- 2. Proposed Lake Campus Connector
- 3. Potential future alignment to be constructed by others
- 4. Potential connection absent construction of the future NJDOT grade-separated interchange
- Potential alignment to connect to the future NJDOT grade-separated interchange





GDP Approval would permit Flexible Development and Timing Schedule

Near-Term- Years 0-10:

- 350 units of post-doctorate and/or graduate student housing
- 140,000 square feet of Education, Administrative, Collaboration and Research facilities
- 209,000 square feet of Athletic facilities and Campus recreation
- 25,000 square feet of Support, Maintenance and Utility facilities
- 27,000 square feet of campus retail, services and amenities

Mid-Term— Years 11-20:

- 150 units of post-doctorate and/or graduate student housing
- 430,000 square feet of Education,
 Administrative, Collaboration and Research facilities
- 139,000 square feet of Athletic facilities and Campus recreation
- 15,000 square feet of campus retail, services and amenities

Compliance with E District standards

E District Compliance

The proposed GDP complies with all of the use and bulk standards of a Planned Educational Development in the E District, with the one exception of a height variance for varsity baseball and softball playing field lighting.

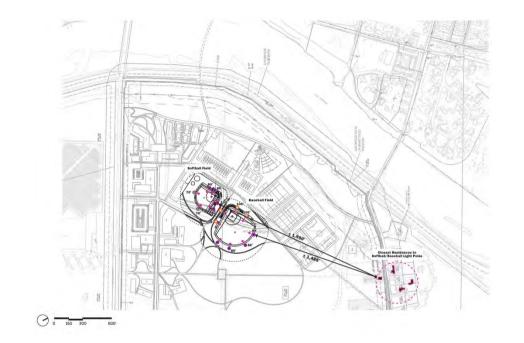
The Lake Campus GDP complies with:

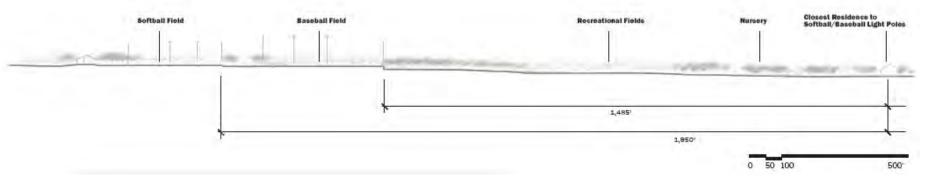
- Permitted Uses
- Minimum Lot Area
- Minimum Lot Frontage
- Maximum Floor Area
- Maximum Residential Standards (R-5A Zone)
- Maximum Impervious Cover
- Maximum Building Height
- Common Open Space
- Parking

Variance Requested: Height of Athletic Field Lights

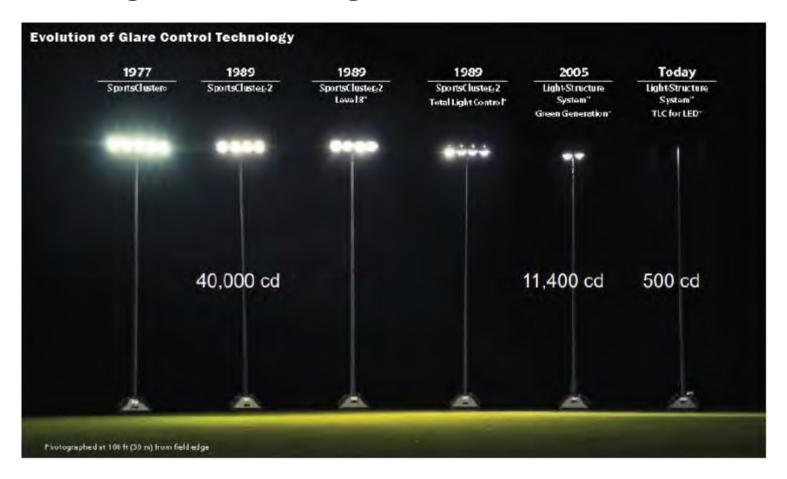
Proposed Height 100 feet Permitted Height 70 feet

Closest residence (owned by Princeton University) is 1,485 feet

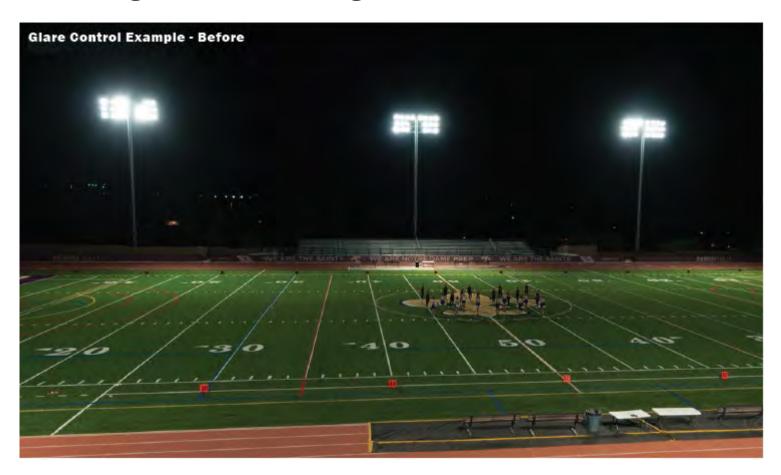




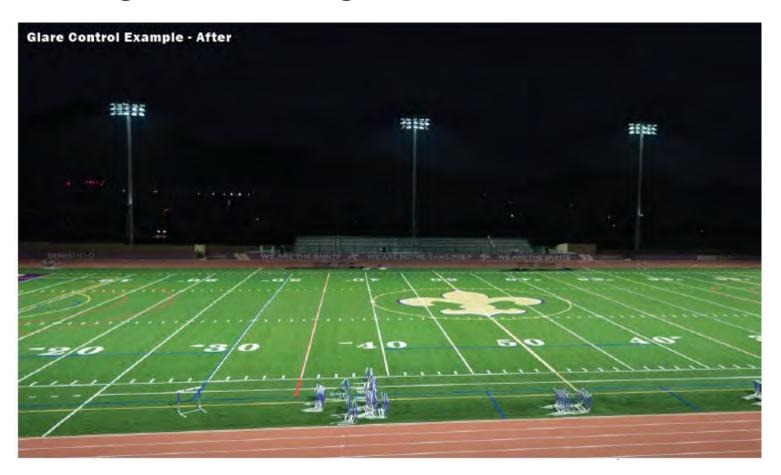
Variance for Height of Athletic Field Lights



Variance for Height of Athletic Field Lights



Variance for Height of Athletic Field Lights



Variance for Height of Athletic Field Lights



@2017 Musco Sports Lighting, LLC - 166737 - M-2288-enUS-1



CIRCULATION AND TRAFFIC

The Lake Campus will:

- Connect trails and walkways/bikeways to destinations in West Windsor and beyond
- Address traffic needs through circulation to and through the site
- Incorporate and encourage a range of travel modes beyond single occupancy vehicles

Circulation Plan





Circulation and Traffic: Pedestrians and Bicyclists

Connecting trails and walkways to destinations in West Windsor



Circulation and Traffic: Roadway Sections



Circulation and Traffic: Summary of Traffic Impact Study ("TIS")

- TIS analyzed 7 intersections in West Windsor in Near-Term and 9 intersections in Mid-Term
- TIS took into account other developments planned in West Windsor and Princeton
- Major traffic improvements expected from NJDOT's U.S. Route 1 widening in Near-Term (projected for 2022-25)
- Major traffic improvements expected from Lake Campus Collector in Mid-Term
- Potential Mitigation Measures:
 - Near-Term: Signal phasing changes at Washington and Faculty intersection (Princeton)
 - Mid-Term: Level of Service Impact for Washington Road approach to U.S. Route 1 to be monitored
- Traffic and Parking Monitoring Program recommended after completion of initial projects in the Near-Term Phase
- Traffic analysis coordinated with Township consultant

Parking Calculations for Educational Institutions

Section 200-28 Supplementary parking and loading space requirements

- **D.** Supplementary space requirements applying to motor vehicle parking and off-street loading.[Amended 12-22-1980 by Ord. No. 80-41]
- (3) Educational facilities parking modifications.
- (a) Where a building is for an educational institution which prohibits the ownership or operation of automobiles by students or that restricts the parking of student automobiles to designated institutional parking areas or to parking areas in another Township, such students need not be included in the calculation of automobile parking requirements.
- **(b)** Institutional parking spaces of educational institutions that are provided for normal daytime activity for other purposes shall be considered to be available for such public uses as are normally conducted in the evening or on weekends in places of public assembly of such institutions.

Parking Calculations for Educational Institutions

										Shared Parking Reductions per §200-28.D(3)							
Buildings		Size	Number of Units or Employee Density (Note 1)		Employees	Parking Ratio (Note 2)	Spaces per	Parking Required per §200-27 (Spaces)	Ordinance Reduction Use by PU Students (Note 3)	Weekdays 9 am to 4 pm (Note 5)		Weekday Night Times (Note 6)		Weekday (Friday) Evenings 6 to 9 pm (Note 7)		Saturday Day Time Use (Note 7)	
										Percent Presence	Spaces Needed	Percent Presence	Spaces Needed	Percent Presence	Spaces Needed	Percent Presence	Spaces Needed
Student Housing																	
Apartments		1-bdrm	181	units		1.8	space/unit	326	-	85%	277	100%	326	80%	261	60%	195
		2-bdrm	127	units		2.0	space/unit	254	-	85%	216	100%	254	80%	203	60%	152
		3-bdrm	79	units		2.1	space/unit	166	-	85%	141	100%	166	80%	133	60%	100
Townhouses		3-bdrm	37	units		2.4	space/unit	89	-	85%	75	100%	89	80%	71	60%	53
		4-bdrm	76	units		2.4	space/unit	182	-	85%	155	100%	182	80%	146	60%	109
Education/Admin/Collaborat	tion/Research																
Education/Admin offices (GSF)		140,000	225	SF/empl	622	0.8	space/empl	498	-	100%	498	0%	0	5%	25	5%	25
Educ/Collabor/Research offices (GSF)		430,000	325	SF/empl	1323	0.8	space/empl	1058	-	100%	1058	5%	53	15%	159	15%	159
Convening Space (seats)		425	-			0.25	space/seat	106	40%	100%	64	0%	0	50%	32	50%	32
Campus Retail Service Amenities (GSF)		30,000	375	SF/empl	80	0.8	space/empl	64	-	100%	64	10%	6	100%	64	100%	64
Athletics																	
Athletics Services + Racquet Center																	
	Squash (Indoor) seats	550	-			0.25	space/seat	138	15%	50%	58	0%	0	60%	70	60%	70
	Tennis (Indoor) seats	500	-			0.25	space/seat	125	15%	0%	0	0%	0	60%	64	60%	64
Varsity Tennis (exterior)	seats	500	-			0.25	space/seat	125	15%	0%	0	0%	0	60%	64	60%	64
Varsity Softball	seats	500	-			0.25	space/seat	125	15%	0%	0	0%	0	60%	64	60%	64
Varsity Baseball	seats	450	-			0.25	space/seat	113	15%	50%	48	0%	0	60%	57	60%	57
Ice Hockey Rink	seats	2500	-			0.25	space/seat	625	5%	0%	0	0%	0	60%	356	60%	356
Athletics Employees					50	0.8	space/empl	40	-	100%	40	0%	0	50%	20	50%	20
						TOTAL		4,034			2,695		1,077		1,789		1,585

Notes:

1. The distribution and totals of each residential unit-type referenced herein are planning statistics necessary to analyze the impact of the development proposed in the General Development Plan but should not be construed as establishing exactly what will be the precise residential unit-type distribution in the future. Employee density based on similar University buildings or potential amenity components.

2. Residential parking ratios are governed by the Residential Site Improvement Standards, N.J.A.C. 5:21-1 et seq.

3. As per West Windsor code 200-28D.3(a), Princeton University students are excluded from this calculation since they park in designated institutional parking areas.

4. West Windsor code 200-28D.3(b) allows an adjustment for the uses that are not active during normal daytime hours. In this column we show the % of each use that is active during normal daytime hours.

5. Based on BFJ's review of the athletic calendar for the past academic year, there are a few instances where some squash and varsity baseball games overlapped with the peak weekday period. There were 16 occurrences for the full academic year where there were such occurrences and they were not major occurrences that would have filled all seats. That is the basis for the 58 and 48 parking spaces identified for the 9 am to 4 pm period in the Table.

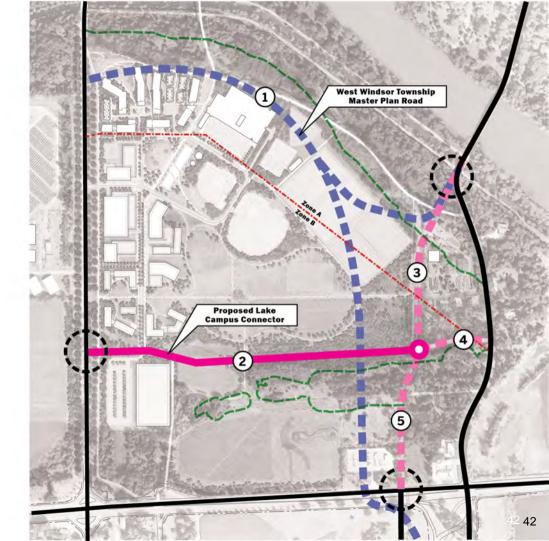
6. BFJ Estimates

7. BFJ Estimates. The percent presence of the grad student and post doc cars in the garage are based on estimates by the Princeton Director of Transportation and Parking. The time periods analyzed for weekday evenings and Saturday day times are the periods when athletic visitor events would peak. It is assumed that on average 60% of the total seating capacity for the athletic venues could be occupied at the same time on a Friday evening or Saturday mid-day. This could be the ice hockey rink plus the varsity soft ball seats occupied at 100% or a combination of the smaller venues at 100%

Millstone By-pass + Lake Campus Connector

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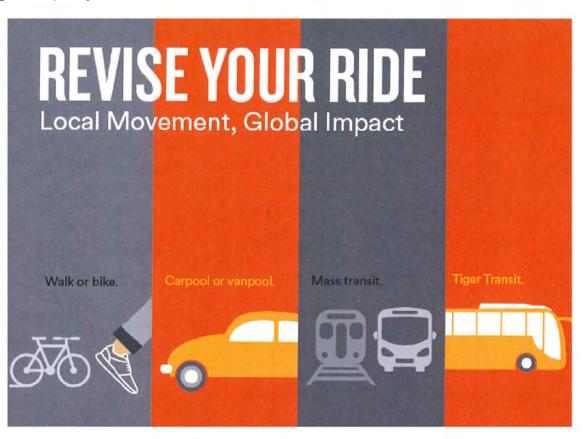




Circulation and Traffic: Transit and TDM Strategies

Incorporating a range of travel modes beyond single occupancy vehicles

- Unique Campus Connections
- Incentives for carpool, vanpool, and walk or bike to work
- Reimbursement for rail and bus passes and connections to nearby mass transit options
- Tiger Transit service expanded to Lake Campus
- Bike paths and amenities for bike commuters
- Undergraduates not permitted to have cars
- Assigned parking areas for Faculty, Staff and Graduate Students
- Annual assessment of parking demand/supply



Circulation and Traffic:

Existing University Parking Strategies



Princeton University 2018 TigerTransit, Parking and Traffic Demand Management Report

For the academic year ending June 30, 2018

Princeton University TigerTransit & Parking Map



Map Key requires Transponder for access

P21 Parking Lot Number

Zone 1: Faculty/Staff
Lots 1, 2, 10, 13, 35 & North Garage®

Zone 2: Faculty/Staff Lots 4, 5, 14, 25 & 26

Zone 3: Faculty/Staff Lots 20, 21, 24, 27, 30, 31, 34, 40, 41 & West Garage® & Cogen

Zone FCL: Facilities Staff Lots 16, 17 & 28

Zone 4R: Graduate Students
Lot 19, Lawrence Apartments, Lakeside,
Edwards/Dickinson Apartments

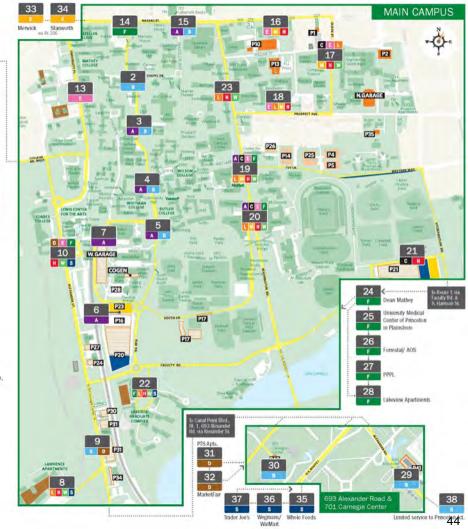
Zone 4C: Graduate Commuters Lots 20, 21 & Western Way

Zone 5: Undergraduate Students

Zone 6: Visitors Lots 21 & 23

TigerTransit Stop
Check table on right for stop
numbers, names & service

TigerTransit accessible road



FISCAL IMPACT

Fiscal Impact

- Consistent with zoning for the site, many of the educational uses and facilities planned for the Lake Campus, due to their educational nature, would be expected to be tax exempt.
- Some facilities could be taxable.
- The Fiscal Analysis Report submitted as part of the GDP indicates there would be an overall annual surplus revenue upon completion of the projects included in the full build-out (20-year GDP).
- Princeton University is a stabilizing fiscal presence as an employer and property owner.
- University facilities may spur additional commercial development in nearby commercially zoned areas in West Windsor as businesses opt to locate near the talent pool generated by the University.

OPEN SPACE AND COMMUNITY FACILITIES

The Lake Campus will include:

- Diverse campus open spaces
- Open spaces with community access
- Dedicated greenbelt area along the D&R Canal State Park

Open Space Plan









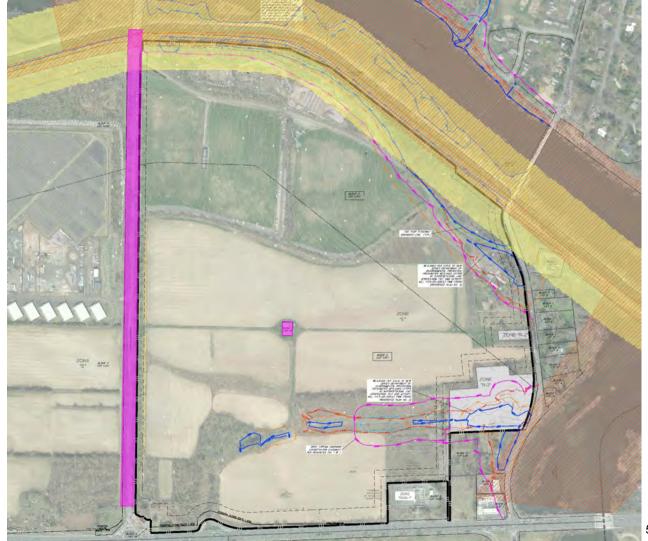




ENVIRONMENTAL INVENTORY

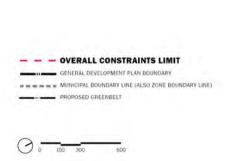
Existing Conditions Plan





Example of Mid-Term
Potential Development Plan Design
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Environmentally Constrained Areas





UTILITIES

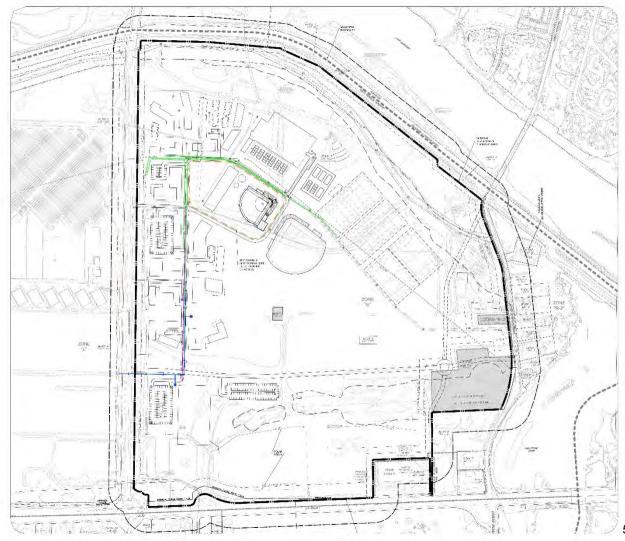
Near-Term Potential Utilities





Mid-Term Potential Utilities





STORMWATER MANAGEMENT

Development of the Lake Campus will be designed to mitigate runoff and flooding issues through both campus- and project-scale strategies

Stormwater Management

Campus-scale Strategies



Bioswales



Green Infrastructure Corridors



Surface Retention (Wet Meadow)

Project-scale Strategies



Rain Gardens + Bioretention



Permeable Pavers + Porous Asphalt



Under-Field Storage, Subsurface Infiltration and Green Roofs

Near-term Stormwater Plan

INFILTRATION TRENCHES BIORETENTION SUBSURFACE STORAGE UNDER-FIELD STONE STORAGE PERMEABLE PAVEMENT DISTRICT-SCALE STRATEGIES BIOSWALE MEADOW INFILTRATION BASIN GENERAL DEVELOPMENT PLAN BOUNDARY MUNICIPAL BOUNDARY LINE (ALSO ZONE BOUNDARY LINE) OVERALL CONSTRAINTS LIMITS PROPOSED GREENBELT

PROJECT-SCALE STRATEGIES

---- STORM MAIN



Mid-term Stormwater Plan

—□—□ STORM MAIN

PROJECT-SCALE STRATEGIES

INFILTRATION TRENCHES
BIORETENTION
SUBSURFACE STORAGE

UNDER-FIELD STONE STORAGE

PERMEABLE PAVEMENT

DISTRICT-SCALE STRATEGIES

BIOSWALE

MEADOW INFILTRATION BASIN

GENERAL DEVELOPMENT PLAN BOUNDARY

MUNICIPAL BOUNDARY LINE (ALSO ZONE BOUNDARY LINE)

OVERALL CONSTRAINTS LIMIT

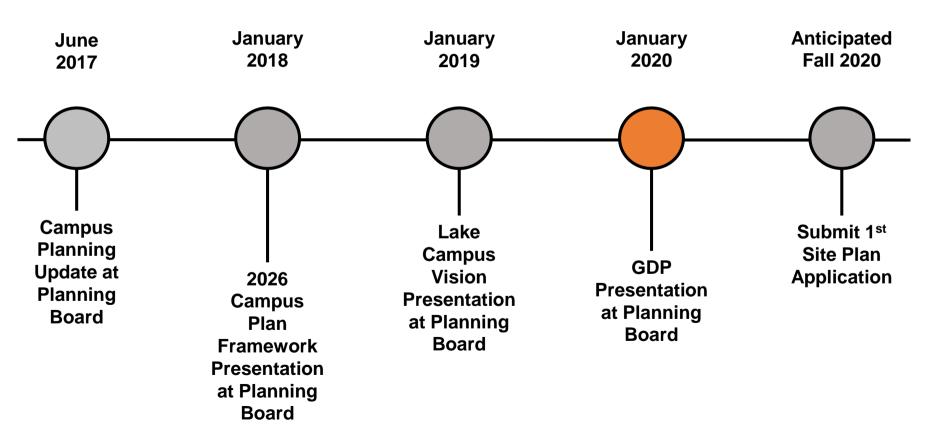
PROPOSED GREENBELT





SUMMARY

Process and Timeline: Lake Campus Development



Summary

- The Lake Campus functions differently than an office park
- Excited to build a 21st Century Campus
- GDP sets a framework for development of the Lake Campus and provides certainty for West Windsor Township regarding the University's plans and commitments



