GEORGE MASON UNIVERSITY
FAIRFAX CAMPUS - VIRGINIA
NORTH SECTOR MASTER PLAN & DESIGN GUIDELINES
Final Draft

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June 22, 2009

GEORGE MASON UNIVERSITY

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Executive Summary

Executive Summary

Introduction

As George Mason University experiences tremendous growth, the University has begun planning for the evolution of its Fairfax campus over the next 25 years. The North Sector master plan creates a flexible framework for growth that creates great new outdoor places, provides a clear direction for new campus facilities including residence halls, academic space, and the expansion of existing facilities. The plan also provides a new emphasis on sustainability via new intermodal transit facilities and the daylighting of existing streams and transforming them into new places for the treatment of storm water and run-off.

The Plan

The North Sector Plan changes the area from one of surface parking dominated by automobiles to one of a vibrant new pedestrian-oriented campus community. The plan provides a welcoming new face for the Mason campus via new gateways that link the interior of the campus with the local community and the important campus connection to the city of Fairfax.

The north gateway frames arrival views of the campus and offers a more distinct university presence and extends into the sector many of the most admired attributes of the core campus, integral to the university identity. A new pond, developed by daylighting an existing stream currently covered by a parking lot, creates vibrant entrance views , provides a "sustainable" connection to the new campus Oval in the Southwest Sector, and helps to weave and connect the new system of campus streets with the existing campus circulation for vehicles and pedestrians alike.

The North Sector Plan includes: approximately 1,200 new beds, 370,000 gsf of new academic space, 210,000 gsf of new administrative space, 125,000 gsf of new living-learning facility, retail and structured parking to meet the needs of the campus community (for a total of approximately 1,423,000 gsf of new construction); in addition to improved and new open spaces.

Traffic and Parking

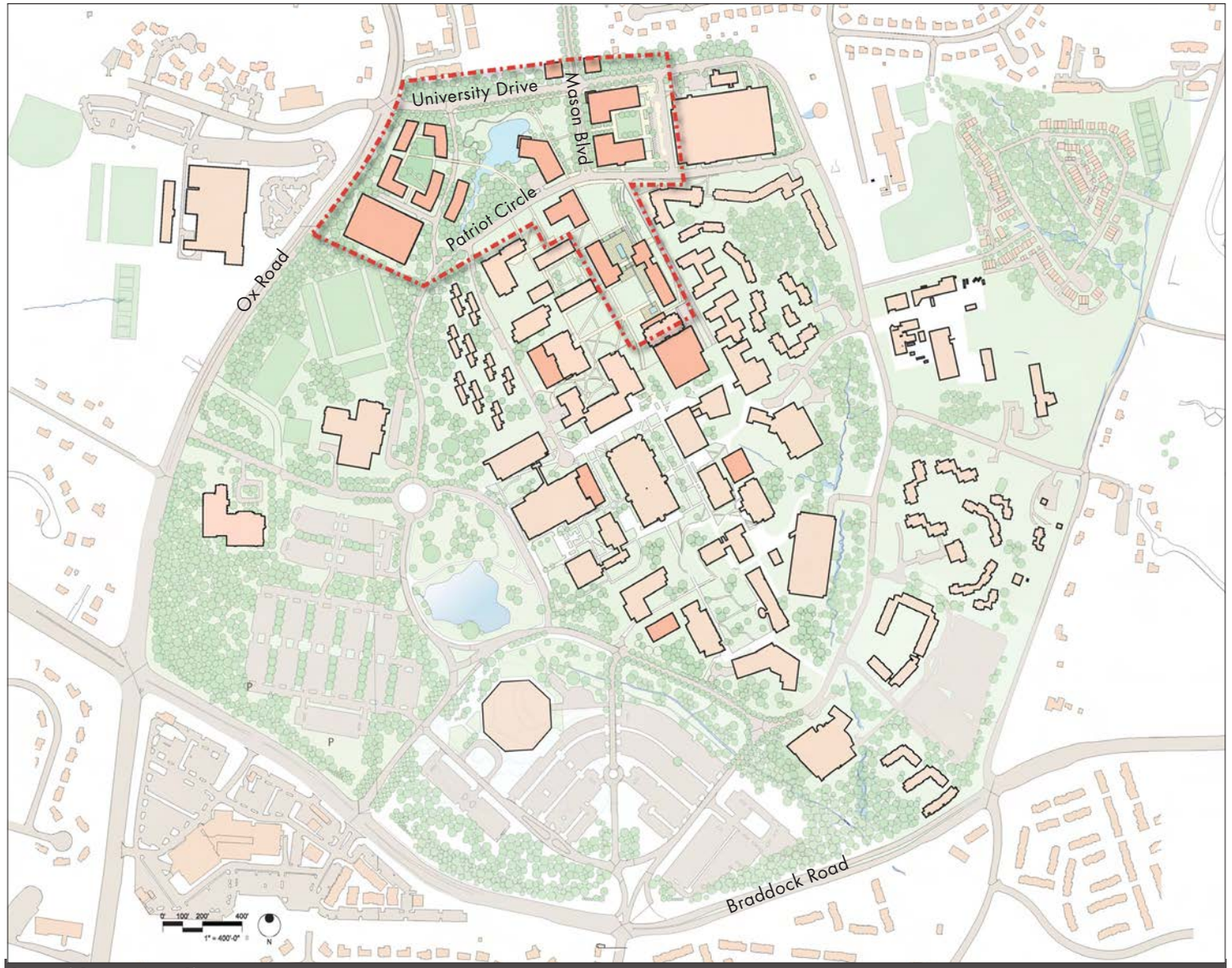
The plan relocates surface parking spaces into two parking garages, eliminates vast areas of asphalt and creating a more pedestrian-friendly environment. The strategy will result in a reduction in pollution levels due to reduced storm water run-off, and will help to minimize the heat-island effect. The more compact design will ultimately result in a more "walkable" campus as precious land resources are used more efficiently.

Sustainability

The plan supports President Merten's signature on the American College and University Presidents Climate Commitment (ACUPCC) by providing measures that reduce the ecological impact of the campus. The design encourages a "park once" concept for visitors, faculty, and students, improving pedestrian access. It identifies sound practices for storm water management, restoration of a stream corridor, resource efficiency, and retention of natural species and habitat. Also, new buildings will be constructed to meet LEED standards.

Phasing

The plan is designed to be constructed in stages based upon the University's needs for new administrative and academic space. A large 2600 car garage is already nearing completion at the time of this planning. In order to make use of the garage and screen it from view from the new entrance, buildings adjacent to it, such as the new Administration Building are planned for earlier phases. Later phases will be built as program resources become available but are guided by a plan that defines new signature places based on the original spaces of the campus center, meet the University's growth needs, and provides a sense of "presence and welcome" at one of the most important places to receive a first impression of a great university.



Proposed Campus Master Plan

Part I

Land Plan Report

1

Goals Summary

Goals Summary

1. Identify areas for University growth, with a focus on the North Sector

2. Improve the University image as one arrives on campus

3. Enhance the pedestrian experience

4. Create new signature places on campus

5. Conserve resources and habitat through sustainable design principles

6. Amplify the complete college experience

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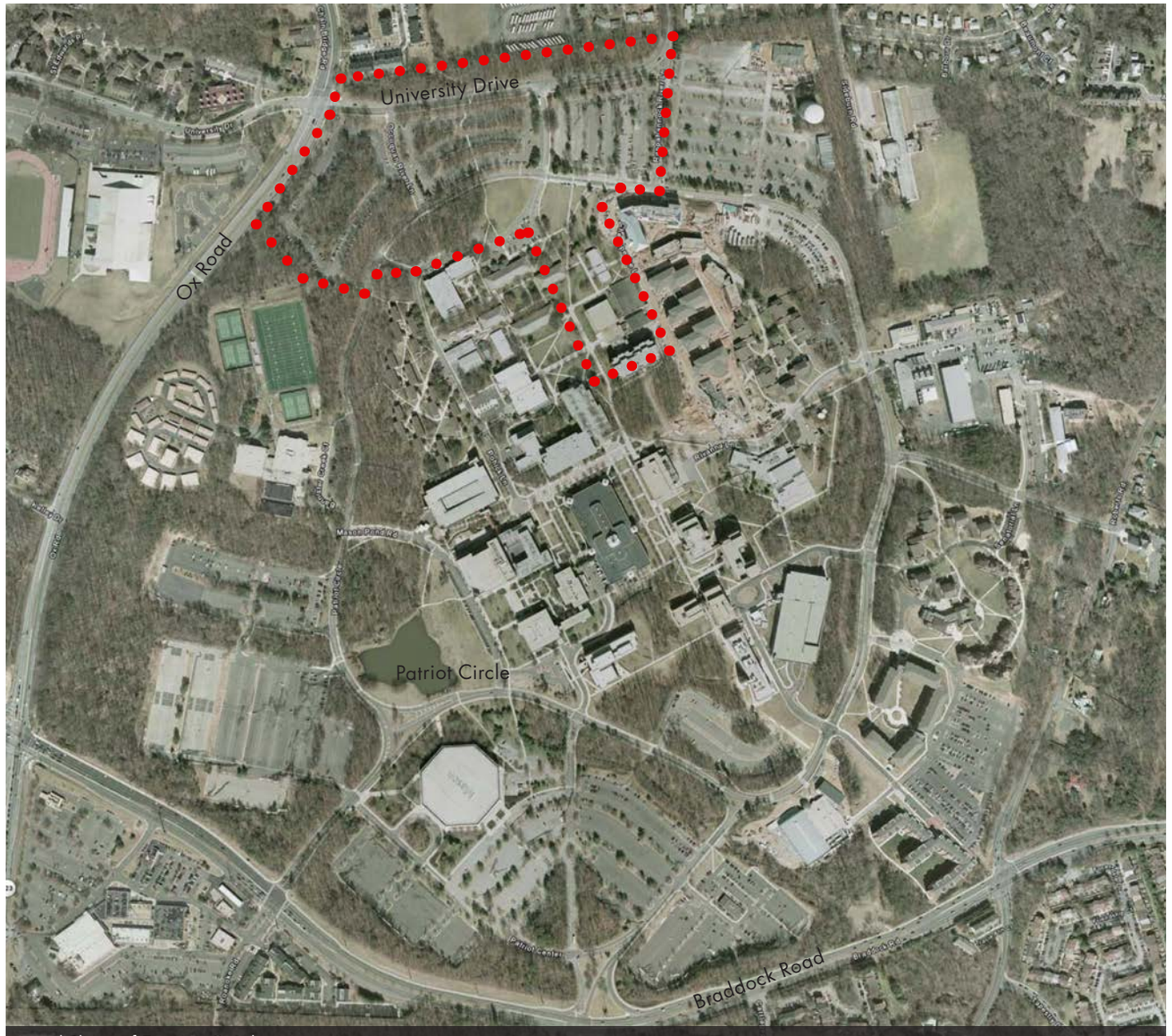
Site Analysis

Site Analysis

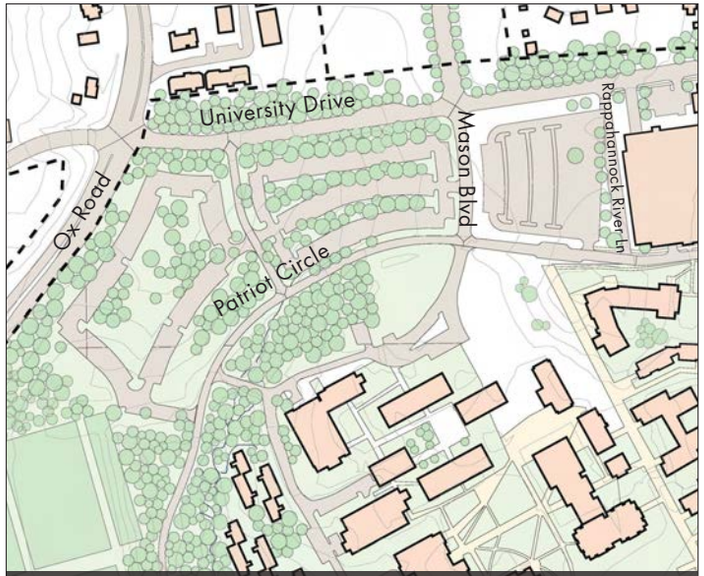
Existing Conditions

- 38 acres
- Currently covered with 4 surface parking lots
- Patriot Circle is continuous and is connected to the entry road (University Drive) by 2 small streets between parking lots
- Significant tree coverage and habitat remain intact on the western edge of the site
- Rabbit Branch streambed, which feeds the pond in the southwest of campus, is currently piped under the surface parking lots.
- A significant amount of construction has occured since this photograph was taken, including the following:
  - 2 new dormitory buildings
  - a new dining facility
  - a new 2600 space parking deck
  - a new Police and Safety Building
  - changes to the road network



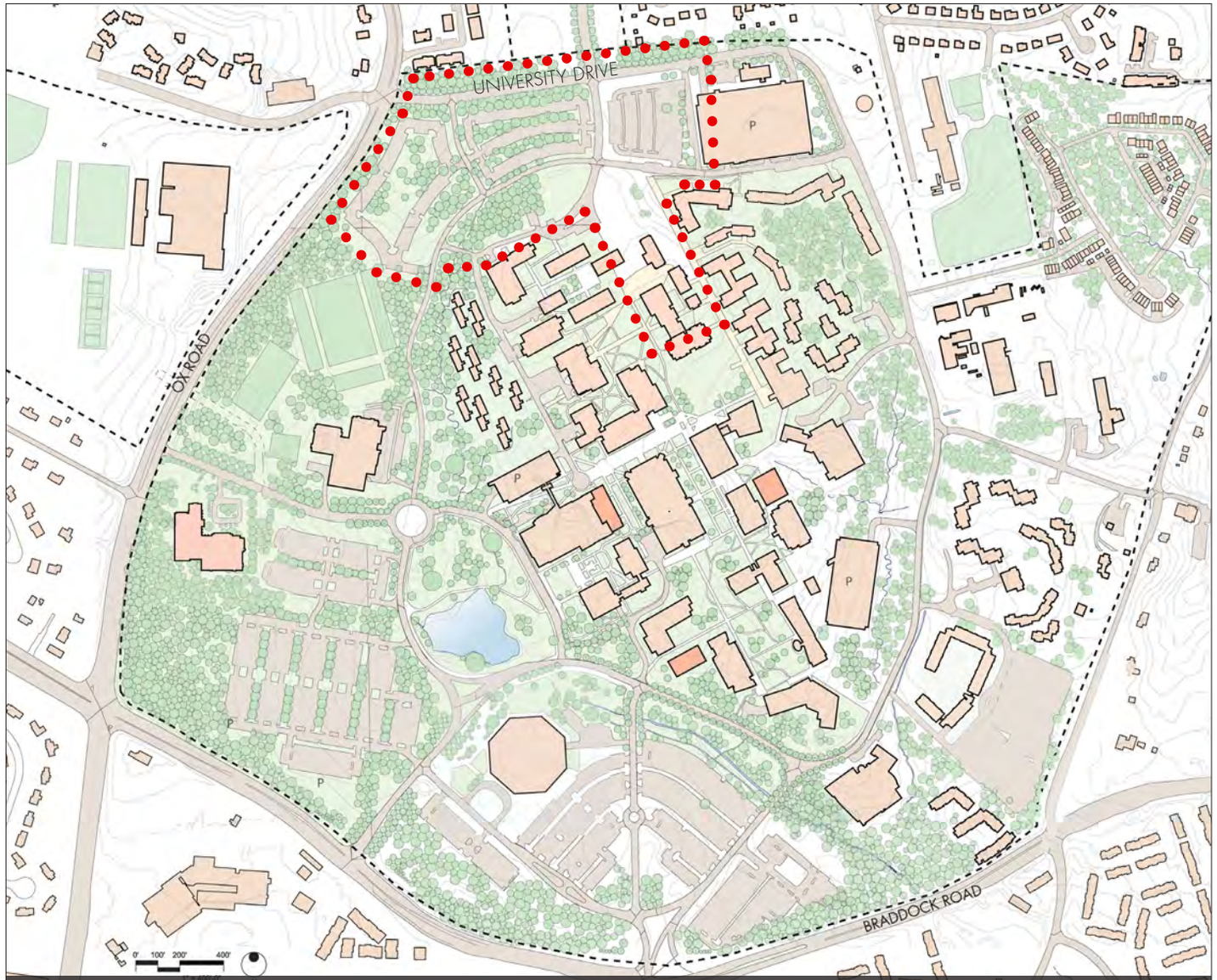
Aerial Photo of Existing Conditions

Existing Conditions



Detail Plan of North Sector - Existing Conditions


Aerial View of North Sector - Existing Conditions



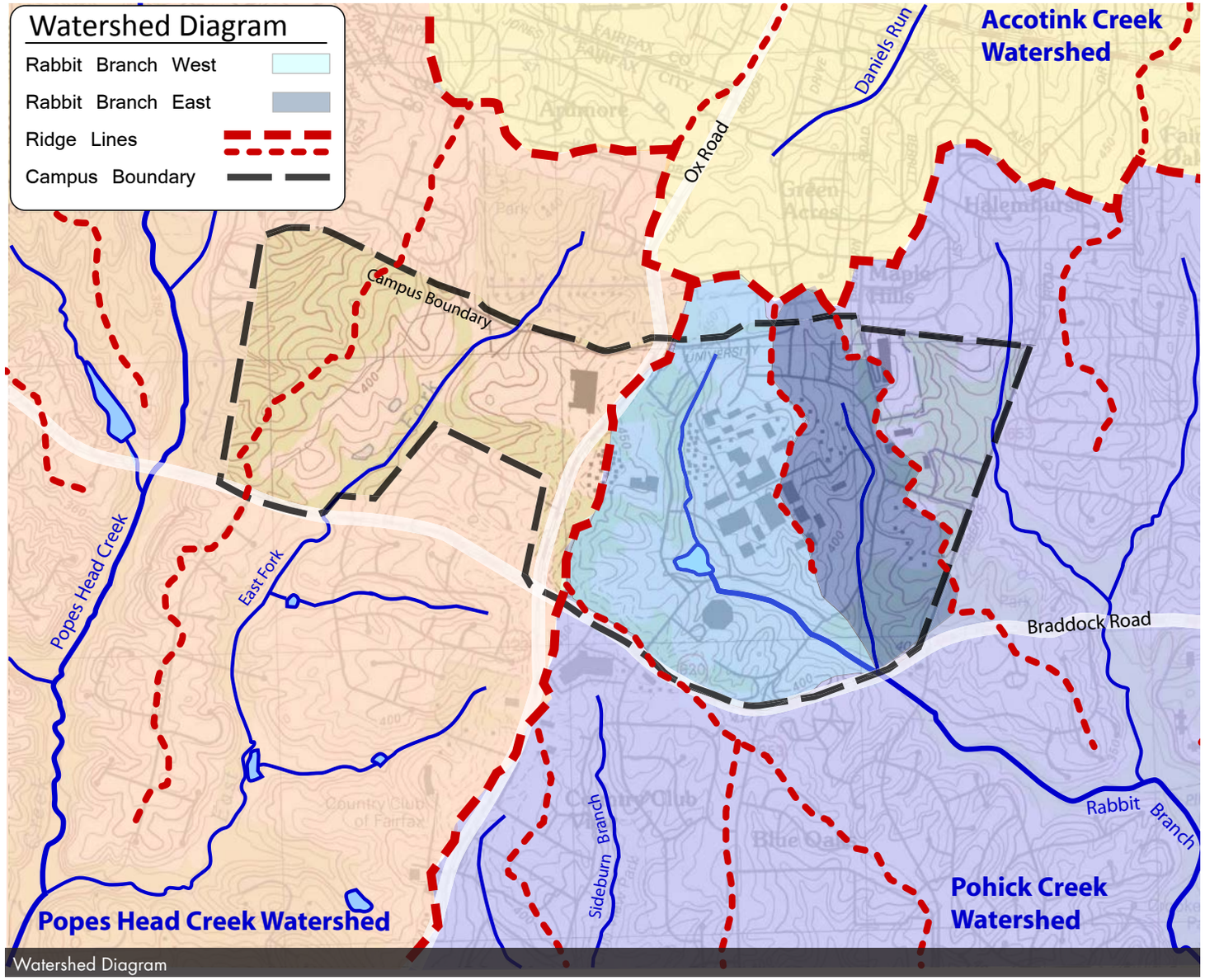
Campus Plan - Existing Conditions

Watersheds Context Map

From a hydrological perspective the University's core Fairfax Campus is quite remarkable. It is situated at a relative high ground, a nexus point, where three locally significant watersheds of the Potomac come together. There the upper watersheds of the Accontink Creek, Popes Head Creek, and the Pohick Creek meet at a ridge line that is immediately adjacent to the North Sector. This means that the campus is not "downstream" from other developed sites and therefore receives little run off from beyond its borders that might carry pollution.

In addition, the core campus almost entirely encompasses and contains two sub-watersheds of the Rabbit Branch Creek which are part of the Pohick Watershed. These two watersheds drain the site by two tributary streams known as the West and East Rabbit Branches. They encircle and cradle the campus center and their riparian corridors are important signature elements in the campus identity and form. The oval pond is part of the Western Rabbit Branch stream system.

This fortuitous situation indicates that the University has much more potential than most campuses to positively affect its own environment. It has the ability to control the quality of the stormwater and general hydrology on site which is fundamental to true environmental health.

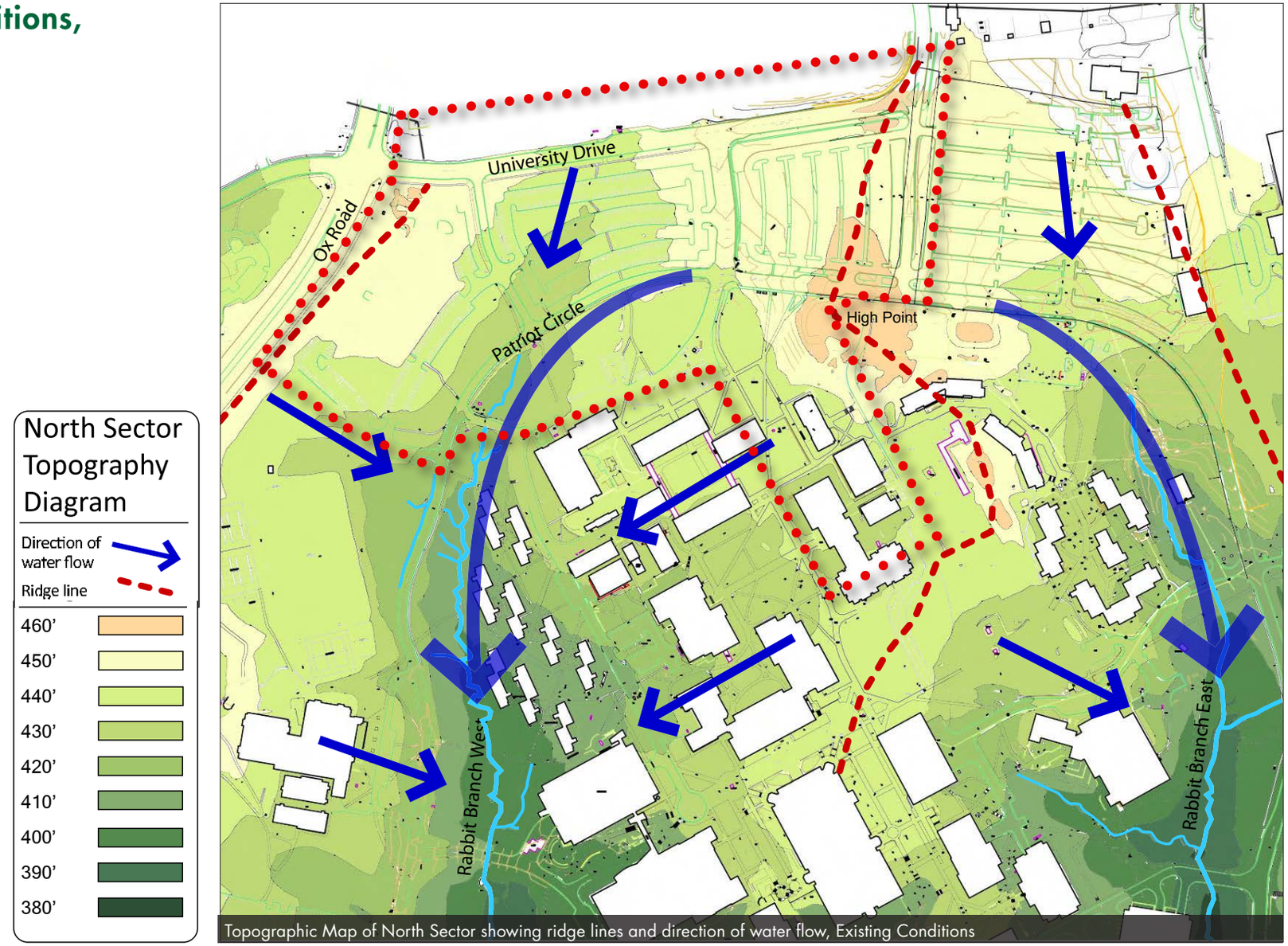


Watershed Diagram

Topographic Plan: Existing Conditions, Ridge Lines and Water Flow

The North Sector is a significant intersection of several different campus landscape types. The core campus grid is on relatively high ground that divides the two watersheds of the East and West Rabbit Branch Streams that are on either side. The high point of the campus is in the North Sector where the core campus topogrphy culminates at a ridge highpoint point called the Hillock. The Hillock and the future administration area are both situated at the highpoint or head of the campus. The two watersheds of the Rabbit Branch Streams extend up to meet at the ridge and Hillock which are essentially the source point for both of the streams. The North Sector is not only an important entrance area for the university, but also a significant meeting point for the different landscape forms that typify the campus.

This diagram makes explicit the relationship of the ridge to the two Rabbit Branch riparian corridors and core campus. The ridge roughly divides the two Rabbit Branch watersheds and the top of the watersheds meet at the Hillock, administration area, and the entrance. The Hillock should be treated as a significant campus landmark not only because it is the campus highpoint, but because it marks the intersection of several parts of the campus landscape. The ridge line that divides the two stream watersheds runs roughly down the center of the core campus.



Topographic Map of North Sector showing ridge lines and direction of water flow, Existing Conditions

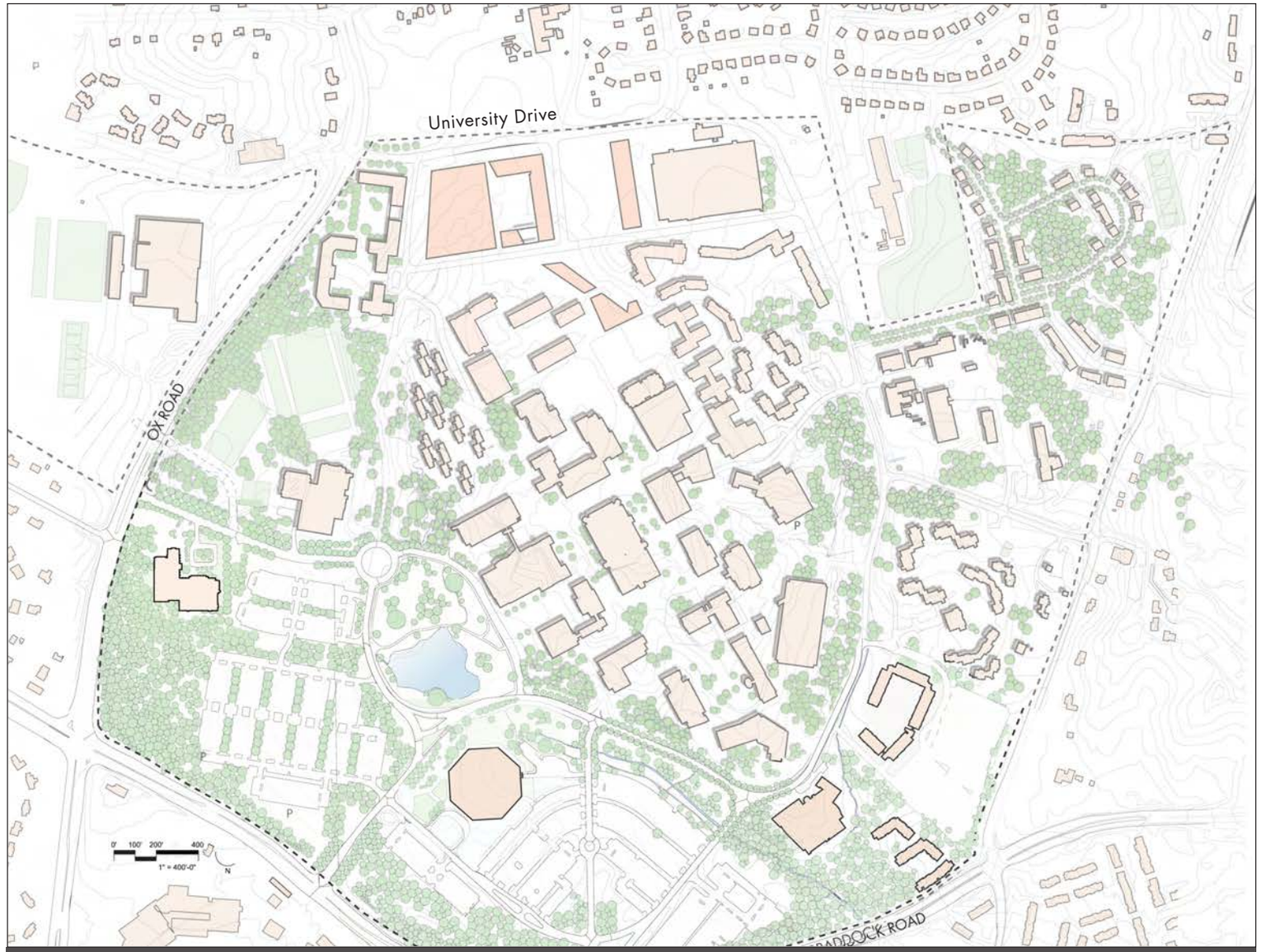
Goals of the 2002 Master Plan: A Starting Point

Goals of the 2002 Plan:

- Emphasize visual connections and sightlines
- Preserve and enhance the pedestrian character of the campus
- Create a strong experience of entry and arrival
- Develop pedestrian streets linking through the campus core

Issues with the 2002 Plan:

- Ignores the physical conditions such as topography, tree cover, and the streambed
- Proposed "streets" do not distinguish between resident life and academic life
- Large parking garage is the first building at an important campus entrance.



PREVIOUS MASTERPLAN (2002)

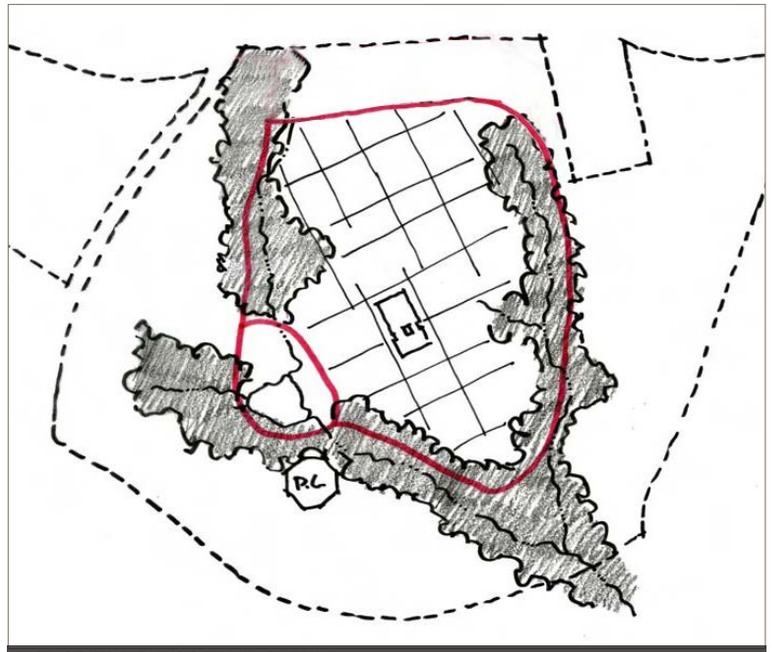
Understanding the Site: Mason Campus Character

Currently there is only one distinction regarding Patriot Circle: you're inside or you're outside.

This perception is enhanced by a number of physical attributes:

- Heavily forested areas around Patriot Circle
- Significant topography changes at the edge of the circle
- Visual discontinuity across the circle
- Currently, no significant campus activities outside of the circle

The forest and streambeds are a strong campus identity for Mason. This natural landscape is a strong asset. Many students, faculty, and community members identify the wooded glens, streams, and pond with Mason's character. The natural environment serves as a location for both recreation and research for the campus community.



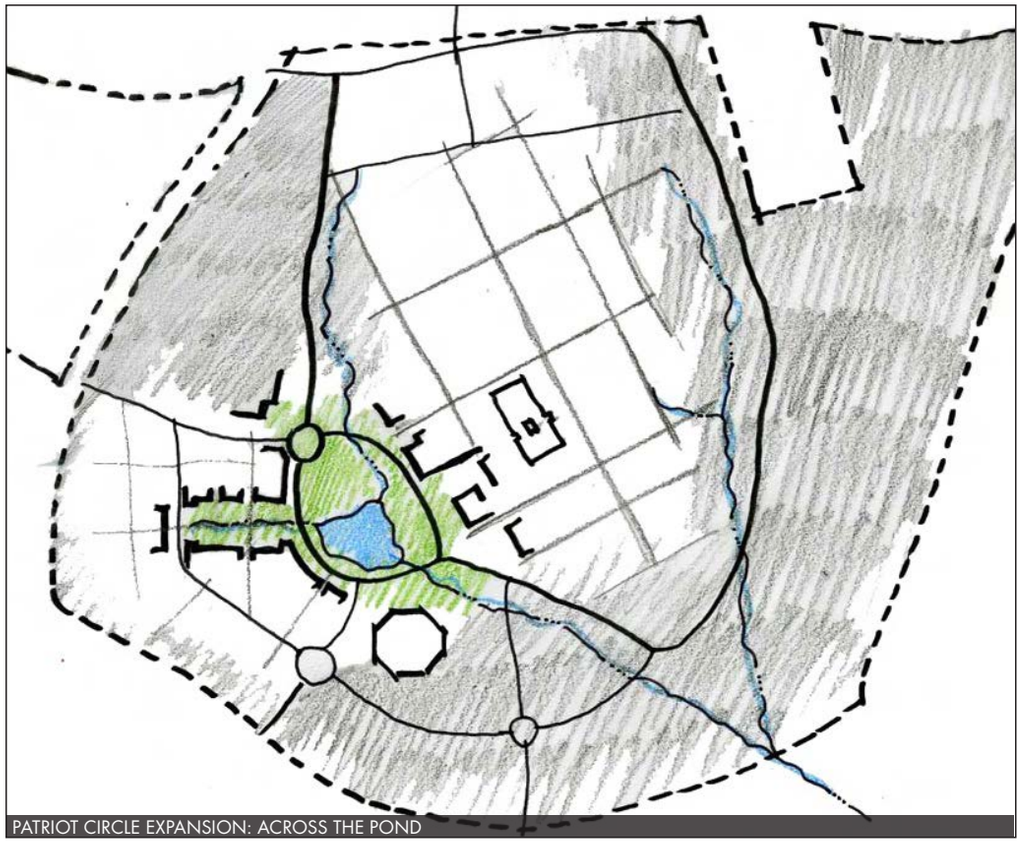
PATRIOT CIRCLE: INSIDE AND OUTSIDE

MASON GLENS: A STRONG CAMPUS IDENTITY


EXISTING SURFACE PARKING


PATRIOT CIRCLE: VIEW ACROSS THE POND

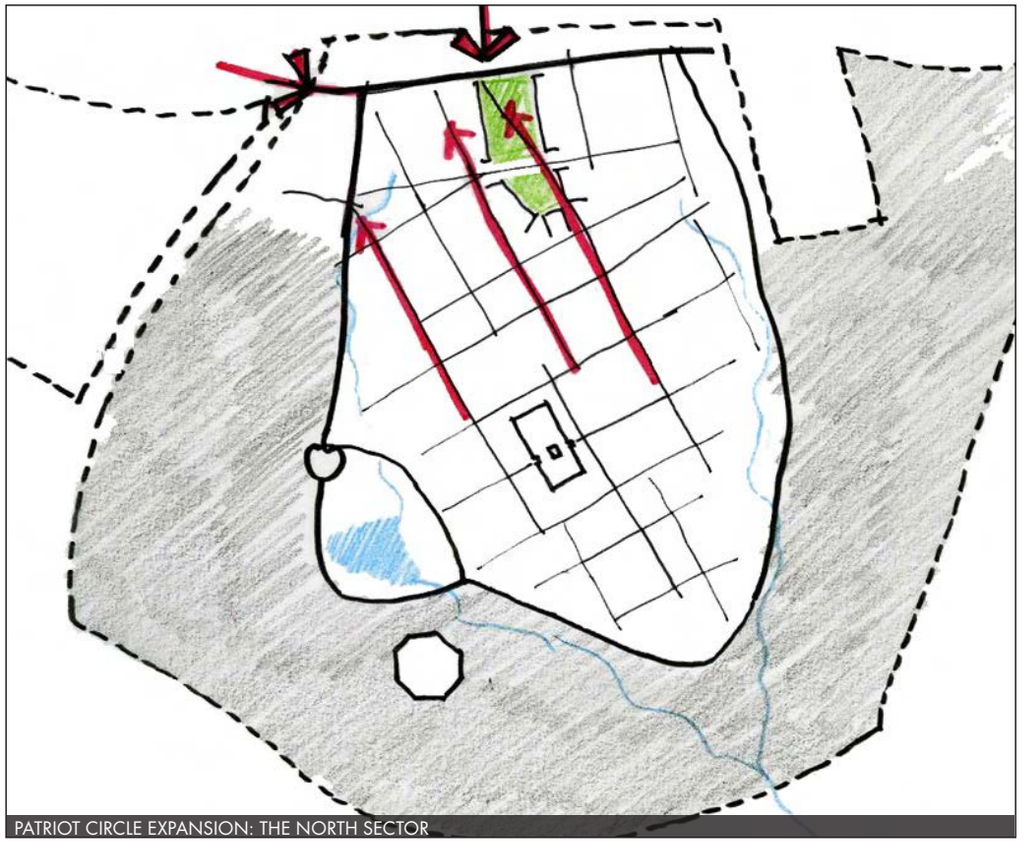
Expanding Patriot Circle



PATRIOT CIRCLE EXPANSION: ACROSS THE POND

The Oval to the Southwest Sector

The Mason Pond extends the campus core with an open space that celebrates Mason's natural landscape. The Mason Pond connects the larger campus to the original core, breaking the boundary of the old Patriot Circle.



PATRIOT CIRCLE EXPANSION: THE NORTH SECTOR

The North Sector

The new development to the north is a formal extension of the campus core made by continuing the more urban grid and creating a traditional quadrangle. This space creates the opportunity for a town-gown relationship with improved entrance, new administration building, retail services and campus activity.

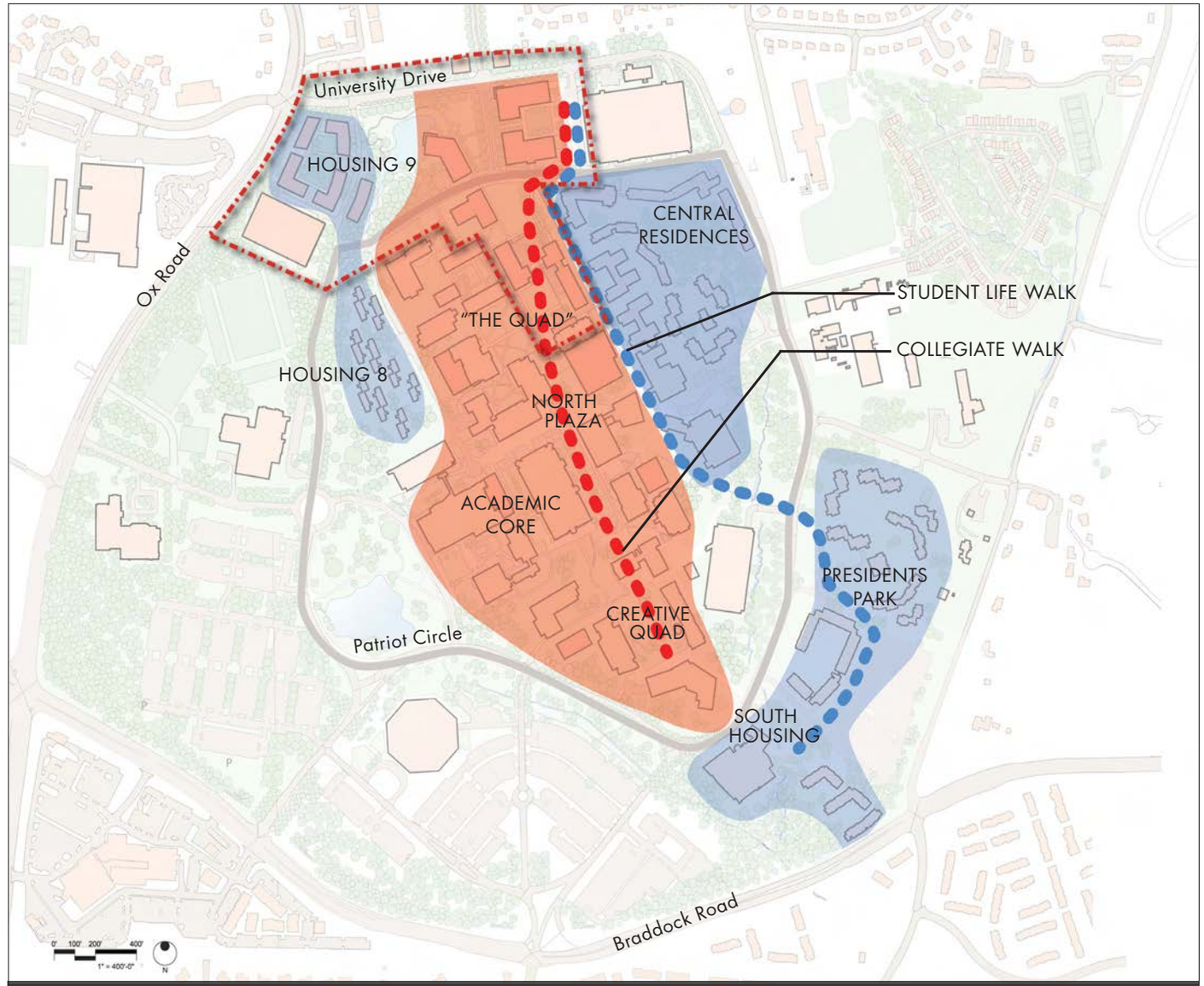
Understanding the Site: Campus Exprerience

The Two Walks

Beginning at the new North Entrance, there are two distinct paths that pedestrians follow:

The first we call the “Collegiate Walk” which leads the visitor into the heart of campus, through “The Quad”, North Plaza, and south to the Creative Quad. This walk is about a traditional academic environment, passing by the library, the Johnson Center and many academic buildings.

The second path we call the “Student Life” walk. Beginning at the North Sector, this path is naturally divided from Collegiate Walk by the existing hillock just inside Patriot Circle. This walk is about the resident student and the more activee side of university life. It passes by new dormitories, snack-shops, recreational rooms, dining, and the student union building.

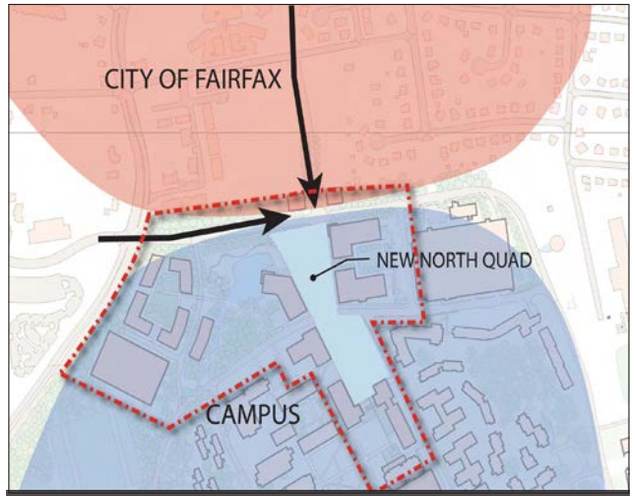


Campus Experience: The Two Walks

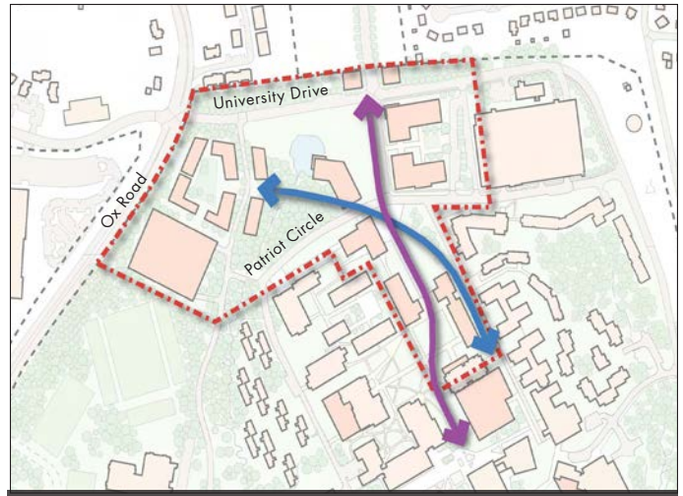
Understanding the Site: Campus Life

Town & Gown

The Mason campus only intersects directly with the City of Fairfax at one location: the North Sector. The development of the North Sector takes advantage of this adjacency and presents a welcoming front door for the Mason campus. A new administration building, new academic facilities, impressive landscaping, and a potential visitors center define the "gown" side of the equation. The "town" side can complement this with retail development such as a restaurant or other service businesses.
The town-gown relationship is unique at every campus, and is an essential part of the complete college experience.



CAMPUS LIFE: TOWN - GOWN RELATIONSHIP



CAMPUS LIFE: FORMAL VS. INFORMAL WALK

Formal vs. Informal Walk

With the proposed construction of additional residential buildings on the west side of the North Sector (Housing 9), two distinct pedestrians paths start emerging and are different in nature.
The first one is a more "formal" path that pedestrians and visitors will engage, leading them into the heart of campus; starting at the new North Entrance and lawn, along the new Hillock, thru "The Quad", towards the North Plaza and south to the Creative Quad. This path is about the academic environment, passing by the library and academic buildings, and ending at the campus core.
The second path instead is more "informal" in its nature, related primarely to the "Student Life" and the more private side of their university experience. It is about resident students and their commute between the proposed new Housing 9 and the recently built dormitories along Chesaxpeake Lane, the snack-shops, dining, ending at the student union building.


University Drive


Cheasapeake Lane

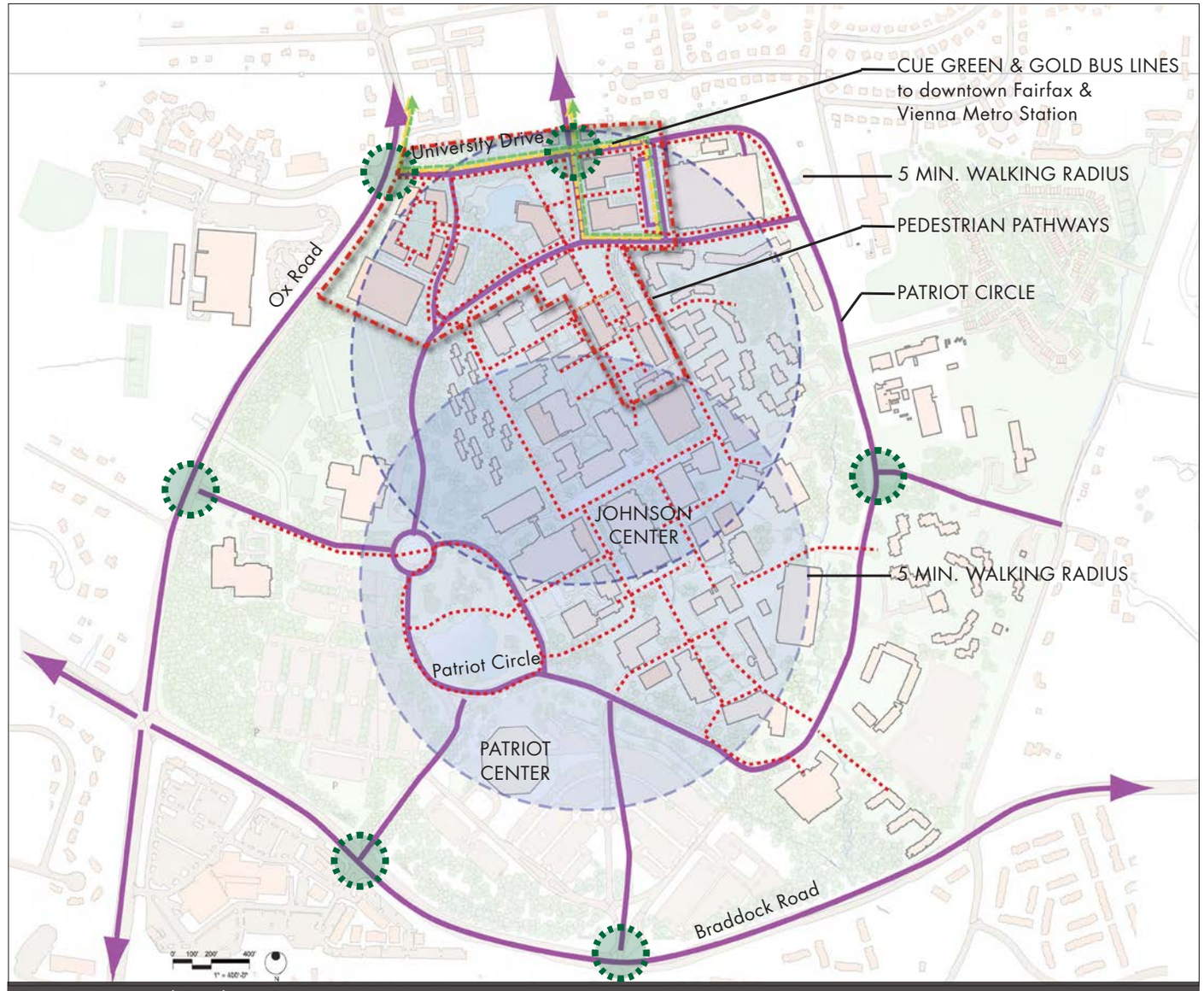
Understanding the Site: Site Access and Circulation

The fully completed master plan incorporates a comprehensive pedestrian network linking student housing, academic buildings, and services.

Patriot Circle remains the primary vehicular path around campus; it is linked to Ox Road (Route 123), Braddock Road, and downtown Fairfax by 6 unique entrances.

The northern entrance to campus is also served by public transportation. CUE Green and Gold routes and WMATA Metrobus routes 15 and 17 all serve the campus, linking it to downtown Fairfax and the Vienna Metro Station.

Mason's existing shuttle system makes buses available at campus locations such as the bus drop-off and the Parking Services Building.



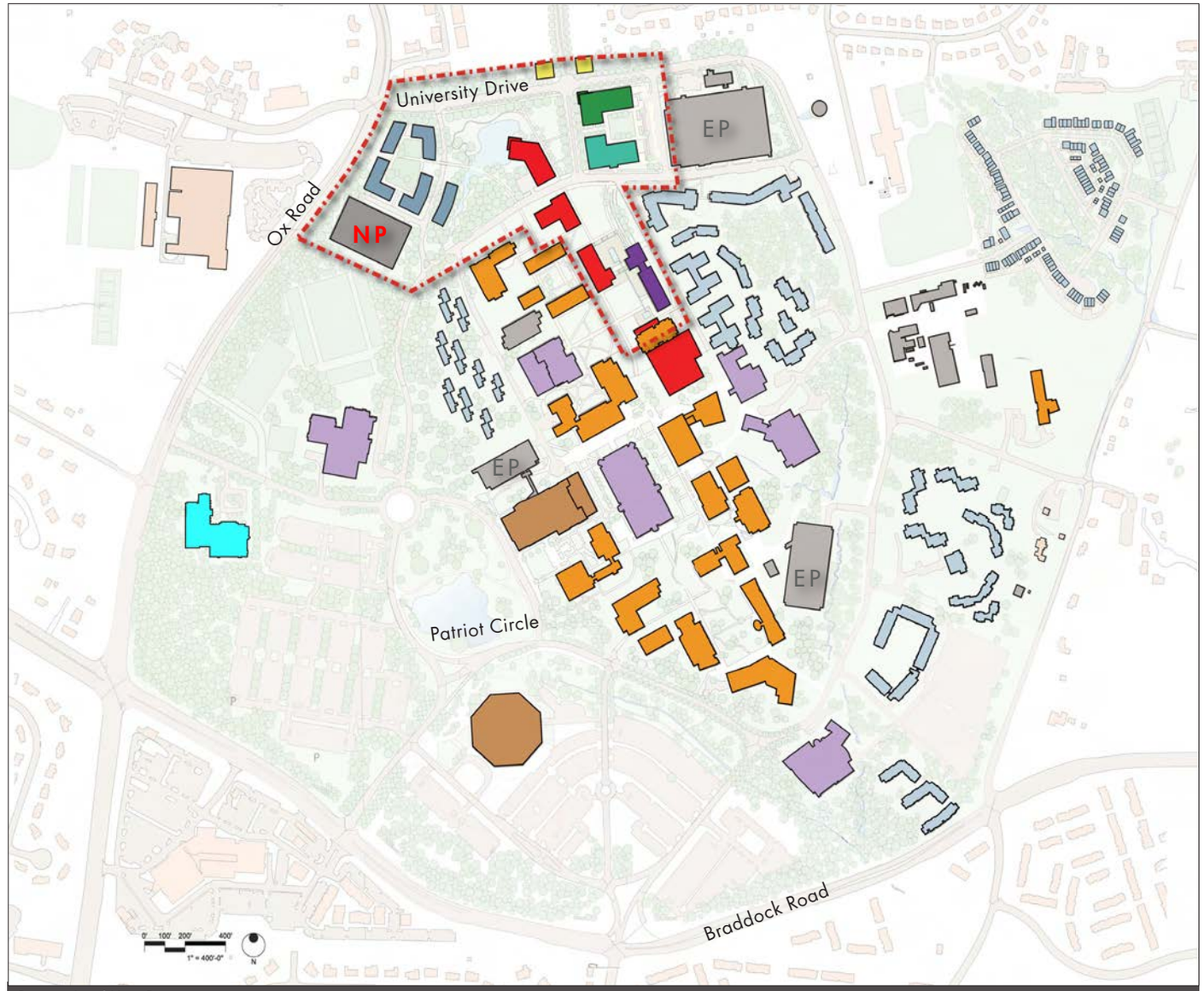
Campus Access and Circulation Diagram

Understanding the Site: Land Uses

Primary Land Uses proposed for the North Sector include and will complement existing uses present thru the campus, inside Patriot Circle.

Such new uses include: a new administration building, several academic buildings, a special use building (academic/administrative), a living-learning facility, new dormitories (Housing 9), a new parking garage, new entrance to the Library, and potential new retail along University Drive.

- Hotel
- Administrative - New
- Special Use (Acad/Admin) - New
- Academic - New
- Academic - Existing
- Living-Learning - New
- Residential - New
- Residential - Existing
- Student Services - Existing
- Retail - New
- Service/Parking - New (**NP**)
- Service/parking - Existing (**EP**)



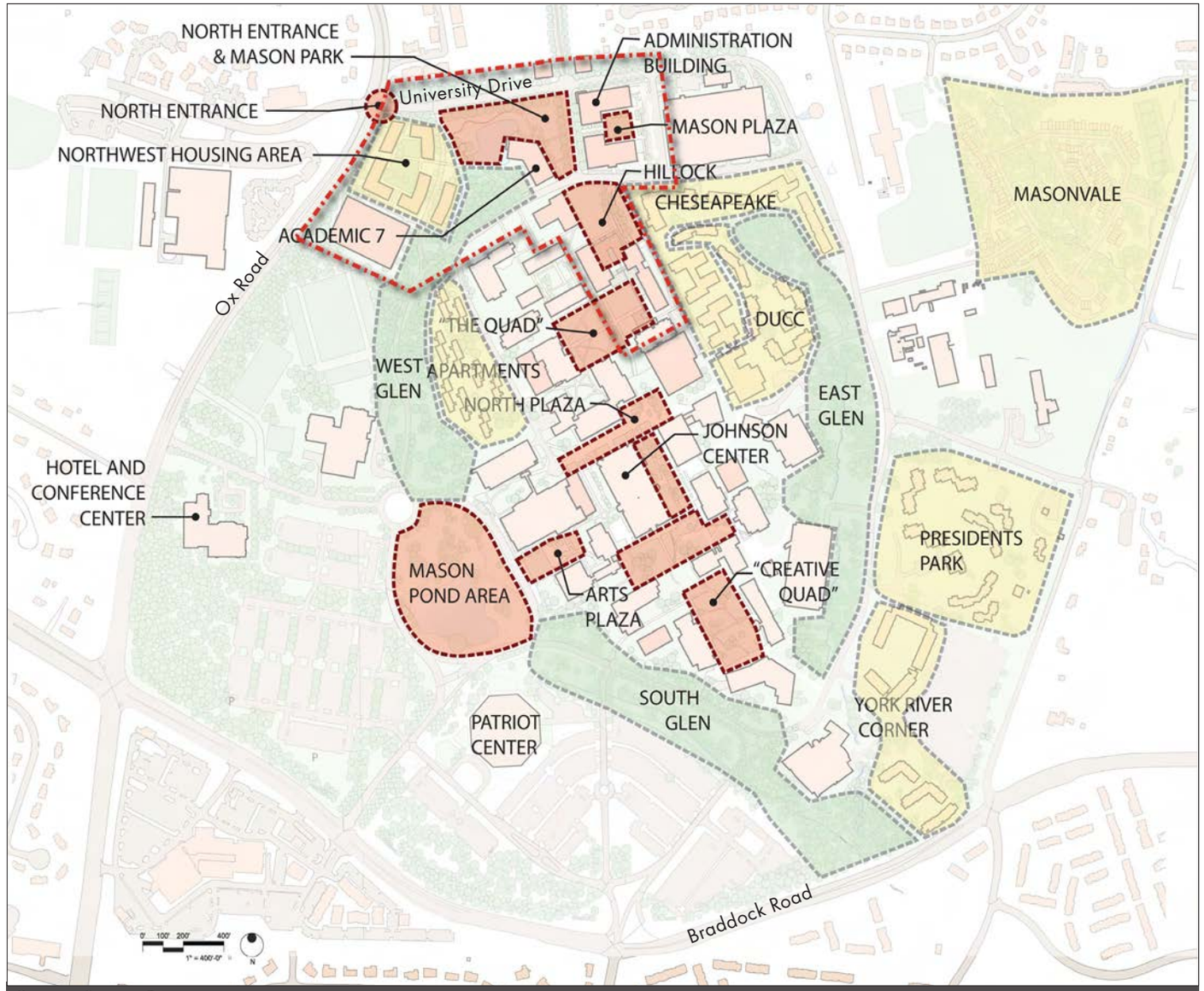
Campus Land Uses Diagram

Understanding the Site: Campus Spaces

The Mason campus has a clearly established sequence of spaces. Each space has unique qualities and definition.

Some spaces (shown in red hatch) are clearly defined by buildings and landscape. Other spaces are more easily understood within the campus culture, such as housing groupings (in yellow) and the Glens (in green).

The connection of these spaces through visual clues and pedestrian pathways are what give the Fairfax campus its unique and identifiable character.



Campus Spaces Diagram

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Final Campus Plan

The Master Plan: Campus Sector Division Organization

The division into distinct sectors proposed for the Mason campus reflects and highlight the following main features and aspects:

- smaller areas that are more distinct in character and features
- different character of the several campus "Gateways" and entrances
- Extension of the "historic core" of the campus to the west and north
- Preservation and restoration of existing natural habitat and glens
- Parking located outside Patriot Circle and Campus core

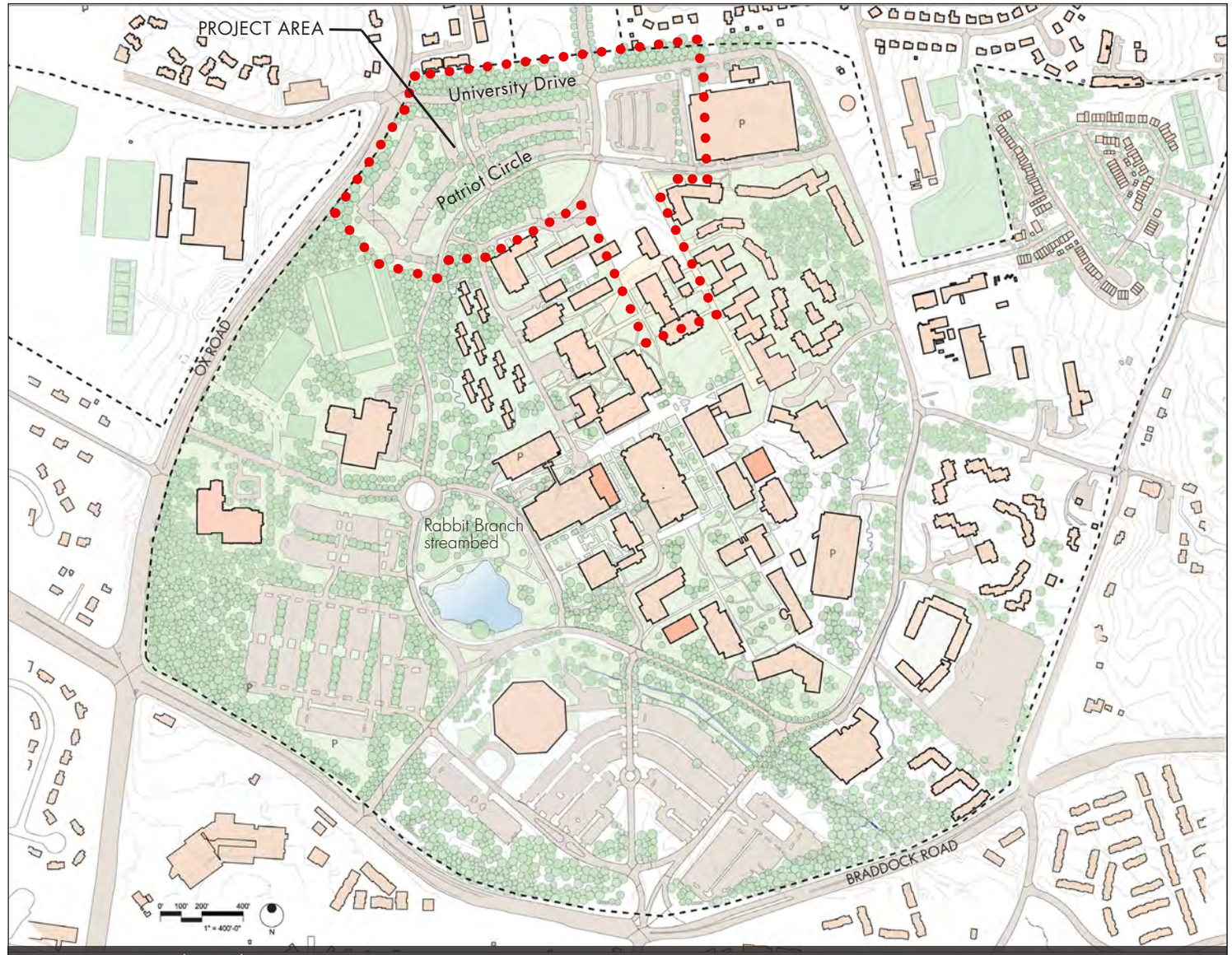
Campus Sector Division Diagram

The Master Plan: Existing Campus Plan

The George Mason Fairfax Campus has experienced tremendous growth in the recent years; consequently, the University has begun planning for the evolution of its Fairfax campus over the next 25 years.

The core of its existing 38-acre campus is primarely contained within the Patriot Circle loop, which is continuous and at its North Sector is connected to University Drive by 2 small streets between parking lots. With the Southwest Sector expansion, which has recently started with the construction of the hotel, and the currently proposed North Sector master plan the Campus adopted and is implementing a flexible framework for growth that can respond to changing circumstances.

The North Sector project area (circled in red on the plan) is currently covered in almost its entirety with 4 surface parking lots, one of which has been recently replaced by the new parking garage at the NE edge of Patriot Circle. Rabbit Branch streambed, which feeds the pond in the southwest of campus, is currently piped under the surface parking lots. Nevertheless, significant tree coverage and habitat remain intact on the western edge of the site; and it is among the main goals of the master plan to restore and preserve this great natural asset.



Campus Existing Conditions Plan

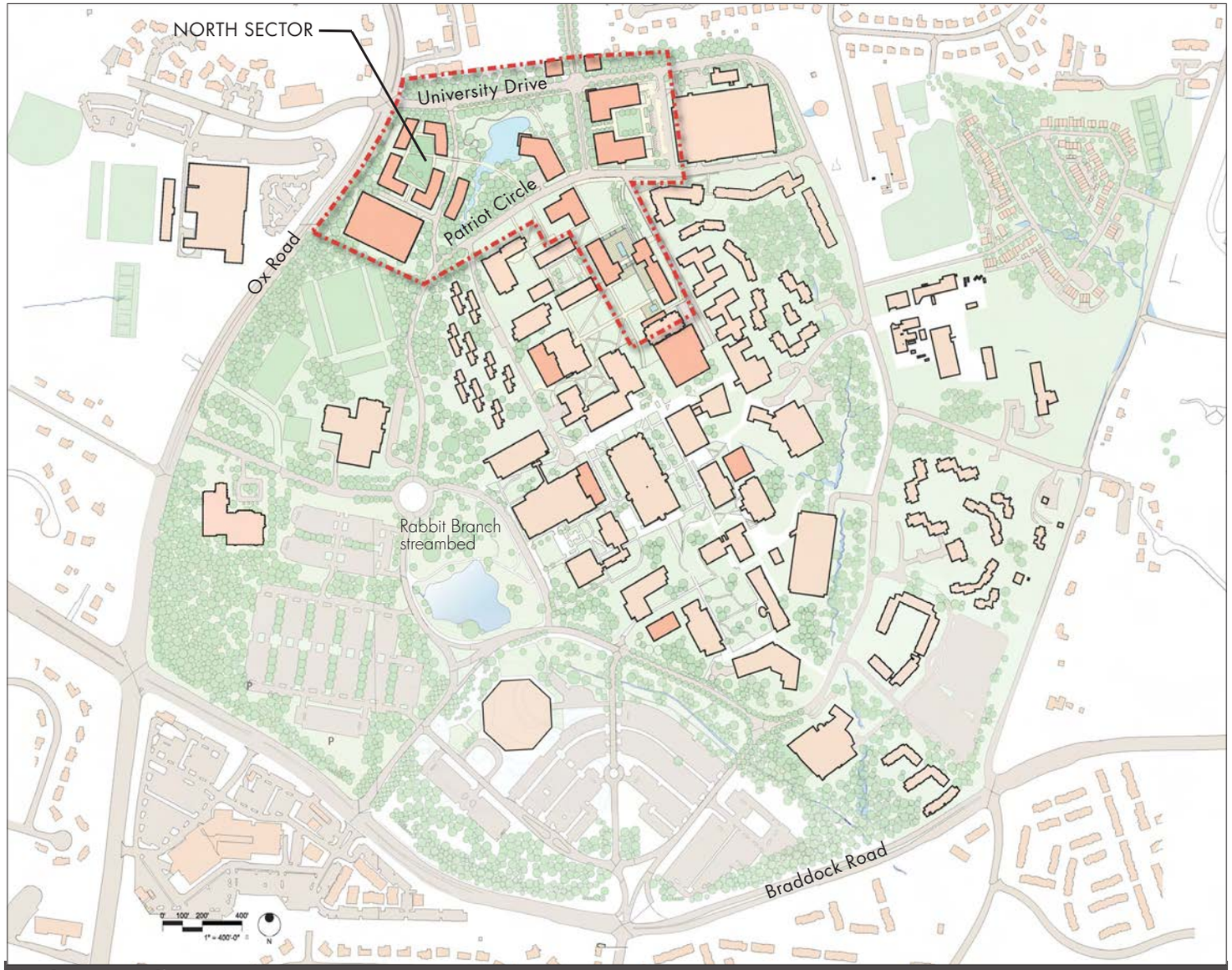
The Master Plan: New Campus Master Plan

The new plan for the North Sector is designed to change the character of the campus from one of surface parking and automobiles to one of a vibrant pedestrian-oriented campus community. The plan provides a welcoming new face for the Mason campus. New gateways link the interior of the campus with the local community.

The north gateway is conceived to frame arrival views of the campus and offer a more distinct university presence. A new system of campus streets extends the northern loop of Patriot Circle and provides improved connections with the campus circulation system for vehicles and pedestrians alike.

The new program also includes: approximately 1,200 new beds, 370,000 gsf of new academic space, 210,000 gsf of new administrative space, 125,000 gsf of new living-learning facility, retail and structured parking to meet the needs of the campus community (for a total of approximately 1,423,000 gsf of new construction).

These new additions to the campus will increase the population of students living on the campus, provide more research space, offer new open spaces, and transform the north sector into an area alive with student activities, intercollegiate sports, interactive research, and meeting facilities.

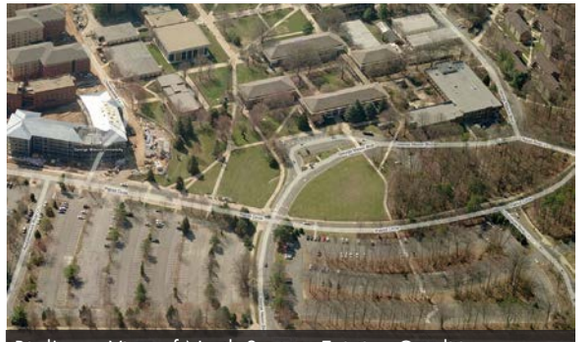


New Campus Master Plan

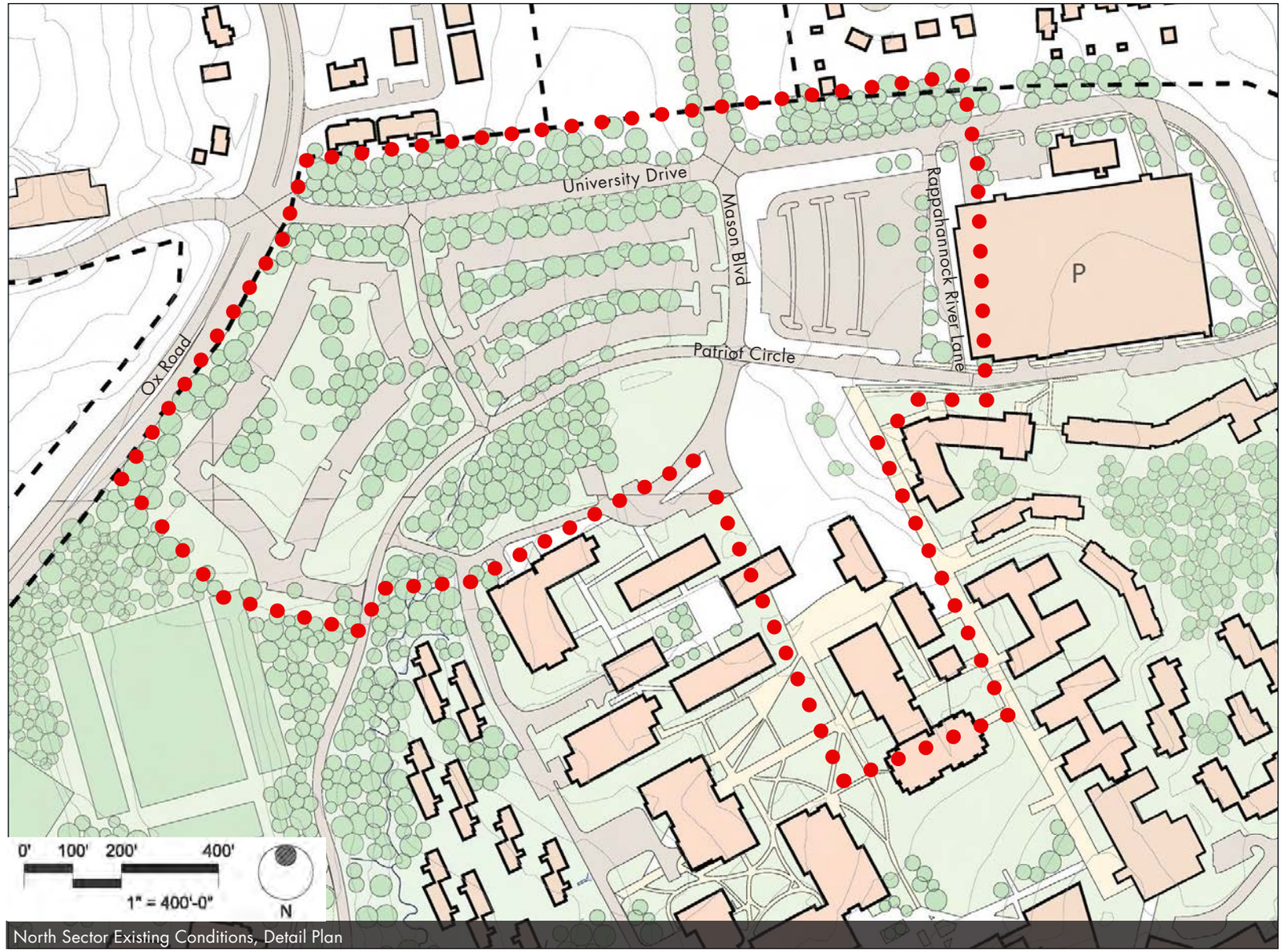
The Master Plan: North Sector Existing Conditions

- Parking lots built over wetlands and stream bed
- Parking dominates the visitor's experience
- No identity at Route 123 (Ox Road) and George Mason Blvd
- Lack of adequate arrival experience
- Mature trees are still present on site along with areas of natural habitat (to be preserved)

Aerial View of North Sector - Existing Conditions



Bird's-eye View of North Sector - Existing Conditions



North Sector Existing Conditions, Detail Plan

The Master Plan:
North Sector Master Plan

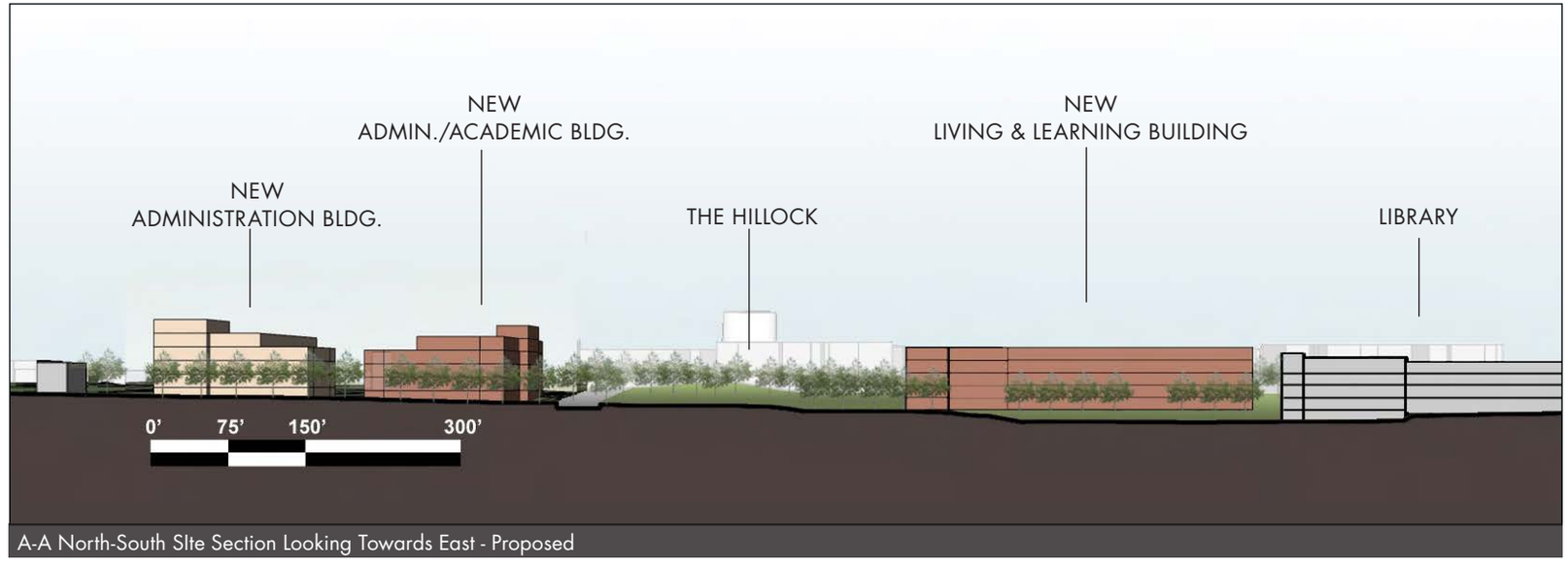
A - Administration Building (Phase 1)
B - Special Use Building (Academic/Admin.)
C - Academic 7 Building
D - Academic Building
E - Academic Building
F - Living - Learning Facility
G - Housing 9
H - Library Addition
I - Retail
NP - Parking Garage

Bird's-eye 3D View of North Entrance & Mason Park

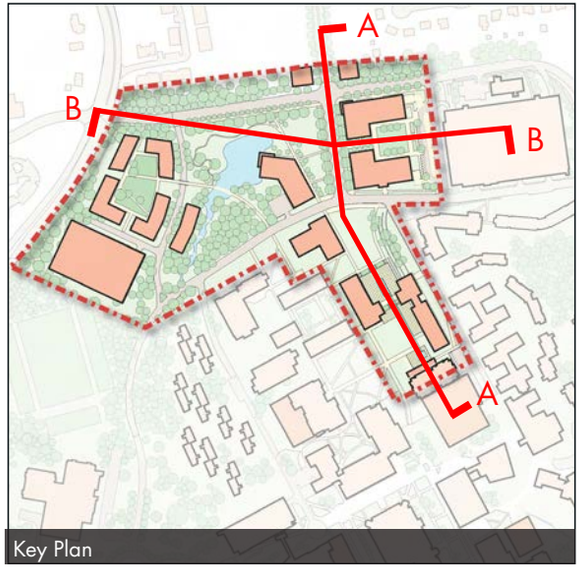
Bird's-eye 3D View of North Entrance

North Sector Proposed Master Plan

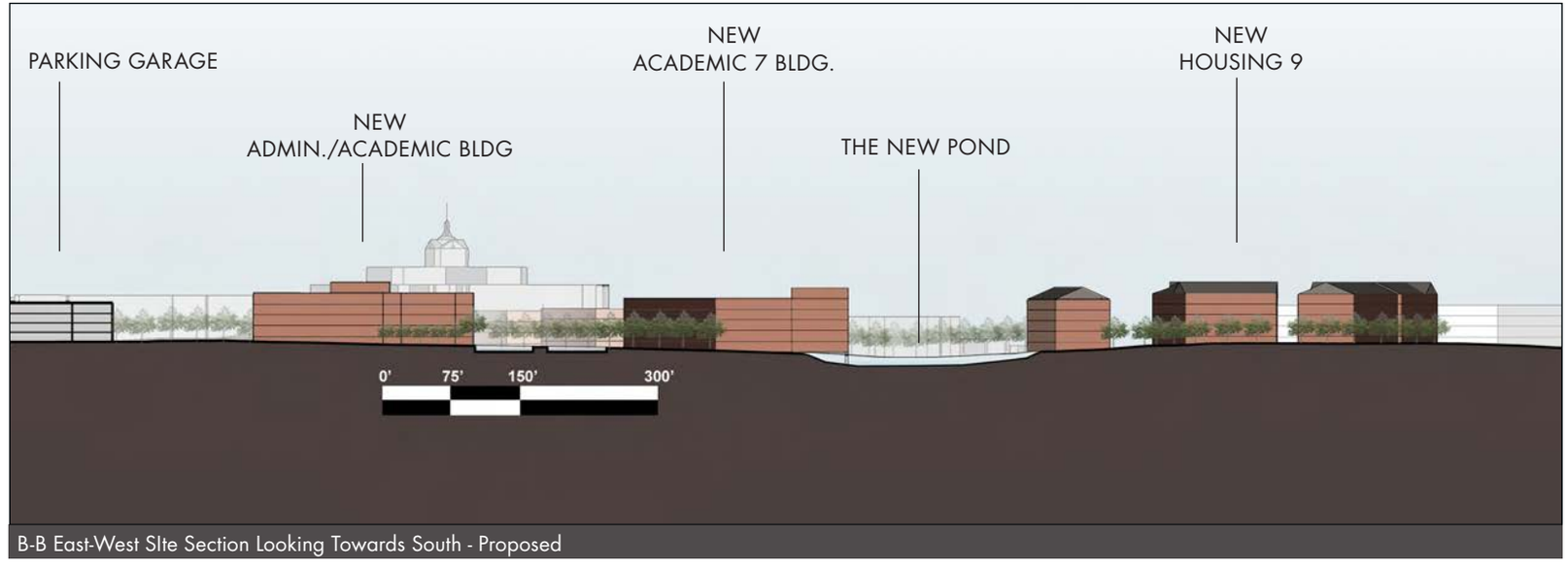
The Master Plan: North Sector Site Sections



A-A North-South SIte Section Looking Towards East - Proposed



Key Plan



B-B East-West SIte Section Looking Towards South - Proposed

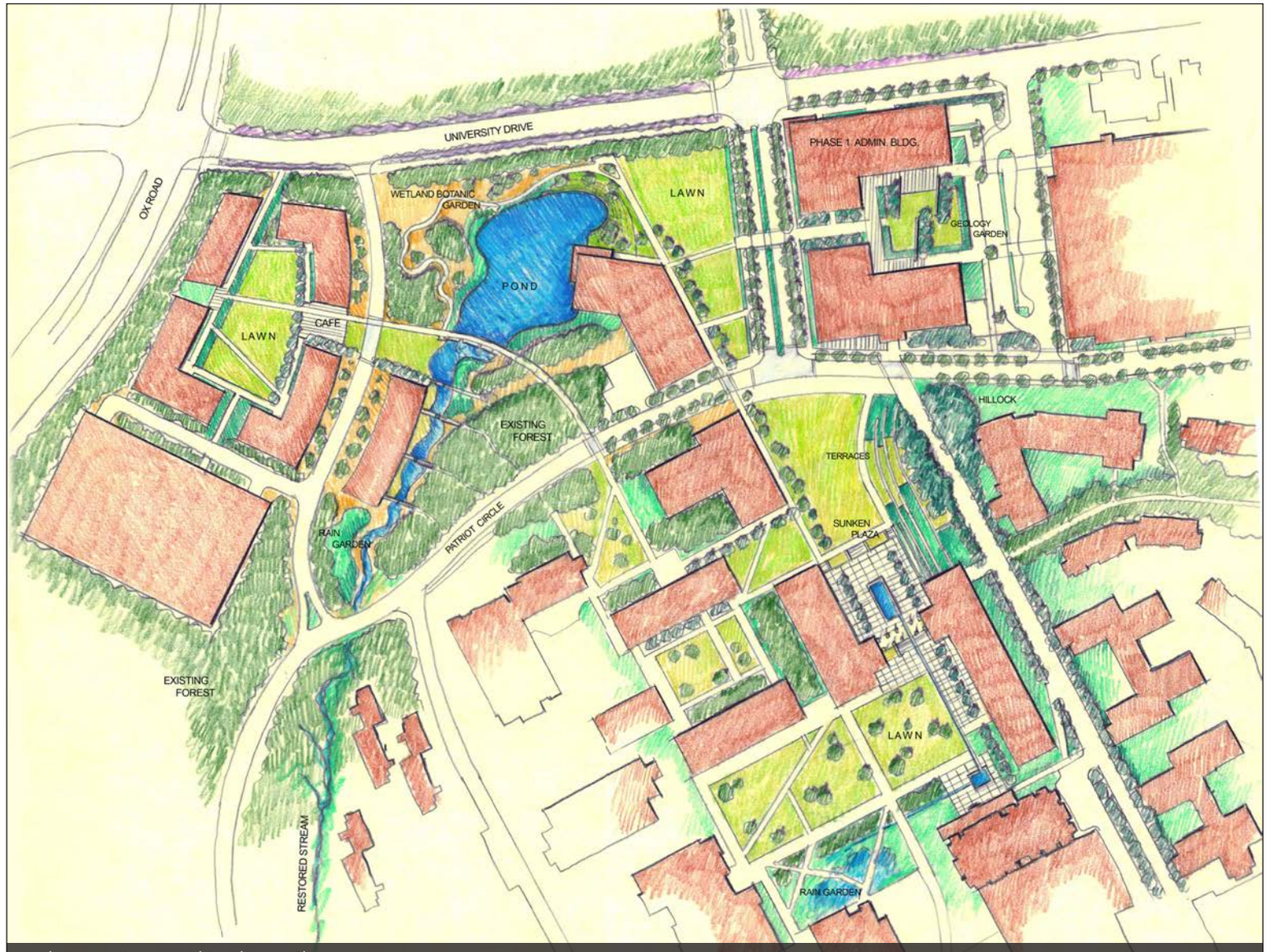
Bird's-eye-view of North Sector Entrance and Mason Park - Proposed

North Sector Landscape Plan

In the North Sector, several different campus landscape types intersect. It has the highpoint of the core campus on the ridge where the hillock and proposed administration area are located. The administration building sits fittingly at the head of the campus. From both the east and west sides the watersheds of the two Rabbit Branch Riparian areas extend up to join at the ridge. The entrances from Ox Road and, soon to be completed, George Mason Boulevard enter from the north and the academic campus is immediately to the south.

The Landscape Plan creates spaces for the different uses in the sector while reinforcing the important aspects of the campus landscape types which are integral to the character of the University:

- **The Ridge.** The Hillock and Administration Building courtyard are designed to evoke the idea of the ridge's underlying geology. The Administration Building courtyard has a geology garden with striated paving and monolithic stone seats. The Hillock is designed as an overlook differentiated from the general campus by a grove of upland trees, xeric shrub masses, and stone benches and terraces for sitting and outdoor classrooms.



North Sector Conceptual Landscape Plan

North Sector Landscape Plan (cont.)

- **Riparian Corridors.** The wooded stream corridors are restored and extended to follow their natural courses to the edge of the ridge. This allows for the corridors to have a stronger presence in the sector, create the potential for pedestrian routes along the streams, and restore the natural habitat. The upper reach of west Rabbit Branch stream, which is now piped under a parking lot, is restored and the parking lot removed. The restored stream will begin at a stormwater pond and wetland botanic garden that provides a scenic vista from the entrance roads and reinforces the University's sense of place.

- **The Grid**. The grid of the core campus is extended northward to intersect with the entrance area. This new campus area is typified by open campus lawns with scattered specimen trees that provide needed outdoor space; open views into the core campus; a crisp grid of sidewalks; and a general collegial quality at the entrance area.

- **Dormitories**. The West Rabbit Branch Dormitories (Housing 9) and associated parking garage will be secluded in the existing (and restored) forest. The interior quad has an open lawn for students and a café terrace overlooks the restored stream and pond. An arching bridge and weir with a waterfall provide a scenic route for the students to access the main campus.

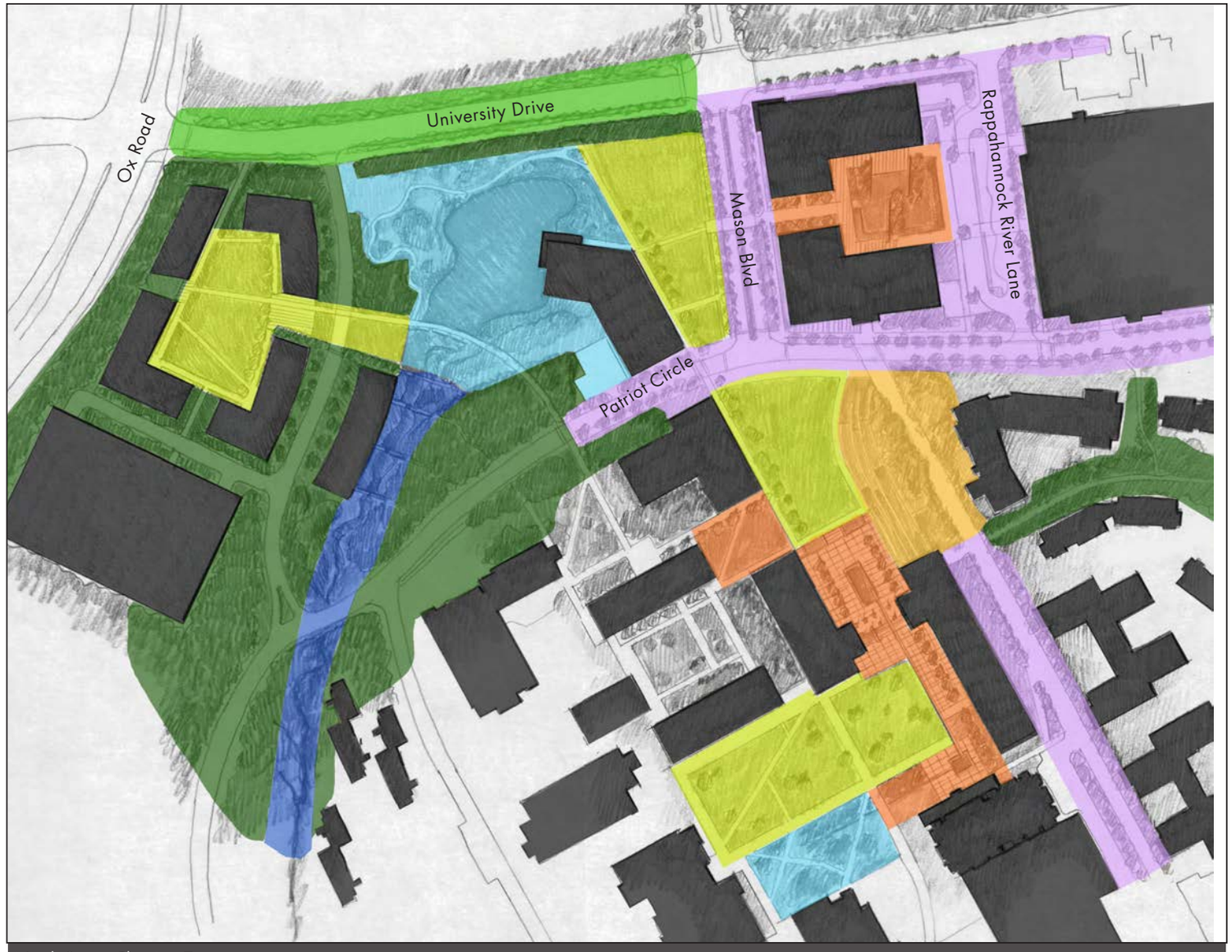
- **Quad and Plaza.** In front of the Library, in the south part of the sector, is an open campus quad. Adjacent to the quad is a series of steps and plazas that lead northward. The largest plaza is an important gathering place, slightly sunken and surrounded with amphitheater seating. A reflecting pool with flowering plants is fed by stormwater that flows through it and flows (recirculates) to a pool in front of the library.

- **Entrances.** The University Drive entrance corridor has a nice forest buffer that is preserved. The existing sidewalk is enlarged and enhanced and the area heavily planted with flowering understory trees and bulbs to provide a memorable entrance experience. Openings in the forest buffer on the south side of the road give a view of the proposed pond and signature buildings. George Mason Boulevard is extended into the campus with a median and an allée of large street trees creating a verdant corridor that focuses on the campus core to the south.

North Sector Conceptual Landscape Plan, Detail

Landscape Strategy & Planting Zones

The landscape strategy for the north sector is fundamentally two-fold.
One aspect is to unify the campus with aesthetic continuity that establishes campus character. This is done with a clear and unifying approach to the basic materials and details of the landscape: street furniture, site structures, paving design. This aesthetic should generally be modern, reflecting the relatively young age of the University, the innovative research on campus, and the style of the majority of the buildings.



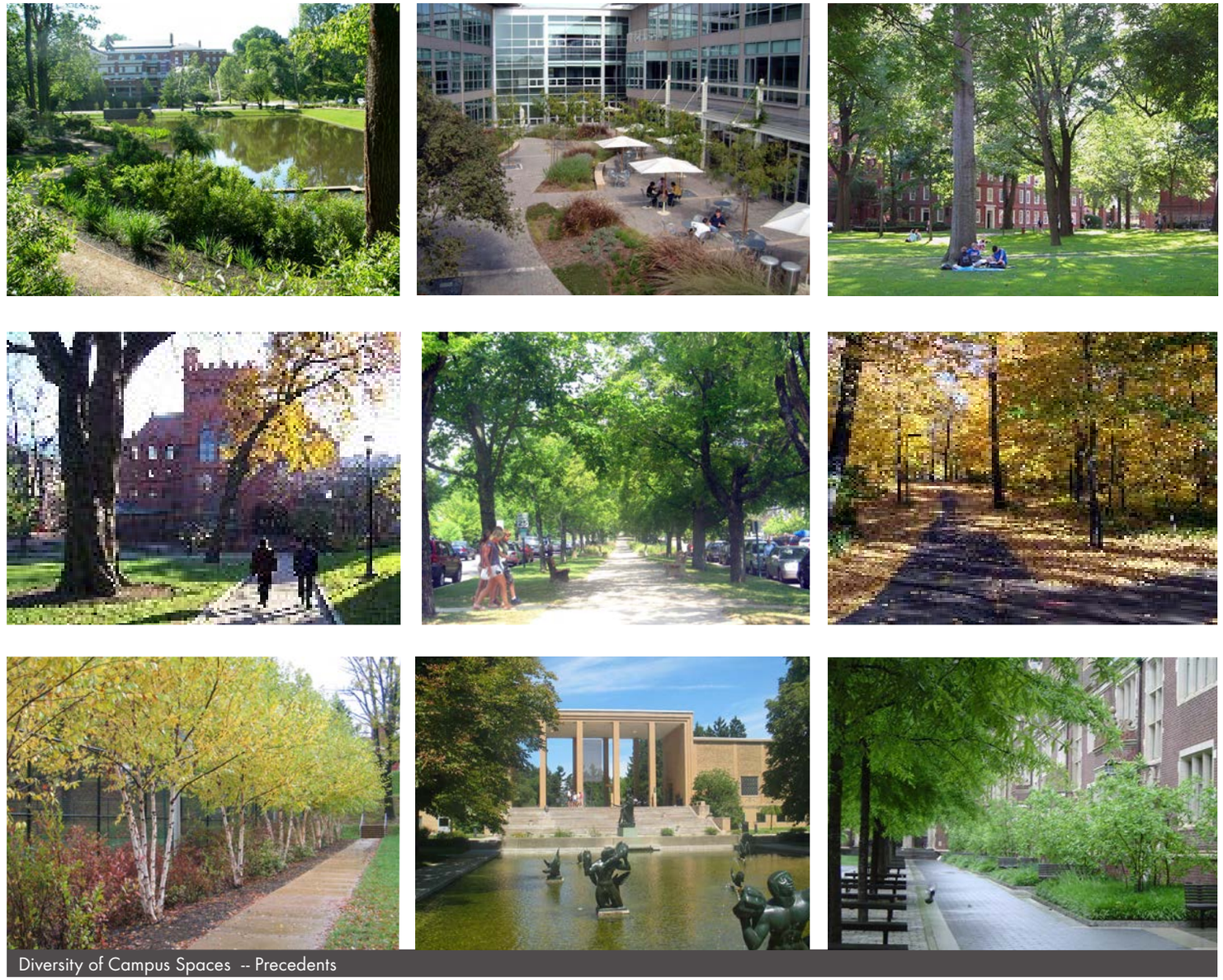
North Sector Planting Zones

Landscape Strategy & Planting Zones (cont.)

The other aspect of the landscape strategy is based on the recognition that there are several landscape types on the campus that are integral to the campus identity, but are quite different, such as the riparian corridors, the open campus lawns, the hillock and ridge, and the wooded buffers.
In addition, there are divergent uses in the North Sector (administrative, academic, residential and retail) that have different site requirements.
The landscape plan proposes to differentiate and reinforce these unique landscape types on campus so that they are not lost in the general expansion and build-out.

Many of the site details would be the same throughout the campus, but the site layout and design and the plant palette would differ as to landscape type and use zone. This allows a site design that will maintain and celebrate the University's character while being environmentally responsive and functionally appropriate.

There are eight planting zones in the North Sector that have plant palettes appropriate to the particulars of the site conditions and will help reinforce the character of those different campus landscape types.



Diversity of Campus Spaces -- Precedents

4

Master Plan Goals

Master Plan Goals

Design Goal #1: Identify areas for University growth, with a focus on the North Sector

The George Mason Fairfax Campus has experienced tremendous growth in the recent years; consequently, the University has begun planning for the evolution of its Fairfax campus over the next 25 years.

The core of the existing campus is primarely contained withing the Patriot Circle loop, but recently the Southwest Sector expansion has started the process of expansion of the campus core beyond its original limits defined by the Circle.

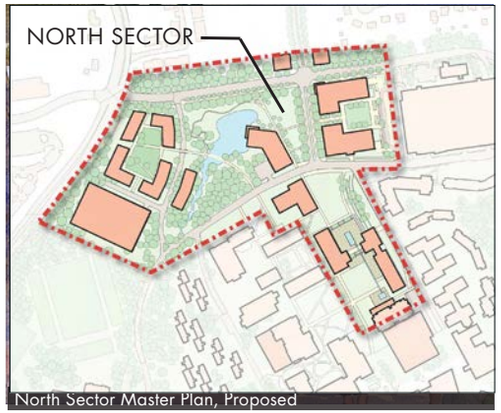
The currently proposed North Sector master plan will help the campus continuing to grow while implementing a flexible framework for expansion that can respond to changing circumstances.

The North Sector master plan features the following characteristics:

- attached to the campus “historic core”
- phased and balanced growth
- mixed use approach:
  - residence halls
  - administration building
  - living&learning facility
  - academic buildings
  - open spaces
  - parking garage

Aerial View of North Sector - Existing Conditions

Patriot Circle Expansion to the North



North Sector Master Plan, Proposed

Image of North Sector Entrance, Proposed

Design Goal #2: Improve the University image as one arrives on campus

Create notable campus gateways for an improved sense of arrival at North Gate and University Drive.

Design Principles

- Improve the northern campus gateway using new architectural and landscape elements such as: Signage, Gates, Towers/Visual Clues, Improved Sidewalks and Crosswalks, Intersections paved with cobbles (pavers), Improved Planting, Narrowing Secondary Vehicular Roads.
- Frame views of campus landmarks, such as the the new administration building, the library, and the Johnson Center with new architecture and lines of trees and planted medians that direct views.
- Connect to the City of Fairfax with a new street between University Drive and School Street.
- Open views to the new pond, restored stream, and wetland botanic garden.
- Protect and augment existing wooded buffers on Ox Road and University Drive.


Before View: University Drive


Existing Entrance at Ox Road and University Drive


Precedent: Campus Gate

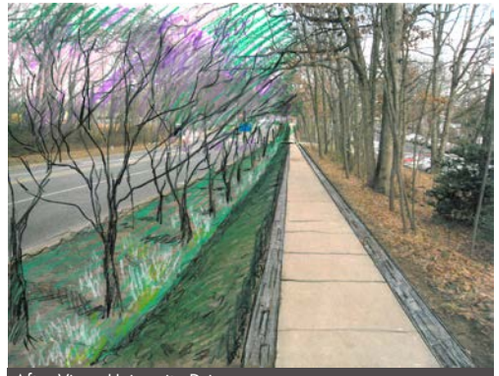

After View: University Drive


Image of Campus Entrance

Design Goal #3: Enhance the pedestrian experience

As the University expands, it is important to maintain a quality pedestrian path network. As people park their cars at the perimeter, they must be welcomed by accessible pathways that include wayfinding tools.

Design Principles:

- Extend the existing path network of the campus core to the north and beyond to Fairfax City
- Line streets and pathways with trees to increase spatial definition, provide shade, and improve walkability
- Improve wayfinding, orientation, and safety by minimizing undergrowth and providing landmarks and visual clues
- Enhance the path system with lighting, unique paving, and signage
- Provide duplicate pathways to accommodate different characters of campus life. Some will be more academically oriented, some support resident life, and others will provide a meeting place between the two.
- Use stategies to preserve landscape plantings and prevent the formation of cut-throughs and informal paths.
- Minimize pedestrian and vehicular conflicts with clear indications of the pedestrian realm and vehicular circulation
- Where possible, increase accessibility in buildings and public spaces throughout the campus

Precedent: Pavement

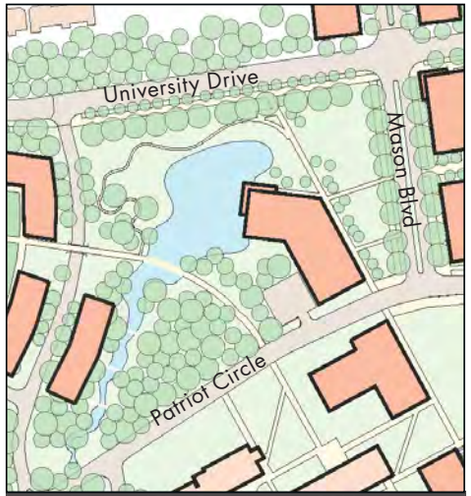
Precedents: Signage and Wayfinding

Precedent: Furnishings

Precedent: Mississippi State Campus

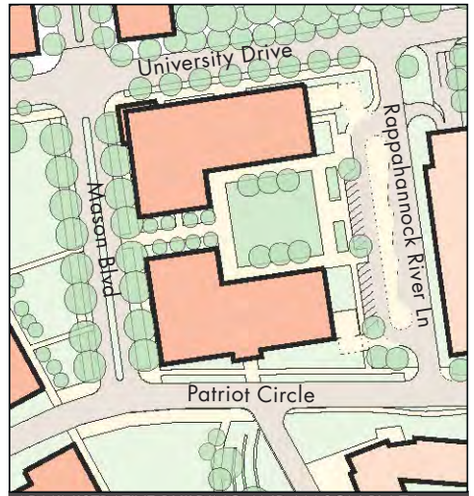
Pedestrian Pathways on Campus

Design Goal #4: Create signature places on campus



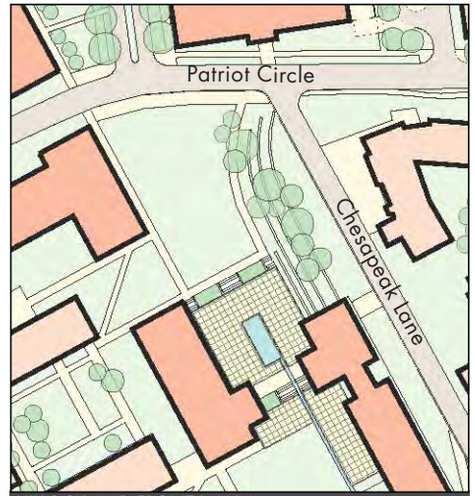
NORTH ENTRANCE, POND AND MASON PARK

The West Rabbit Branch stream corridor is restored and a pond is situated at its beginning to act as a stormwater catchment and provide stunning entrance views. Around the pond a wetland botanic garden diplays seasonal color year around and provides an outdoor educational environment. A open park-like campus lawn allows views to the pond, the new academic buidling and core campus.



ADMINISTRATIVE BUILDING AND MASON PLAZA

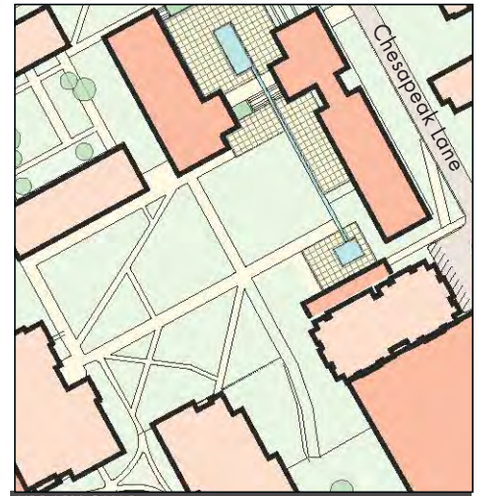
The new Phase 1 development block includes the new Administration Building, Mason Plaza and the Special Use Building (academic, administrative, etc.). Mason Plaza courtyard, along with the Hillock, are at the highpoint of the campus and their designs evoke the geology of the underlying granite ridgeline. Benches and seat walls in these areas should be of granite to support the "geology" theme.



HILLOCK AND FRONT LAWN

The Hillock is located at the highpoint of the campus. A grove of upland trees and shrubs and stone details give it significance as a unique prospect on the grounds. A terraced hillside with stone benches provides a place for informal gatherings and outdoor lessons.

Below the Hillock, The Front Lawn extends views to the library and campus core from the entrance road and provides a colloegial open campus space.



LIBRARY QUAD

Next to the front Lawn is a sunken plaza with a reflecting pool that directs views to the library and Quad beyond. Steps and a water rill flowing from the reflecting pool lead down to the Quad; an open campus lawn with scattered specimen trees. The library and other large academic buildings frame the Quad and provide the open yet contained space of the classic campus lawn.

Design Goal #5: Conserve resources and habitat using sustainable design principles

President Merton has shown his support and commitment to sustainability and a healthier environment by signing the American College and University Presidents Climate Commitment (ACUPCC) in 2007.

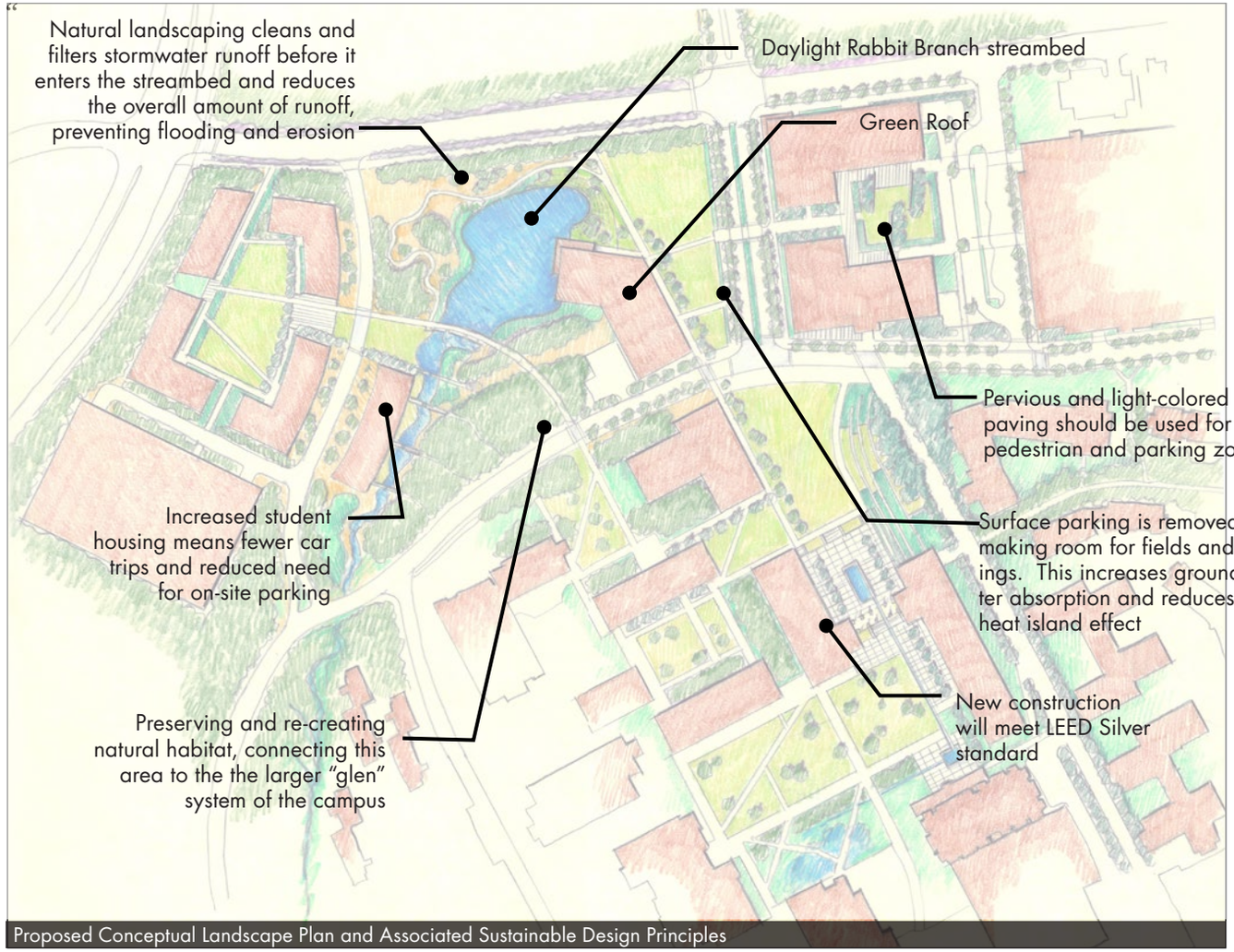
A commitment to sustainability during planning and development results in a healthier campus environment. Unique natural features will distinguish the campus and increase university and public awareness about the environment and Mason's commitment to sustainability.

Land Use and Transportation

A mixed-use environment with services and amenities for students encourages walking. Increased student housing reduces trips to and from campus. A shuttle service to Metro and surrounding neighborhood destinations will further reduce automobile dependence. Land use efficiency is maximized by building in a compact manner and replacing surface parking with structured parking. The plan preserves habitat areas, and minimizes impervious surfaces.

Natural Habitat

The use of native plants reduces need for irrigation, provides wildlife habitat and food, and reinforces a sense of place. Significant trees, shrubs, and ground-cover will be preserved and maintained to reduce the heat island effect, preserve habitat areas, improve groundwater absorption, and increase carbon dioxide absorption. The use of full cut-off lighting fixtures reduces the impact on wildlife and mitigates light pollution in the night sky.



Proposed Conceptual Landscape Plan and Associated Sustainable Design Principles

Design Goal #5: Conserve resources & habitat using sustainable design principles (cont.)

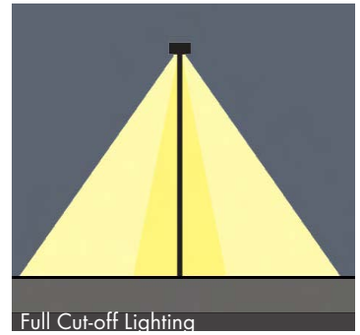
Environmental Preservation

Rain gardens absorb and filter runoff, retain stormwater, and replenish the aquifer. Best management practices should be implemented for erosion and sedimentation control during and after construction to preserve top soil and prevent sedimentation of existing streamways. Porous pavement for parking, pathways, and plazas allow water to filter slowly into the ground table where it can be filtered naturally. Stormwater detained in ponds and cisterns can be reused for irrigation and fountains, reducing the need for potable water. Night-sky glare is minimized by using streetlights with 100% cutoff range and LED lights in pedestrian areas.

Resource Efficiency

Using locally manufactured materials and resources reduces transportation costs and supports the local economy. New buildings will be designed for energy and water efficiency. The use of reclaimed or recycled materials can reduce energy expenditure and the demand for raw materials. Energy and maintenance costs can be reduced through the use of LED lighting and site-appropriate landscaping. There will be a reduced load on infrastructure for irrigation and storm sewer systems. Dedicated wide planting strips for street trees and other landscaping will improve the health and longevity of plants, reducing maintenance and replacement costs.


Green Streets: Pedestrian and environment friendly


Full Cut-off Lighting


Grass Pavers


Rain Gardens: A teaching environment

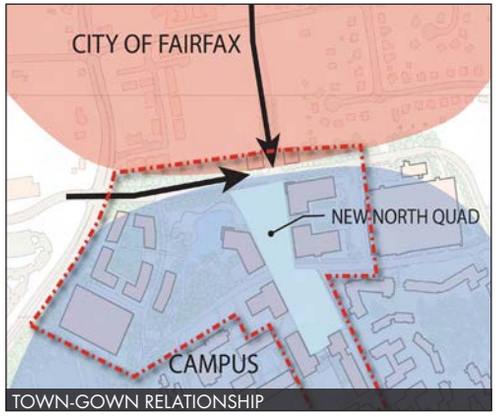

Stream Bed


Bioswale

Design Goal #6: Amplify the complete college experience

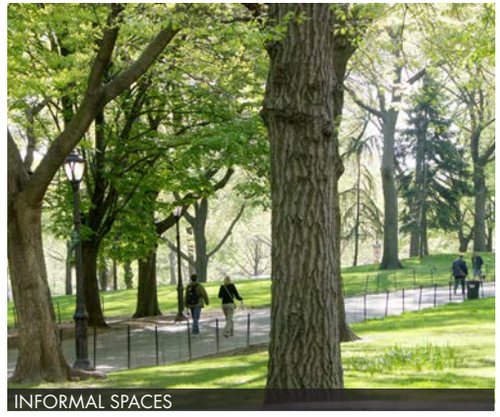
A "full college experience" includes, among others, residential & housing, playing frisbee in a quad, formal academic quadrangle of the traditional university, informal outdoor spaces for gathering, pastoral landscape for reflection, the "college town" retail, elements definying the campus identity - a visitors center and administration building - etc.

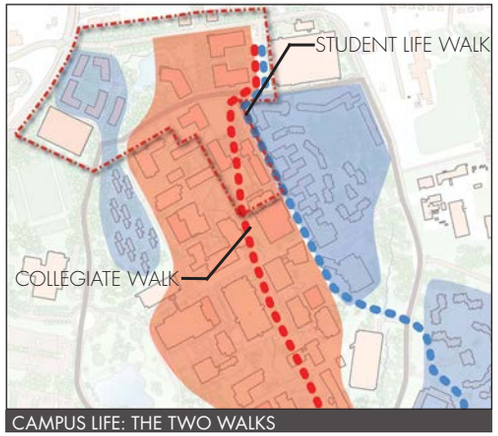
Furthermore, the proposed new North Sector Master Plan takes advantage of the adjacency with the City of Fairfax and presents a welcoming front door for the Mason campus. A new administration building, new academic facilities, impressive landscaping, access to natural areas, and a network of improved outdoor spaces define the "gown" side of the equation. The "town" side can complement this with retail development along University Drive. The town-gown relationship is unique at every campus, and is an essential part of the complete college experience.



TOWN-GOWN RELATIONSHIP


CAMPUS IDENTITY


INFORMAL SPACES



CAMPUS LIFE: THE TWO WALKS


FORMAL SPACES


PRECEDENT: RESIDENTIAL QUAD

5

Master Plan Phasing

North Sector Master Plan Phasing

The plan is designed to be constructed in stages or phases based upon the University's needs for new administrative and academic space.

A large 2600 car garage is already nearing completion at the time of this planning. In order to make use of the garage and screen it from view from the new entrance, buildings adjacent to it will be built first.

Later phases will be built in a sequence to best define the new signature places and meet the University's growing needs.

North Sector Build-out: Existing Conditions

NORTH SECTOR MASTER PLAN: PHASING

Phase I

- New roadway is completed to connect Patriot Circle
- 2600 car garage will be complete
- Parking lot adjacent to new garage will be demolished
- New Administration Building is constructed
- New Mason Plaza is constructed
- Temporary parking and playing field located south of new Administration Building

Phase II

- Construction of College of Health and Human Services Building (Academic 7)
- New Mason Boulevard is realigned
- Modular buildings and Lecture Hall are demolished
- Living-Learning facility constructed
- Begin landscaping for North Entrance & Mason Park - restore West Rabbit Branch riparian corridor and create pond - and Hillock
- New retail along University Drive is constructed

NORTH SECTOR MASTER PLAN: PHASING

Phase III

- New special use building south of Administration is constructed (Academic/Administration)
- New academic building is constructed near Finley and East Buildings
- New entrance is added to the existing Fenwick Library stacks building
- Current Fenwick Library building is demolished and replaced with planned new building to the south (as indicated on the 2002 Master Plan).
- Complete new pond, wetland botanic gardens, landscaping, and roadway.

Completed plan

- New academic building
- New student housing (Housing 9)
- Demolish East Building
- New 1200 car garage at Housing 9
- Complete all landscaping, streets, and sidewalks

Part II

North Sector Design Guidelines

Part II - North Sector Design Guidelines

Design Guidelines

Site & Landscape Design Guidelines

i. Introduction

Vision Statement

The new plan for the North Sector is designed to change the character of the George Mason Campus from one of surface parking and automobiles to one of a vibrant pedestrian-oriented campus community. The plan provides a welcoming new face for the Mason campus. New gateways link the interior of the campus with the local community.

The north gateway is conceived to frame arrival views of the campus and offer a more distinct university presence. A new system of campus streets recreates the northern loop of Patriot Circle and provides improved connections with the campus circulation system for vehicles and pedestrians alike.

Design Guidelines

The following Design Guidelines are intended to provide general guidance for typical development within the North Sector site. The Design Guidelines should be considered in combination with the North Sector Master Plan. The two elements work together to establish the overall development parameters for the site and should not be considered to be exclusive or in isolation of each other.

The Design Guidelines delineate the basic campus form expected for the North Sector. These Design Guidelines are not intended to be prescriptive, but rather serve as guidance for a harmonious development of the North Sector as well as a reflection of the physical elements and character of George Mason Campus. The combination of buildings, pathways, open spaces, and public places help make these special and identifiable sites within the fabric of the campus.

Major Themes and Intent

The site and landscape design for the North Sector will provide for a coherent grouping of outdoor spaces that allow for campus growth while providing a good first impression of the campus. The North Sector will contain places both for formal and informal activities while also accomodating natural tree cover and a re-established riparian zone. Best practices in sustainable design will be applied to initiate habitat recovery and provide for the long-term health of the local ecosystem.

The North Sector will include the following uses:

- Academic uses
- Administrative uses
- Residential uses
- Retail uses

Signature architecture is encouraged in areas identified for architectural excellence. These areas permit a wider variety of material palettes; greater flexibility of material use throughout the facade; and greater transparency in the overall facade organization and at the building base.

Overall, heights of proposed buildings across the site should maintain a human scale, blend in while not exceeding existing building heights, and take advantage of the existing topography of the site. Special architectural features may exceed generally held building heights when serving to emphasize a unique building or site.

Circulation: due to the special nature and location of the North Sector site at the northern edge of the George Mason Campus and in proximity to the neighboring town of Fairfax, the Master Plan and Design Guidelines expect that development will include modification and, where necessary, construction of adequate circulation within and around the site. Such circulation should connect and extend the existing pattern of campus streets to and through the site as anticipated by the Master Plan; and preserve the natural landscape, by following existing topography and reusing existing streets where possible.

The landscape design will use primarily native plants to structure campus spaces, support an sense of place, and foster environmental sustainability. Streets, walkways, and plazas will be well planted with shade trees and groundcovers to reinforce character of adjoining campus spaces, reduce heat island effect and enhance the pedestrian experience. Existing natural areas will be preserved where possible and the riparian corridors extended and restored.

Parking: the plan relocates surface parking spaces into structured parking, eliminating vast areas of asphalt and creating a more pedestrian-friendly environment. Garages contribute less to polluting stormwater run-off, minimize the heat-island effect, and use land more efficiently.

Sustainability is a major goal for the Campus, as George Mason University is an underwriter of the American College and University Presidents Climate Commitment (ACUPCC) by providing measures that reduce the ecological impact of the campus. Consequently, a sustainable approach is expected for all development within the North Sector. This should include, but is not limited to, environmentally sensitive site design, aggressive stormwater management strategies, energy efficient/LEED certified buildings, resource efficiency, and the use of best management engineering practices for protecting and restoring the natural habitat on campus, including the restoration of Rabbit Branch stream corridors and retention of natural species.

North Sector Proposed Master Plan

ii. Definitions

ACTIVE USE
Uses, such as: academic, administration, residential, student services, retail, or other principal use; exclusive of parking, mechanical systems, or circulation of service facilities.

ARCHITECTURAL TREATMENT
The design of a facade to be in context with its neighboring buildings.

ARTICULATION
Modulation in a building's massing or facade that breaks the potential monotony of a long blank expanse of uninterrupted wall. See also Facade Articulation

BUILDING HEIGHT
The vertical built limit of a building. The building height is prescribed in terms of number of stories from the average elevation of the sidewalk. Building height shall be measured from the lowest curb level along a street frontage abutting the lot.

FACADE
The exterior skin or face of a building, including the wall, windows, and ornamentation.

FACADE ARTICULATION
A change in material, texture, pattern, or relief in plane of the building's exterior wall to create shadow lines and visual interest. Facade articulation occurs throughout the facade but an emphasis is located at the Pedestrian Base; around entry ways, windows, and cornice lines; the top of the Street wall; and the building Top.

FOCAL POINT
The visual termination of a thoroughfare or a designated axis. Buildings that terminate a vista may be required to articulate its massing or facade.

FOOTPRINT
The area of a building floor plate, taken at specified floors of the building.

GATEWAY
A physical declaration of entry into a location or site. On an urban design scale, a gateway denotes a change of "place," different in character or use. The gateway can be expressed architecturally through the building massing and/or accompanied by the architectural expression of a building facade.

MASSING
The physical size, shape and form of a building.

NATIVE PLANTS
Indigenous plants to this region that require little or irrigation (once established) or pesticides, and provide wildlife habitat and support a sense of place.

PEDESTRIAN SCALE
The size and arrangement of elements in the building and the environment that relate to and are compatible with human activities.

PREFERRED USES
Retail, academic, administrative or cultural uses on a building's ground floor with street frontage.

RAIN GARDEN
A slightly depressed garden that receives surface runoff, slows water down to prevent erosion and allows water to be absorbed into the ground, recharging groundwater.

SETBACK
A mandatory minimum or maximum shift in location of the building wall height.

SPECIAL ELEMENTS
Architectural features of highlight, used to unify a place or location. Special elements may stand alone as focal elements, such as a statue, or they may be components of a larger piece of architecture, such as a corner piece of a building or a building tower.

STREAM DAYLIGHTING
The redirection of a previously diverted stream from an underground culvert into an above-ground channel with the goal of restoring a stream to a more natural state thus improving its riparian environment.

STREETSCAPE
All components of the street and the immediate surroundings that define and lend character to the area, including the trees, sidewalk, lighting, street furniture, paving materials and building facades.

STREETWALL
The facade of the building that defines the enclosure of the public space, or the street.

TOWER
A vertically-proportioned element of a building that rises above the Streetwall, at times is incorporated in the Streetwall. Towers may draw attention to a location, act as a gateway element, or help to create an interesting skyline.

1. Campus Master Plan & North Sector Project Boundary

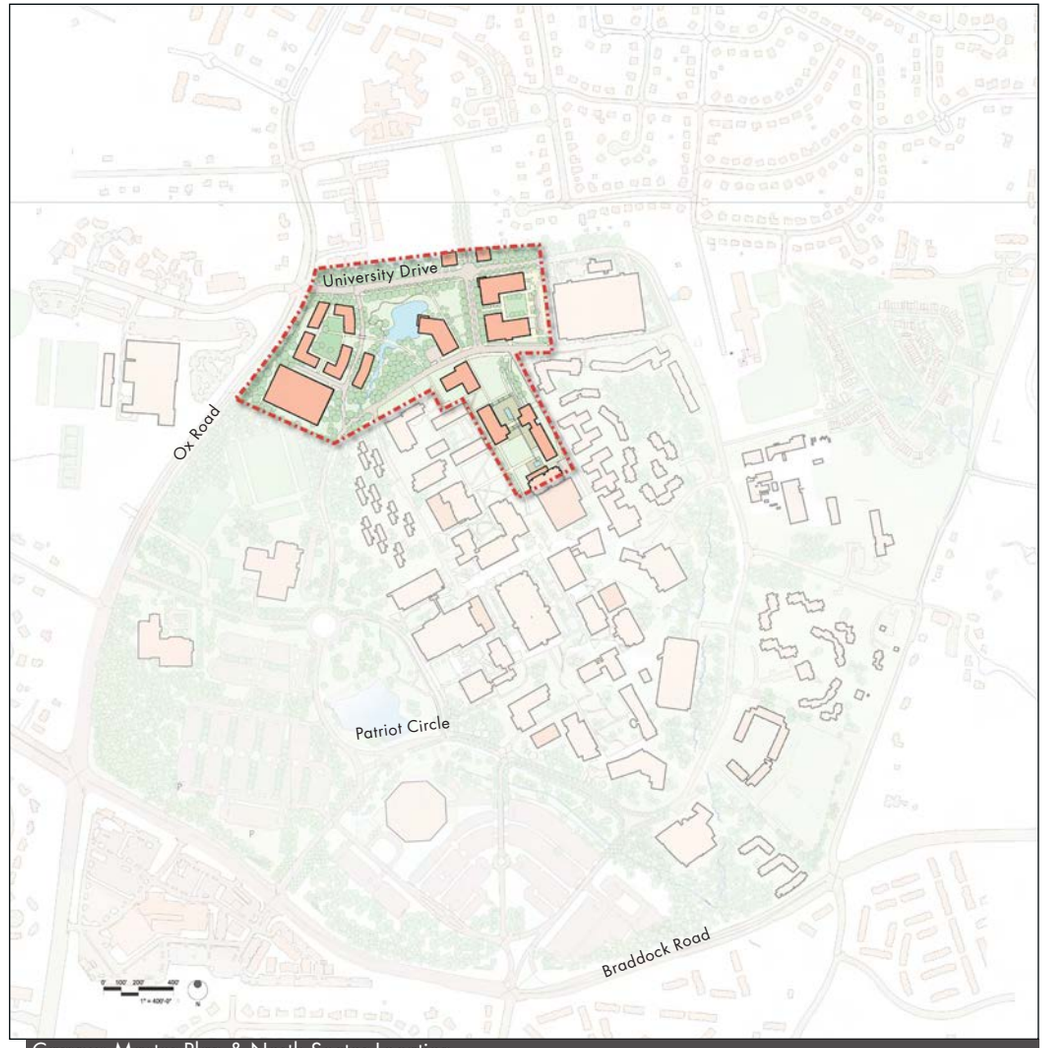
The North Sector site is located at the northern side of the George Mason University, Fairfax Campus, and is generally comprised by the area of the campus north of Patriot Circle and south of University Drive, adjacent to the city boundaries with Fairfax (to the north) and the major vehicular artery of Ox Road (to the west).

The project area for the North Sector is bounded by University Drive to the north, Ox Road to the west, Rappahannock River Lane and Chesapeake Lane to the east, the library stacks building and Patriot Circle to the south.

In addition to the area within the proper North Sector site, the project boundary includes also that area of campus within Patriot Circle and between the new student's residences along Chesapeake Lane (to the east), the library and the Quad (to the south) and the original campus core (to the west).

The majority of the site is currently occupied by large surface parking lots, and is undergoing major transformations due to the construction of a large 4-level parking garage, the realignment of Patriot Circle road, and the extension of University Drive around the new parking garage and connecting to Patriot Circle.

The new buildings proposed within the project area will be referenced later in this document for codified uses, height, massing, architectural treatments, and landscape guidelines for the project.

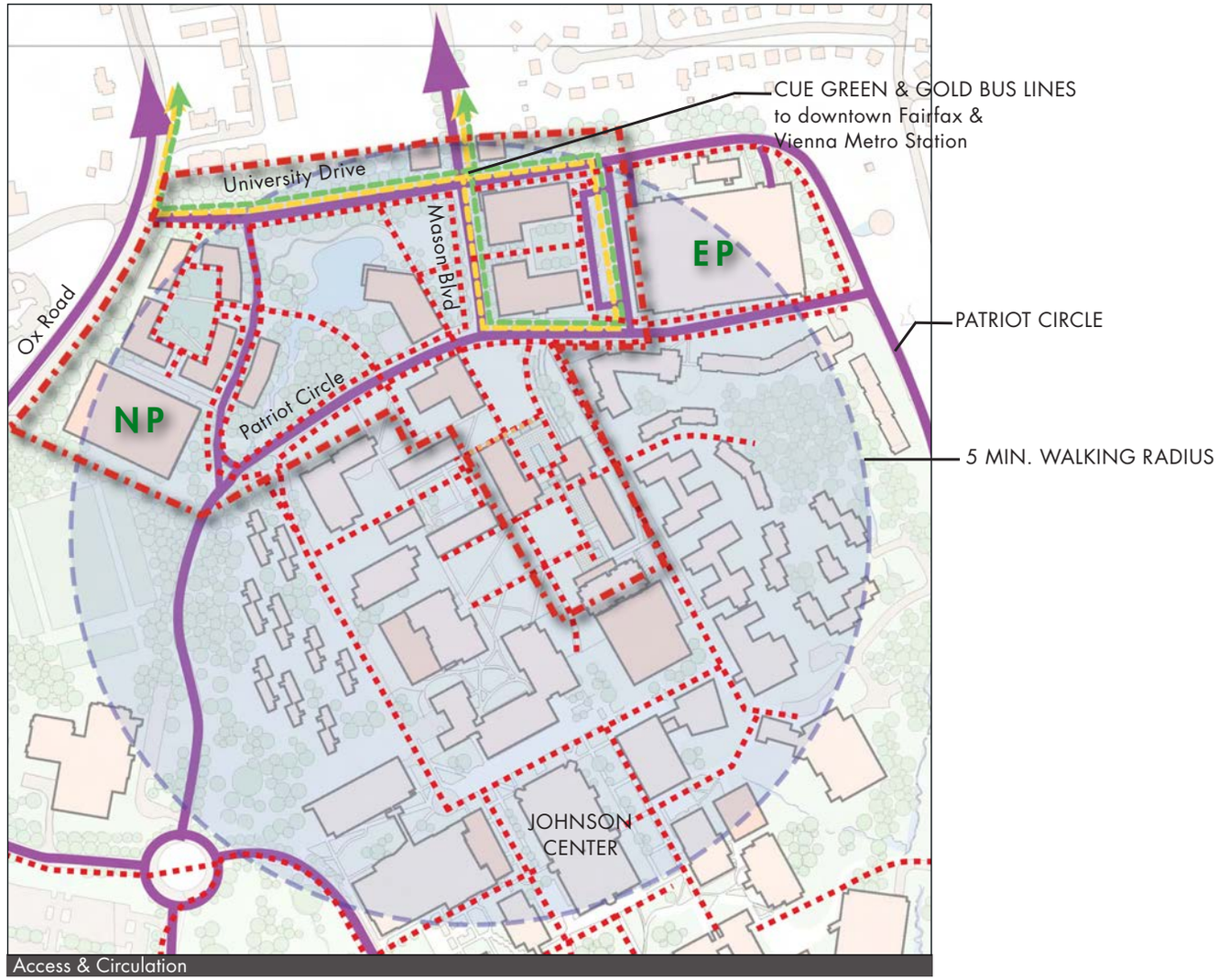


Campus Master Plan & North Sector Location

2. Access & Circulation

The goal of the access and circulation plan is to provide:

- a hierarchy of roads that provide service and access;
- campus streets and perimeter drives where the car, public transportation, bicycle and pedestrian can co-exist;
- a comprehensive network of pedestrian and bicycle paths;
- and unobtrusive service lanes for waste pickup; building delivery and parking access.



3. Parking & Bus Access

The Parking Principles are as follows:

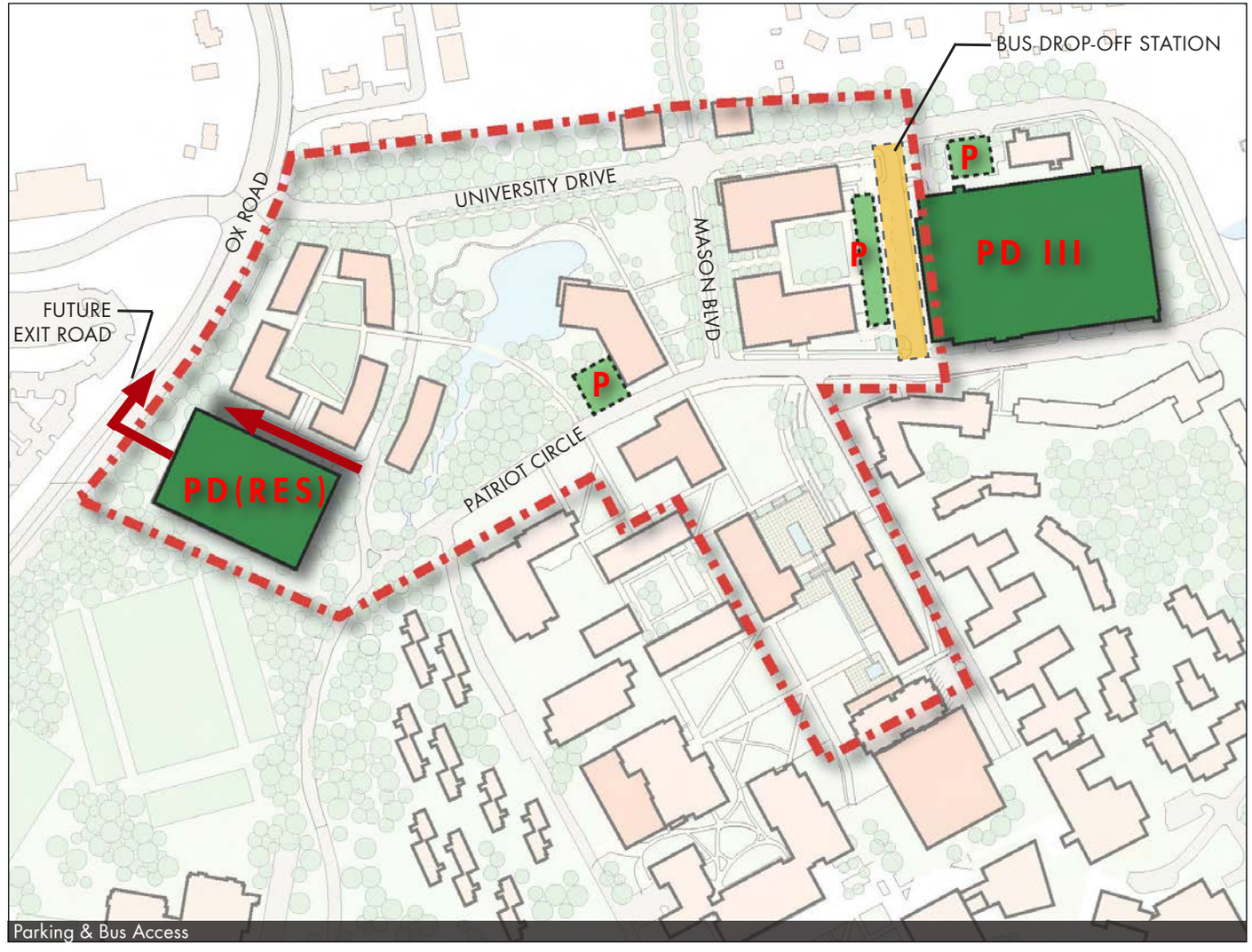
- parking should be convenient but not visually obtrusive;
- lots and decks should be spread out to avoid traffic congestion at peak hours;
- parking should be situated to keep cars out of the center of campus to support an improved pedestrian and bicycle experience;
- small parking areas should be spread throughout the campus to serve as convenience parking for non-residential buildings.

PD III:

- Bus drop-off station located between PD III and new Phase 1 Administration Building/future Special Use Building

PD (RES):

- Potential to exit directly to Route 123/Ox Road



Parking & Bus Access

4. Circulation Hierarchy

Primary Streets/Drives/Lanes

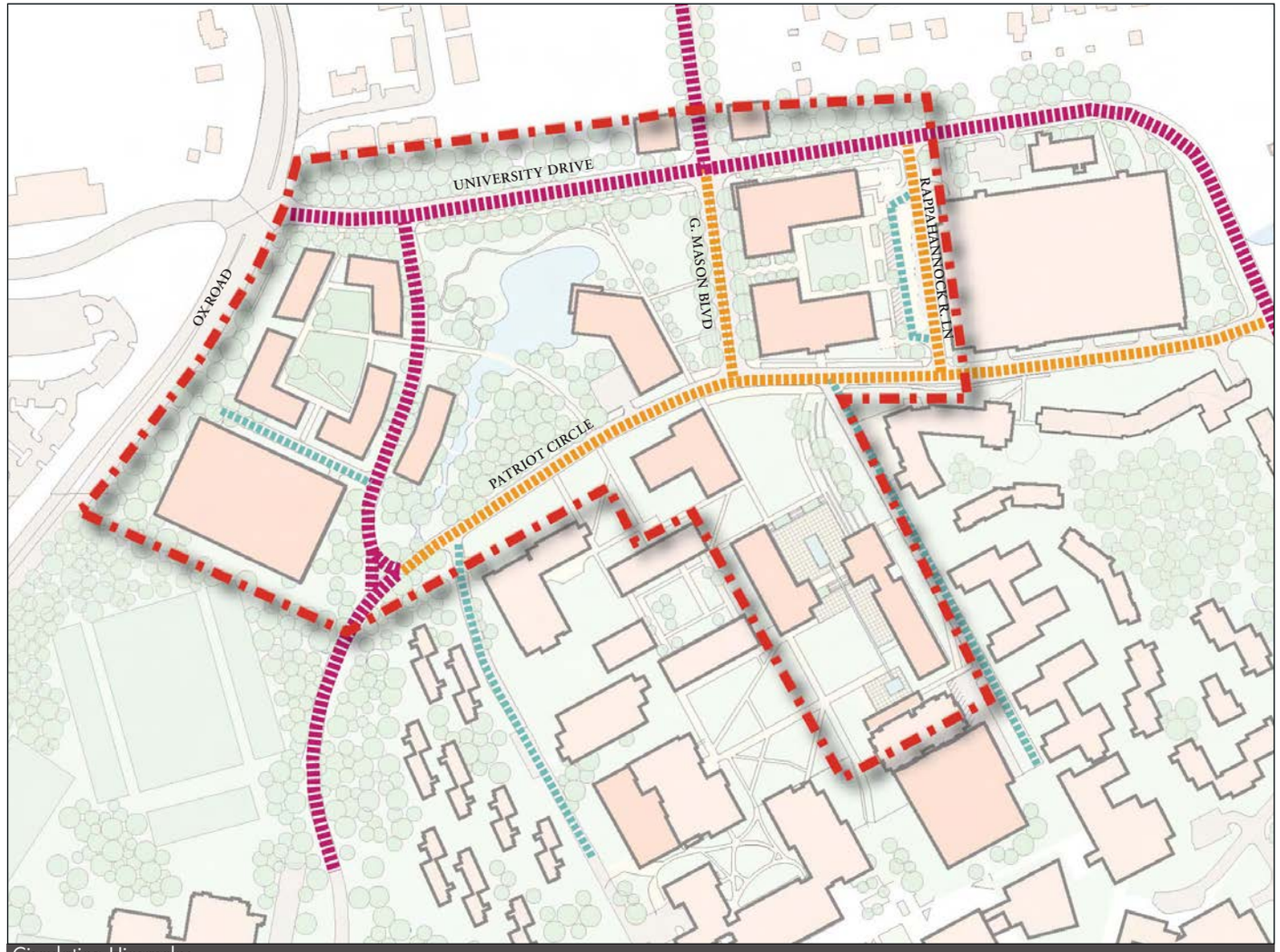
These routes define the main public corridors and access to the North Sector area. They are very important in the arrival sequence and serve both the pedestrian and the automobile equally.
Buildings on primary streets shall have active uses and maintain the highest standards of design excellence. (Refer to 18 Architectural Expression)

Secondary Drives/Lanes

Secondary drives and lanes are scaled to serve the internal needs of campus and of a character to serve the pedestrian first and the automobile second. Secondary routes often offer an alternative to the primary streets, meant for local traffic. Buildings on secondary streets should also have active uses and high standards of design, but, depending upon location, have more flexibility as to facade treatment and uses.

Tertiary Drives/Lanes

Tertiary drives and lanes complete the road network by providing a means of access to service entries and parking structures in the area. They are the least public in nature of all the streets and less restrictive in design intent as a result.



Circulation Hierarchy

5. Pedestrian Paths Hierarchy

Primary Paths

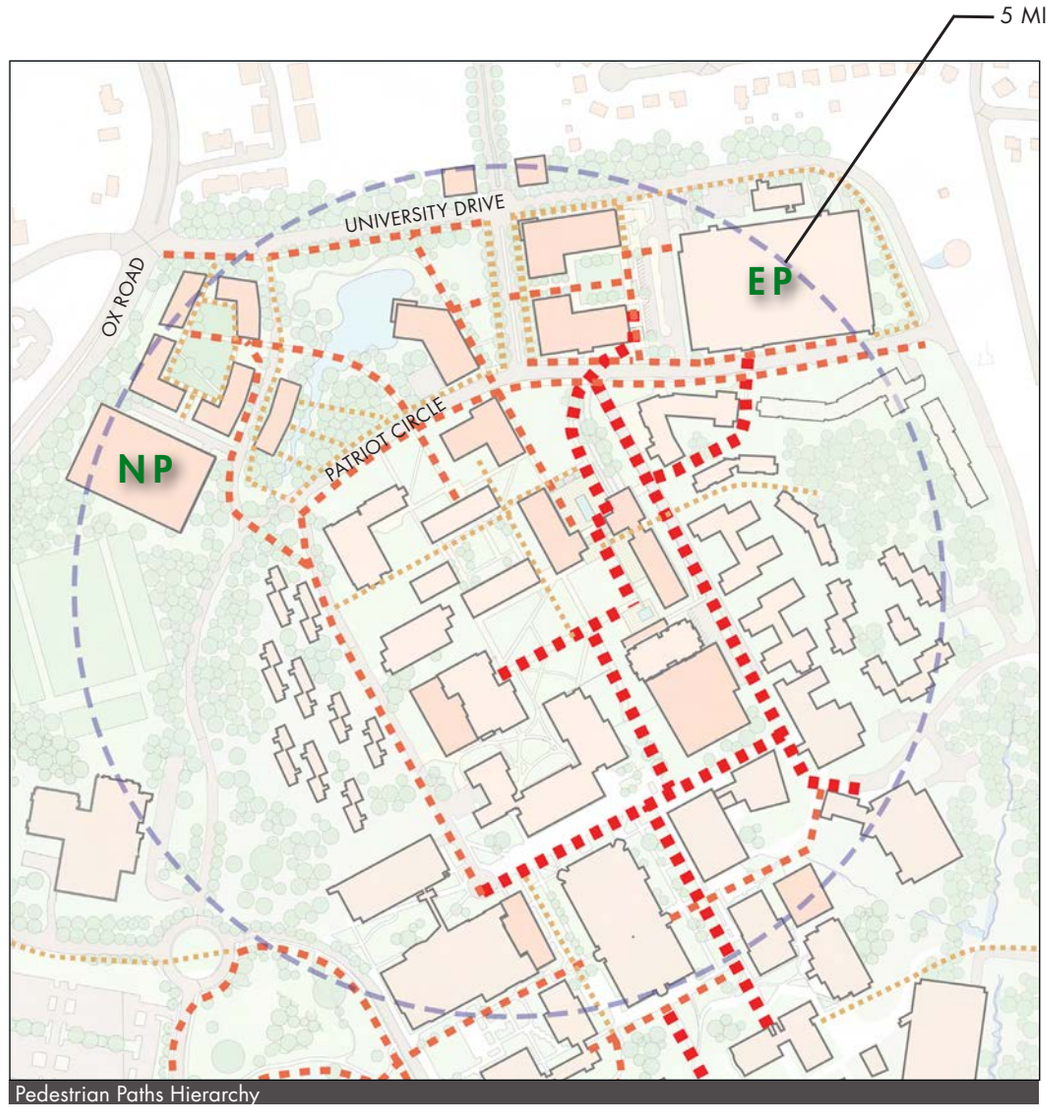
Primary paths represent the main pedestrian routes into and through the heart of campus for students, staff, faculty and visitors. As such, wayfinding aids and clarity of path are particularly imporatnt on these routes.

Secondary Paths

Secondary paths are scaled to serve the internal needs of campus and are meant more for staff, faculty and students than for the occasional visitor. Secondary paths often offer an alternative and more direct connection between internal campus destinations than primary paths, while still focused on bringing pedestrians to major destinations and building entrances.

Tertiary Paths

Tertiary paths generally serve as more minor paths of movement between campus buildings within a building cluster, or linking buildings to primary or secondary paths. Access to buildings off of tertiary paths are more likely to connect to secondary building entrances. They are the least public in nature of all the paths and least likely to be used by the occasional visitor.



Pedestrian Paths Hierarchy

6. Primary Bicycle Route

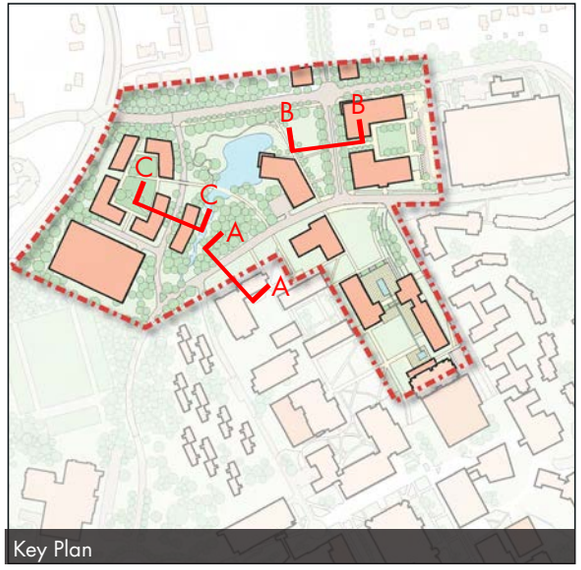
- Link to exiting bicycle path system;
- Maximize regional routes:
- Connect to City of Fairfax;
- Storage racks to be spread throughout campus.

Primary Bicycle Route

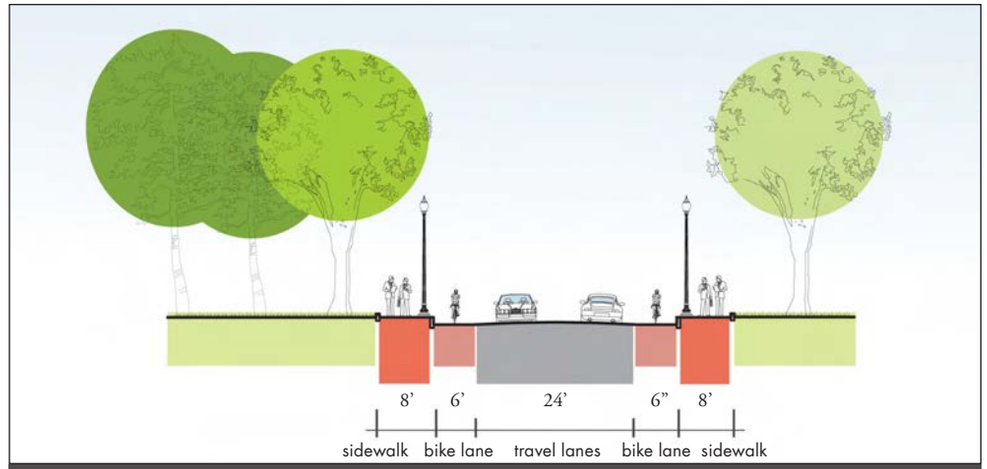
7. Street Sections

Typical street sections are shown for the three reconfigured streets within the North Sector: New George Mason Boulevard, west side of Patriot Circle, and Occoquan River Road near the future Housing 9. These sections show building setbacks (where applicable), travel lanes, sidewalks, bike lanes, street lights, street edge planting conditions, planted medians and associated widths.

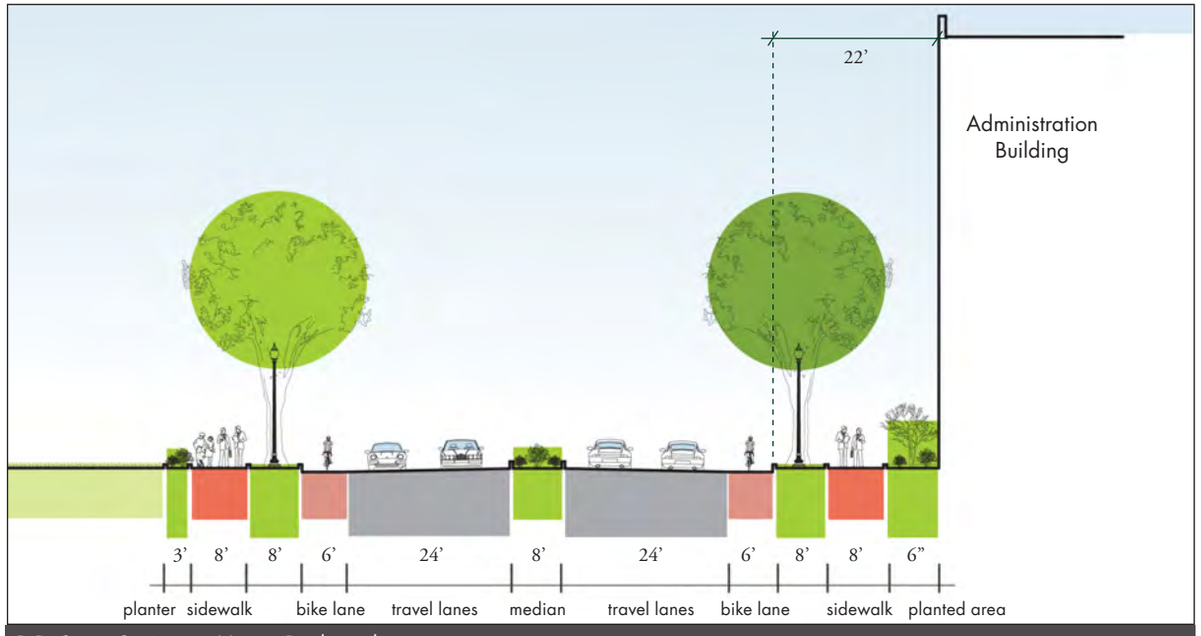
Patriot Circle (A-A):
The reconfigured section of Patriot Circle, from Parking Deck III (east) to the proposed new parking garage south of Housing 9 (west), has the same profile along its entire length within the North Sector. The road maintains the same width of 24' (one 12' travel lane in each direction), and is flanked on each side by a 6'-wide bike lane and a 8'-wide sidewalk.



Key Plan



A-A Street Section at Patriot Circle

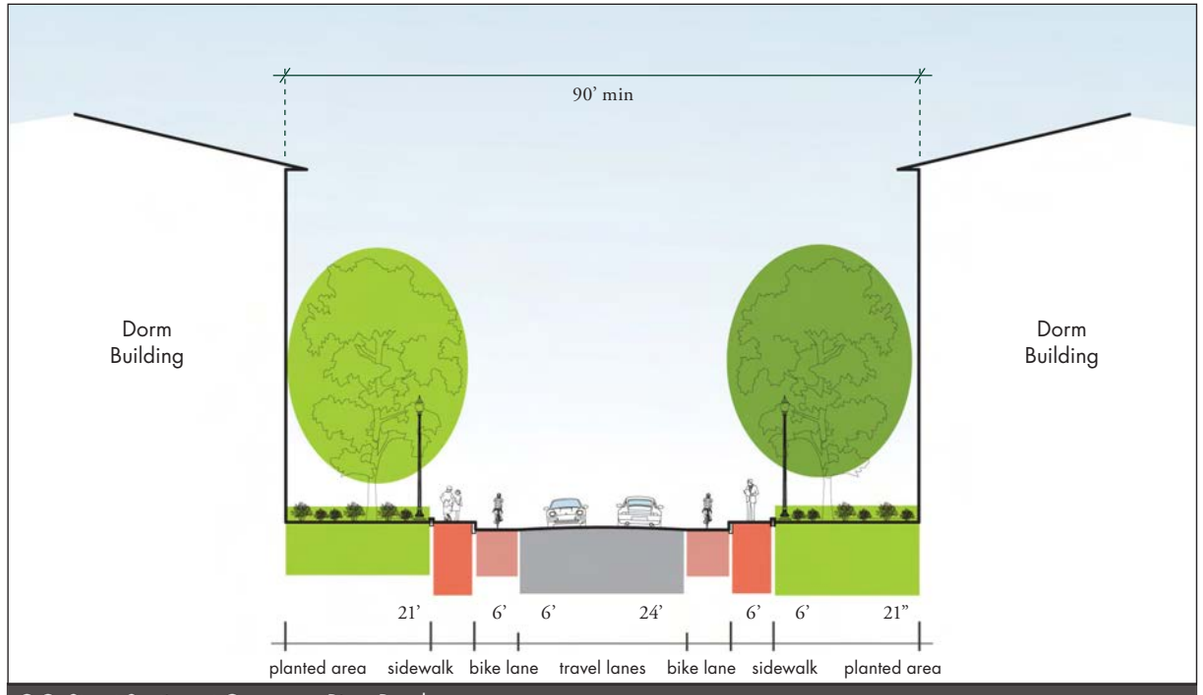


B-B Street Section at Mason Boulevard

Street Sections (cont.)

Mason Boulevard (B-B):
The reconfigured and realigned Mason Boulevard, between University Drive and Patriot Circle, has now two 12' travel lanes (for a total of 24') in each direction, with a 8'-wide planted median and flanked by 6'-wide bike lanes on each side. Travel and bike lanes are separated from the 8'-wide sidewalks by a 8'-wide planted bed lined with trees on both sides of the boulevard. New pedestrian crossings will slow traffic and differentiate the boulevard from the big suburban arteries nearby. A 3'-wide planter separates the west sidewalk from the larger lawn area at Mason Park; the east sidewalk instead is separated from the proposed new buildings by a 6'-wide planted area.

Occoquan River Road (C-C):
The reconfigured Occoquan River Road is now 24' wide (one 12' lane in each direction); and sits in the center between the two proposed new dorm buildings, which are located at least 90' apart (to provide a more woodland feel). Travel lanes are flanked by 6'-wide bike lanes on each side; and 6'-wide sidewalks are located on both sides of the main road. Generous planted yards separate the sidewalks from the dorm buildings on both sides; trees in the yard areas in front of the dorms are random sized forest trees.

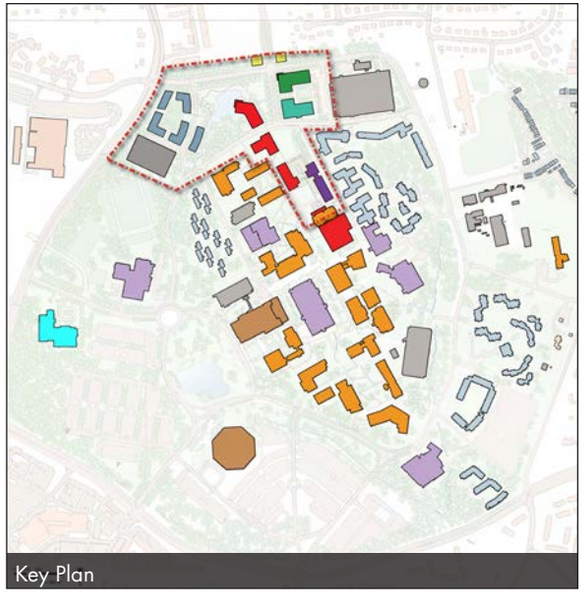


C-C Street Section at Occoquan River Road

8. Land Use Guidelines

The Master Plan for the North Sector establishes specific uses within the project area.
The following new uses are proposed, in addition to existing ones:

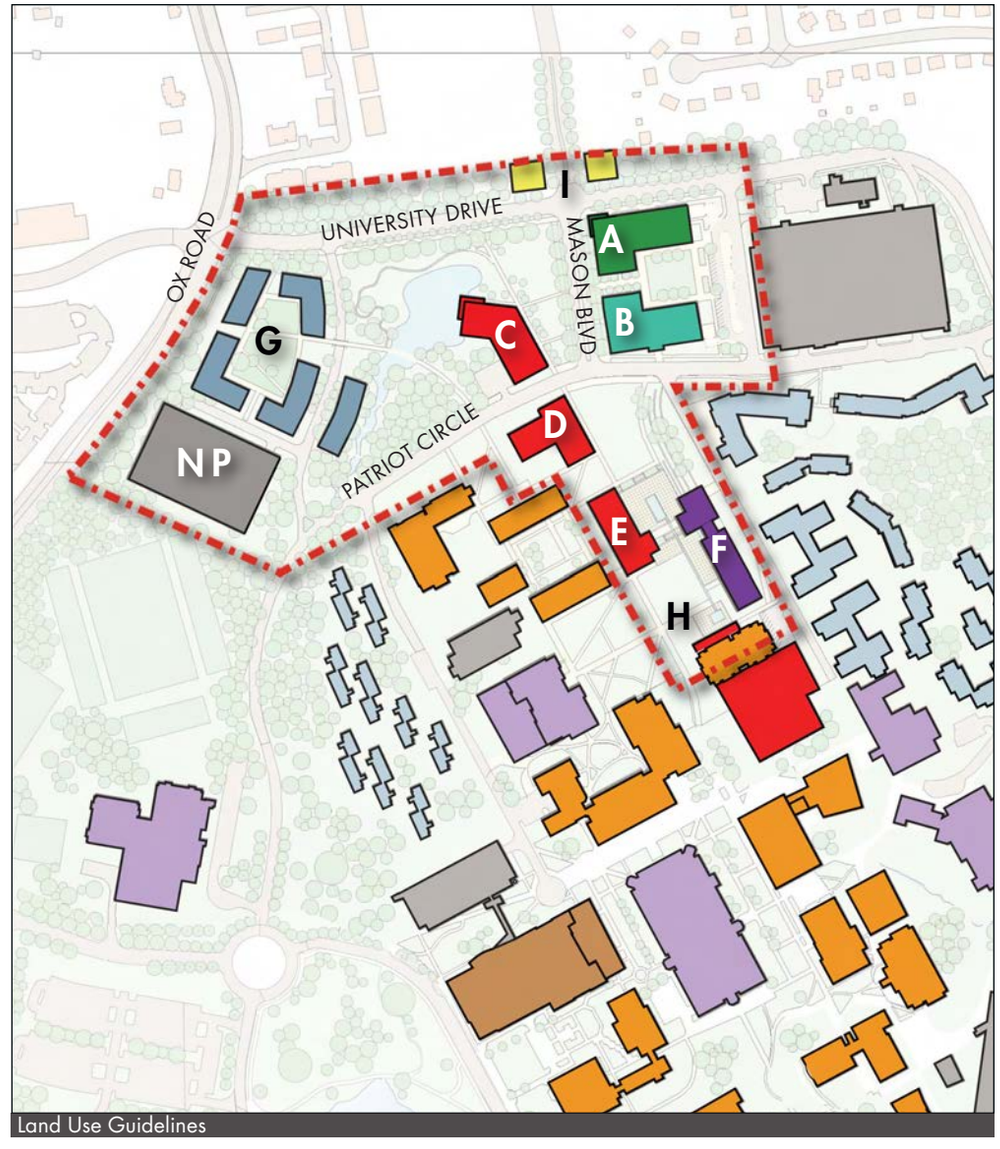
- 1,423,000 GSF SF (4 & 5 stories primarely)
- 1200 beds in a residential quad (Housing 9)
- 800 car garage at 5 levels
- Administration in prominent location
- College of Health and Human Services (Academic 7)
- Living-Learning facility on “The Quad”
- Potential for “College corner” retail at University Drive


Key Plan

A - Administration Bldg - 140,000 gsf
B - Special Use Bldg - 145,000 gsf
C - Academic 7 Bldg - 130,000 gsf
D - Academic Bldg - 86,000 gsf
E - Academic Bldg - 80,000 gsf
F - Living-Learning Facility - 125,000 gsf
G - Housing 9 - 320,000 gsf
H - Library Entrance Addition -3,000 gsf
I - Retail - 12,000 gsf
NP - Parking Garage - 382,000 gsf

Total: 1,423,000 GSF

- Hotel
- Administrative - New
- Special Use (Acad/Admin) - New
- Academic - New
- Academic - Existing
- Living-Learning - New
- Residential - New
- Residential - Existing
- Student Services - Existing
- Retail - New
- Service/Parking - New (NP)
- Service/parking - Existing



Land Use Guidelines

9. Retail Guidelines

Retail will be strategically placed for the retail's success and the enhancement of the campus image.

All retail design in the North Sector Master Plan will be subject to individual project review.

Preferred Location (Blue lines on map)

- New retail locations at intersection of University Drive & Mason Blvd
- Phase 1 buildings: along University Drive and around new Mason Plaza
- New Living-learning building: along Chesapeake Lane

Streetscape should be layered with:

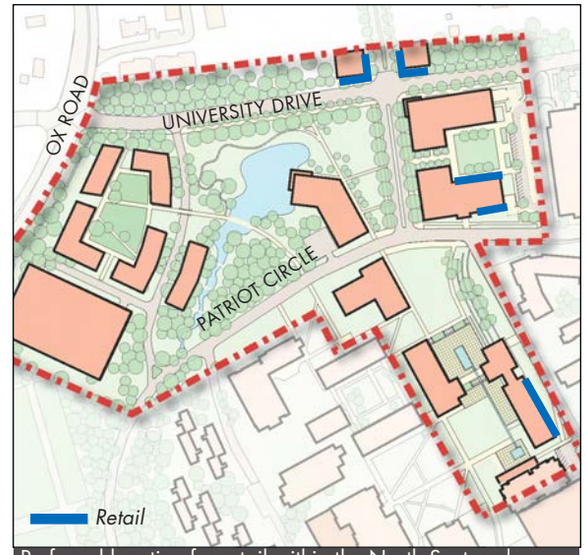
- On-street parking
- Street trees
- Amenity zone for cafe seating (approx. 10')
- Pedestrian zone/open walkway
- Retail expansion zone
- Lighting, awnings, and signage

Retail architecture to have:

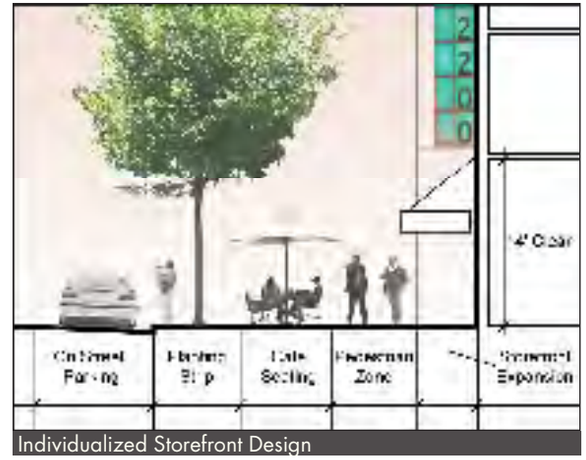
- Minimum 75% glazing required for retail storefronts.
- 14' clear interior heights
- Minimum of 20' storefront extension from corner.
- Diverse and individualized storefronts with varied materials, signage, lighting, and awnings.
- Maximum 4' projection into R.O.W
- Low E or transparent glass; must allow 20' visibility into retail space

Precedent: Layered Retail Street

Precedent: Retail Street Section



Preferred location for retail within the North Sector plan

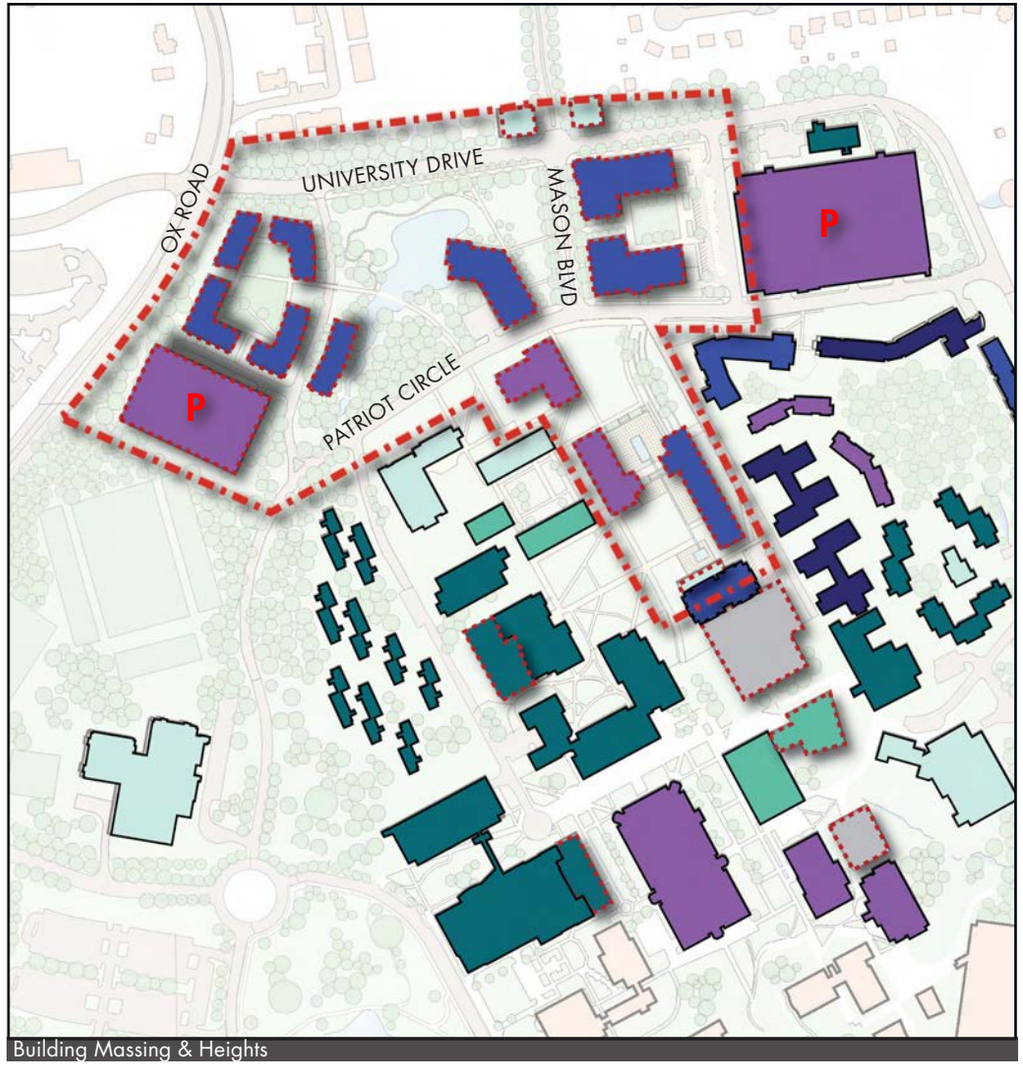


Individualized Storefront Design

10. Building Massing & Heights

The North Sector building heights are consistent with the heights of the more recent campus buildings. Special architectural features may exceed the general building height when used to emphasize a special place or corner.

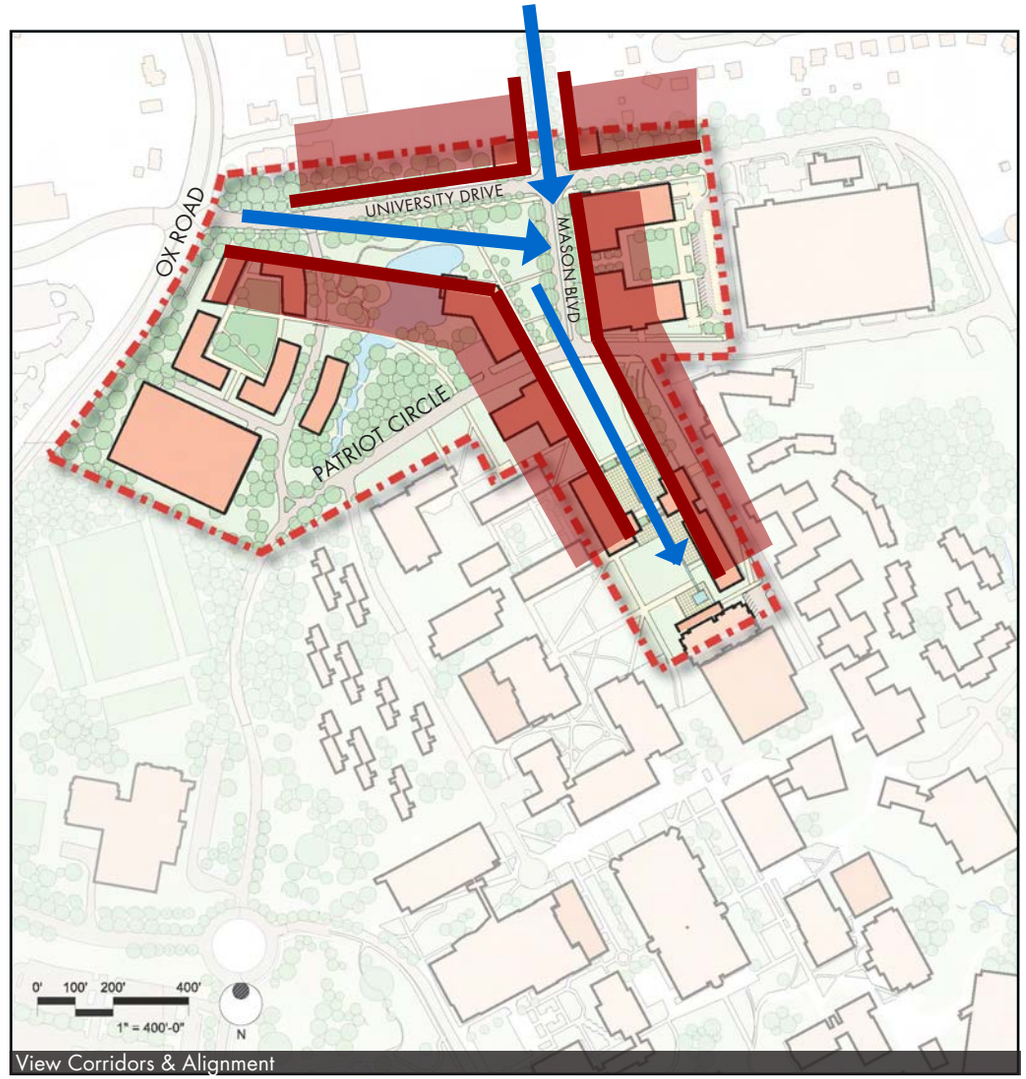
- Buildings are generally 5-6 stories;
- The corner feature on the Phase 1 Administration building should be tall enough to make an impression from the North Gate and University Drive entrance;
- Building setbacks at upper floors are encouraged where appropriate, to decrease the apparent building mass.



Building Massing & Heights

11. View Corridors & Alignment

- Creates a spatial connection through open spaces between Route 123/Ox Road, University Drive, George Mason Boulevard (City of Fairfax) and the campus core;
- Provides framework for future additions and modifications to campus core;
- Highlights views of open spaces and buildings upon initial entry to campus;
- Re-direct views towards new Administration Building and campus core to the south.



View Corridors & Alignment

12. Architectural Expression & Landmarks

The plan encourages design excellence throughout the North Sector area and establishes building sites reserved for signature architecture and campus landmarks, as well as locations for architectural articulation, embellishments, and vertical elements such as towers and protruding bays at important intersections and gateways to the site.

Signature Architectural Sites designate locations where the highest level of design excellence shall be used to enhance the North Sector. A broader and more flexible material palette as well as an increased level of transparency throughout the building's facade are both permitted and encouraged on these sites.

Architecturally Significant Facades designate facades that are the visually and physically prominent "faces" and "edges" of the plan and require the highest level of design excellence and materials. These facades present opportunities for innovative use of materials, articulation, flexibility in material choice, and increased transparency at the base of the facade.

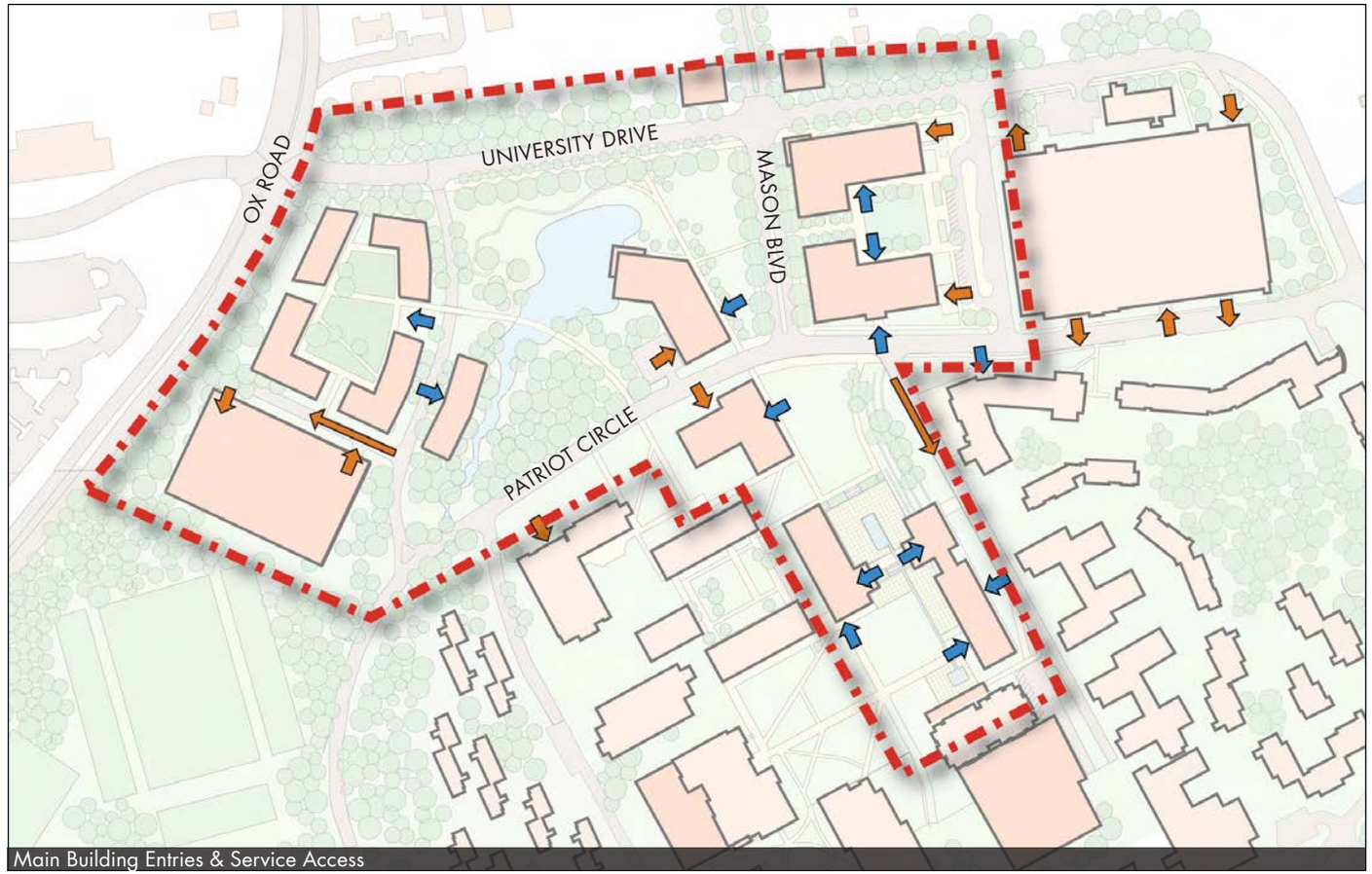
Architectural Features designate locations where specific massing and material features of the architecture will embellish the plan. Landmark locations designate sites for special features, places, fountains, public art, etc.

Architectural Expression & Landmarks

- Signature Architectural Building
- Architecturally Significant Facade
- Architectural Feature (tower,gateways,etc. May exceed height by an addtional 10')
- Landscape Buffer
- Special Feature or Landmark Location

13. Main Building Entries & Service Access

- Service areas and access should not interfere with major views and be properly screened to be consinstent with building architectural character
- Where feasible, service entrances should be located away from primary building facades and accessed from secondary or tertiary streets
- Building main entries should clearly face new open spaces, promoting activity for major "places"
- Secondary building entrances are encouraged to provide alternative access from highly travelled pathways



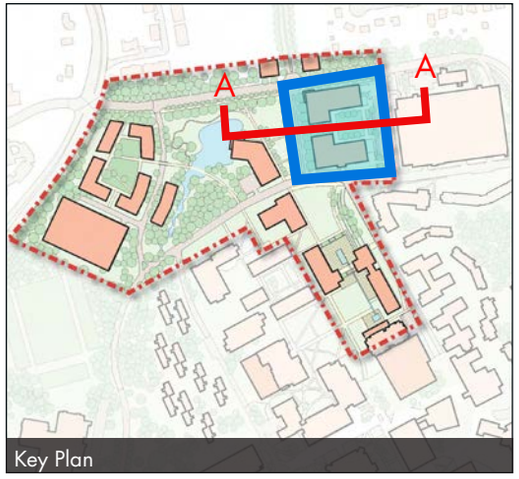
Main Building Entries & Service Access

Main Building Entries

Service Entries

14.1 Key Places & Public Realm: Phase 1 & Adminstration Building

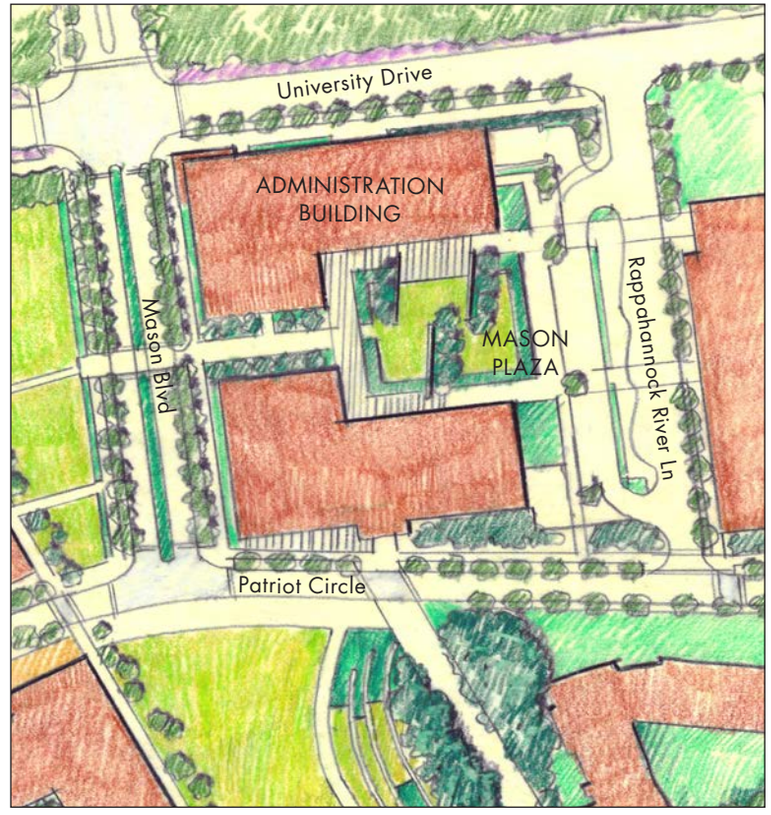
The Phase 1 site plan anticipates the future buildout of the two building cluster by including the central plaza in the first phase of development. This plaza is seen as an important gathering place for visitors, students, faculty and staff due to its adjacency to the new PD III-Rappahannock River Parking Deck and the new bus dropoff area. Pathways are oriented to connect to important campus amenities such as the new entrance Mason Park and Chesapeake Lane while also providing easy through-access to the bus station and parking garage. Campus oriented retail uses are proposed on the central plaza to enliven its use throughout the day.

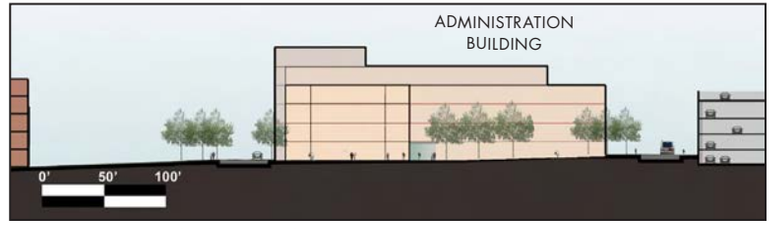


Aerial View of Administration Building

Courtyard Precedent

Courtyard Precedent



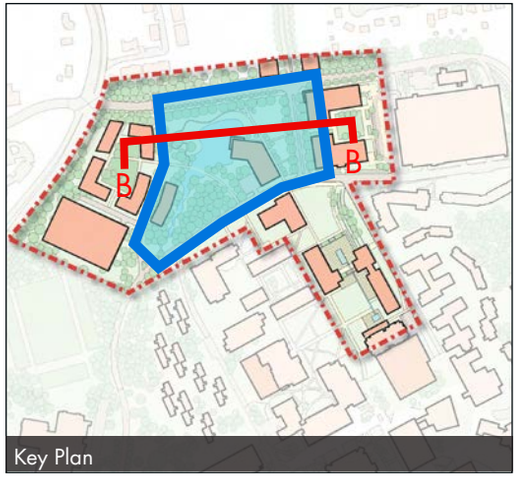


Plan (top); Section looking North A-A

14.2 Key Places & Public Realm: North Entrance & Mason Park

The North Entrance introduces the campus through a tree-lined boulevard with a lushly planted ground cover of native and ornamental species. A view corridor opens off of the entry, offering visitors a glimpse into the campus and the signature buildings of the North Sector. Mason Park extends to the restored West Rabbit Branch stream corridor where a pond is situated at the head of the stream. The pond and associated flowering wetland plants provide stunning entrance views. A wetland botanic garden diplays seasonal color year around and provides an outdoor educational environment.

A open park-like campus lawn allows views to the pond, the new academic buidling and core campus. Bridges across the pond and restored stream, weirs with small falls, and saved and replanted woodlands provide bucolic walks between the residential dormitories and the rest of the campus. Enhanced woodland plantings of flowering understory trees and shrubs along University drive, along with improved sidewalks, create a memorable entrance experience.

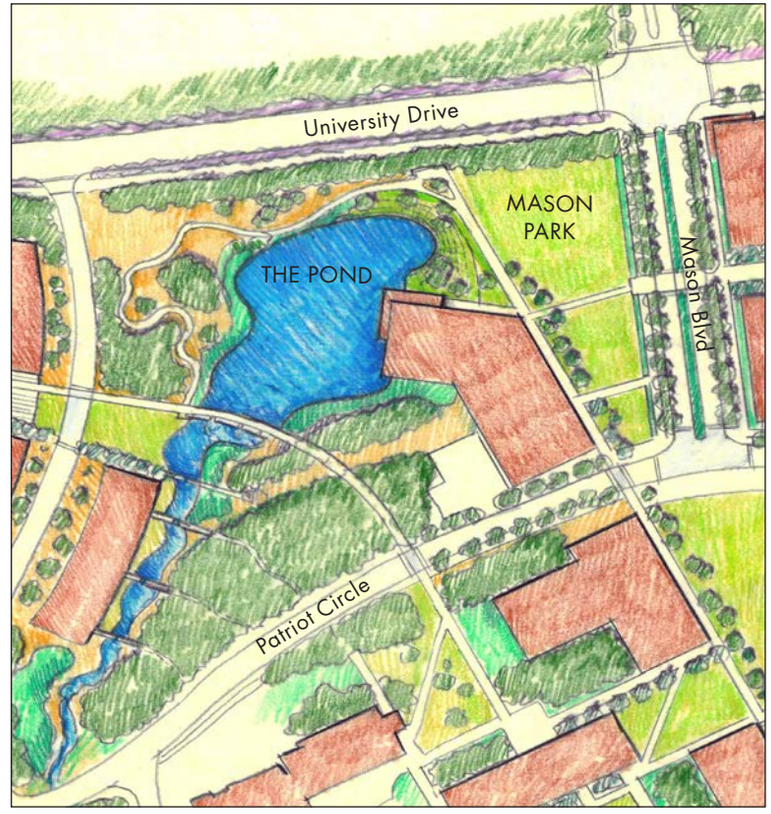


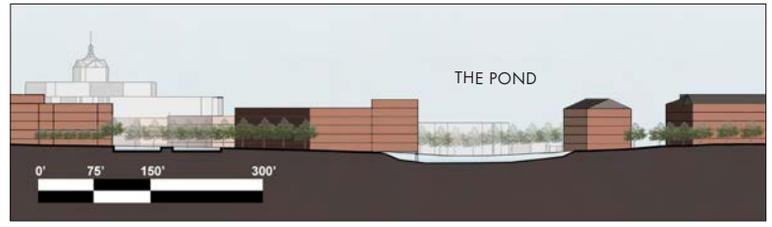
Key Plan


Aerial View of Mason Park


Stream Daylighting Precedent


Mason Park Precedent

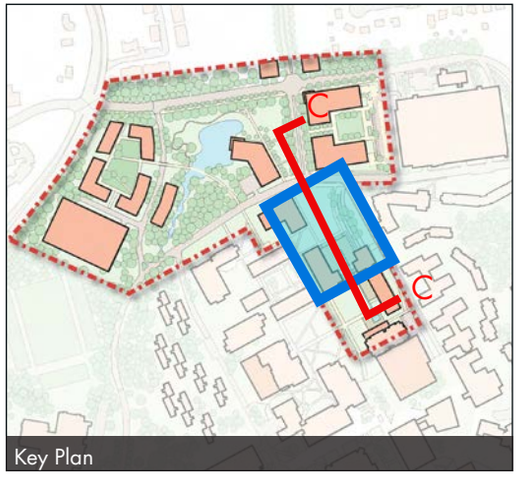




Plan (top); Section looking South B-B

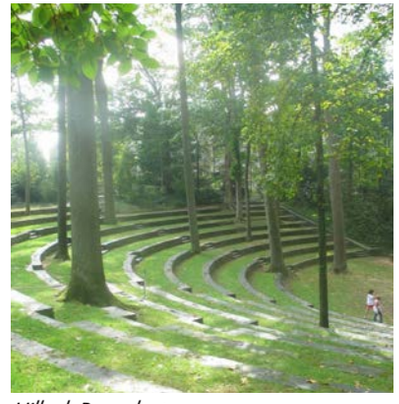
14.3 Key Places & Public Realm: Hillock & Front Lawn

The newly redesigned Hillock area, including the new Front Lawn, provides a new gathering space at the transition between the North Sector and the existing campus core. The Hillock is at the highpoint of the campus and its design evokes the geology of the underlying granite ridgeline. Benches and seat walls in these areas should be of granite to support the "geology" theme. A grove of upland trees on the Hillock helps to identify it as a significant campus landmark and allows a shaded prospect from which to view the front lawn and entry area. The Front Lawn provides an informal gathering place suitable for chance meetings, impromptu student recreation or larger gatherings.

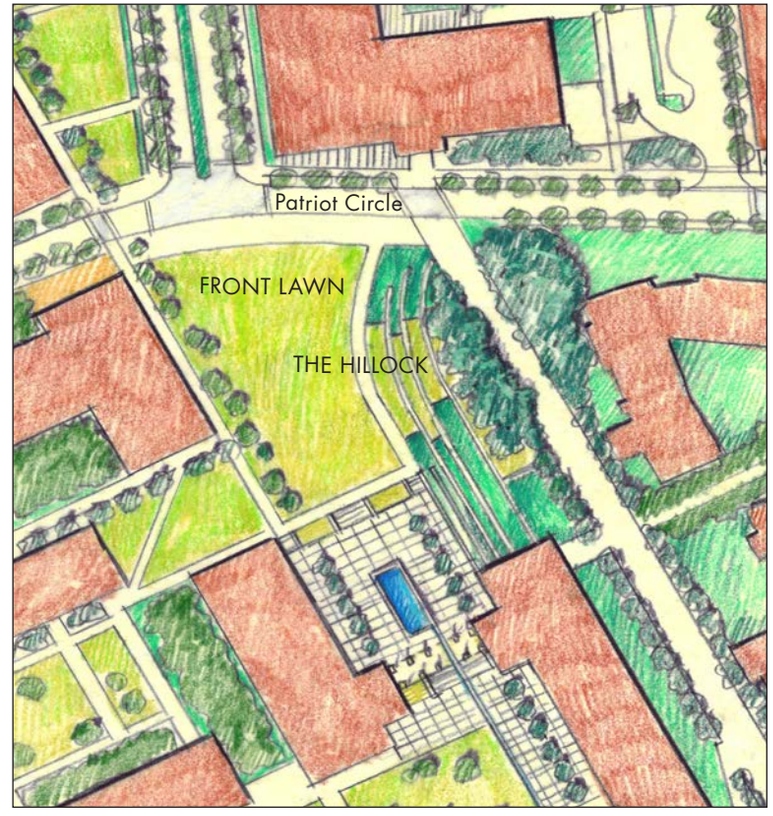


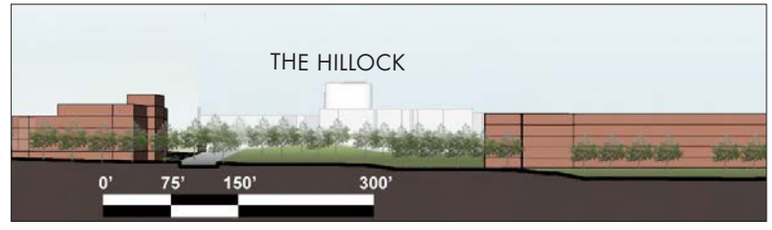
Aerial View of Hillock and Front Lawn

Front Lawn Precedent



Hillock Precedent



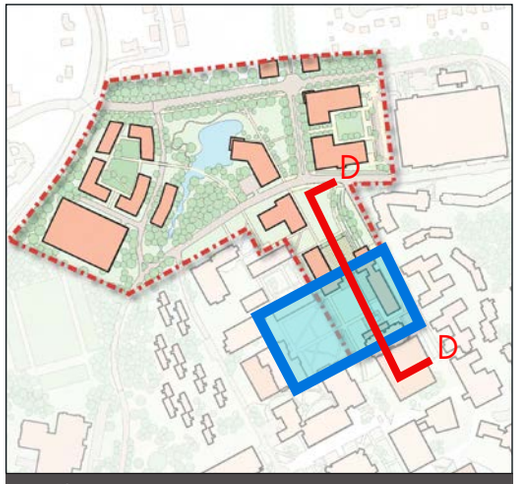


Plan (top); Section looking East C-C

14.4 Key Places & Public Realm: The Quad

The newly redesigned Quad is located between new academic and living-learning buildings and is terminated by the facade addition to the existing library stack buidling. The Quad also serves to bridge between these new campus additions and the academic buildings of the existing campus. Providing a more formal space flanked by paved plazas with water feautures, the Quad provides a coherent place to link the surrounding buildings.

Next to the front Lawn is a sunken plaza with a reflecting pool that directs views to the library and Quad beyond. Steps and a water rill flowing from the reflecting pool lead down to the Quad; an open campus lawn with scattered specimen trees. The library and other large academic buildings frame the Quad and provide the open yet contained space of the classic campus lawn. The south edge of the Quad has a series of rain gardens and perennial beds that provide a flowering backdrop to the lawn.

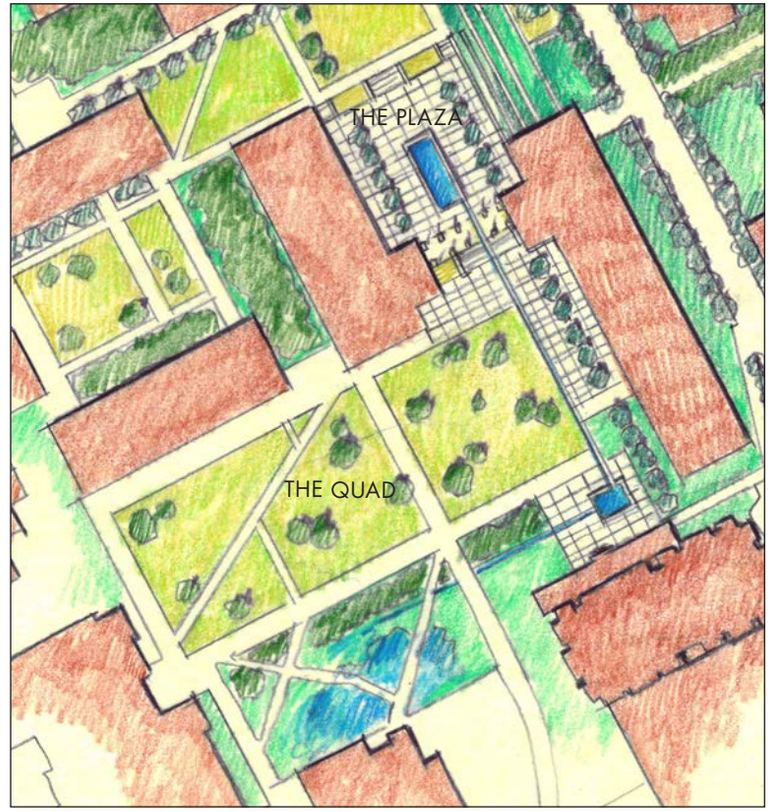


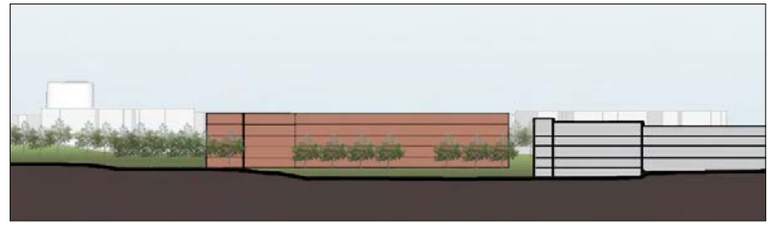
Key Plan


Water Feature Precedent


Water Feature Precedent


Quad Precedent




Plan (top); Section looking East D-D

Landscape Design Guidelines & Campus Character Zones

The North Sector guidelines, and in particular the landscape guidelines, also rely on the concept of character zones. Character zones are one way to group similar-appearing parts of campus together by their architectural and landscape architectural styles and uses. The rationale is that areas of campus with similar characters would utilize similar materials, thereby reinforcing the existing character.

The six character zones proposed for this project are: the Administrative Zone, Academic Zone, Residential Zone, Natural Zones (forested riparian corridors and buffer), and Support Zone (parking, hotel, athletic and entertainment facilities, general support facilities). Where applicable, plantings, furniture and materials are selected that best fit each zone.

Administrative Zone

Academic Zone

Residential Zone

Support Zone

Natural Zone - Forested Riparian Corridors

Natural Zone - Forested Buffer

Campus Character Zones

15. Landscape Design Guidelines: Planting Strategies

General Planting Guidelines
Planting design is fundenmatal to creating meaniful and sustainable sites on the campus.

A. Native Plantings. A majority of all new plants will be native or cultivars of native plants. The remainder of the other new plants will be non-invasive exotics. Native plants are adapted to the local environment and are used to provide wildlife habitat, minimize or eliminate chemical fertilizers and pesticides and affirm a sense of place. In addition, native plants are adapted to the local climate and when specified appropriately should require little or no watering beyond the initial establishment after planting.

Additionally, native plants contribute to habitat creation and general environmental sustainability. They also provide an educational opportunity for classes oriented to the environment or sustainability. No more than 10% of the plants should be non-invasive, non-native plants that are hardy and drought tolerant and suitable for specific site conditions.

B. Organic and Fertilization and Low Toxicity Maintenance. Plant fertilizers and

soil amendments will be specified as organic. Landscape maintenance protocols will stipulate integrated pest management practices instead of chemical insecticides wherever possible.

C. Minimize Lawn. Lawn is often treated with pesticides and chemicals and requires irrigation for proper maintenance. It provides minimal wildlife habitat and provides minimal stormwater infiltration. For these reasons, lawn will be used only as necessary for public gathering spaces and recreation spaces not as a general ground cover. Favoring other groundcovers instead of lawns on streets and park areas will allow a greater affirmation of place.

D. Plant Bed Integrity. Thick plantings of low shrubs with the possible addition of small

protective fences will encourage students to stay on sidewalks and not cut across plant beds, destroying lawn areas.

E. Irrigation. Irrigation for the plantings should be temporary and used only to "water in" the plants in the one or two years of establishment after planting. Irrigation should come from rainwater cisterns or storm ponds. Good site selection and the use of drought tolerant native and locally adapated non-native plants is essential to minimizing irrigation needs

F. Planted Form. Use varying planting strategies to help organize outdoor spaces and provide a sense of place. Vary the planting strategies in different use zones as appropriate; formalized

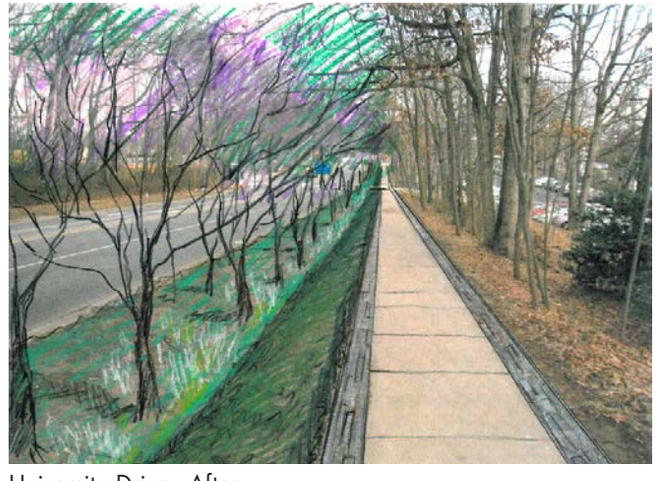
plantings in heavily used plazas, less formal in campus lawn areas, and naturalized planting in restored areas.

Planting Guidelines & Planting Strategy Example

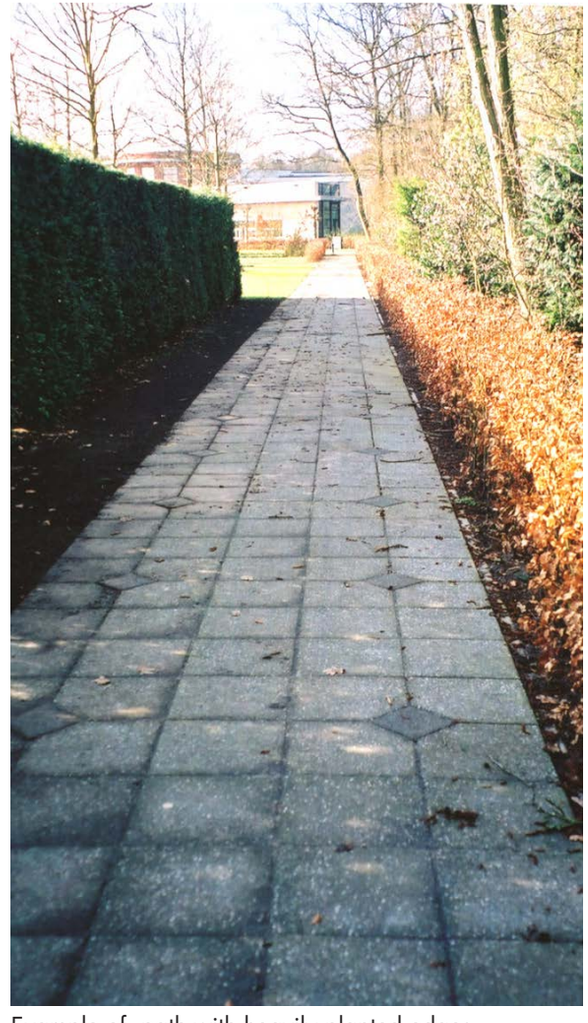
This is an example of replacing lawn as a groundcover with native trees and groundcovers. Notice in the photograph of the existing conditions on University Drive that the sidewalk is too narrow and students walk on the lawn area and wooded edge creating an eroded and muddy mess. Random street crossings across the lawn exacerbate the problem. The lawn is virtually worn away.

The after image shows the sidewalk widened with paver border strips sized to accommodate heavy foot traffic (see material section). The lawn area is replanted with a hedge, native groundcovers, and understory blooming trees (Redbud and Dogwood). A small fence inside the hedge discourages indiscriminate road crossing and foot traffic in the plant bed. University Drive becomes a well maintained verdant corridor of flowering woodland plantings welcoming the visitor.

University Drive - Before



University Drive - After



Example of path with heavily planted edges

Landscape Design for Different Use Zones

The campus should have aesthetic continuity with regard to style of the pavings, materials and street furniture, but the landscape design should vary with landscape uses and types. The following describes the design approach for some of those landscapes.

A. Administration Courtyards

Special courtyards surrounded by buildings, such as the Phase 1 Administration courtyard, can be important gathering spaces for impromptu outdoor meetings, contemplation, and outdoor dining. They also serve a critical role as viewing gardens for the windows in the surrounding buildings that face on to them. Therefore, the design of these spaces should address multiple needs for intimate sitting areas, larger gathering space, and a well designed garden with beneficial views from the buildings nearby.

The Administration Courtyard has a garden based on the striated geologic formations of the underlying bedrock of the ridge in that area. This design provides an interesting composition when seen from above as well as a diversity of gathering spaces.

B. Residential Dormitory Landscape

Dormitory landscapes get a lot of rough use by the density of students living in them, therefore they should be built with welcoming yet sturdy materials, simple designs, and tough plants. The landscapes near the dorms should always have easily accessible spaces for large gatherings and informal outdoor recreation. Interior quads should be mostly open with lawn or paving to allow for such uses. Trees and ground covers should be situated toward the outer edges of the quad, near the buildings allowing for open lawn in the center.

The landscape at the proposed North Sector Dormitories has an open interior quad with lawn and a paved cafe terrace. The exterior has existing forest and should be maintained and planted in a naturalized manner so that the dorms appear "nestled in the woods". Plantings around the exterior paths should have dense ground covers to inhibit the students from walking or biking off the paths and eroding the soil.

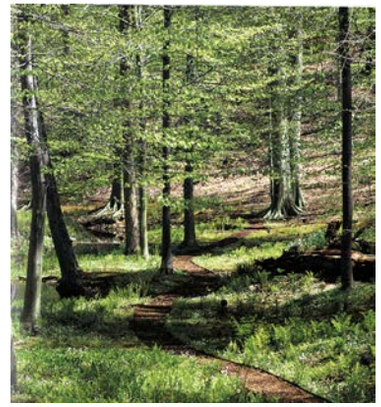
Courtyard (Rockefeller University)

Dormitory Quad (Rockefeller University)


General Campus Lawn (Kenyon University)


General Campus Lawn (U.Va.)


Educational Landscape (Interpretive Garden, UVA Dell)


Natural area

C. General Campus

The general open landscape around the academic and student services buildings should have the classic collegiate campus form of open lawn and informally arranged specimen trees. This allows generous areas for student activities and long and open views for safety and to unify the campus with a continuity of large spaces. The trees provide cooling shade and can structure views. Trunks and canopies planted in masses and in linear geometries, can additionally act as porous outdoor walls and ceilings contributing to natural flows of movement on campus. Dense masses of low shrubs and groundcovers can be used in interstitial spaces between large quads and open lawns to direct movement, hold pathway corridors, visual interest and provide structure around the open campus areas.

D. Botanic Garden and Educational Landscape

The landscape of a campus can be part of the curriculum and certain areas, such as the wetlands around the proposed pond, can be planted as a themed botanic garden or arboretum with interpretive signage. Small informal paths can wind through it providing a restful contrast to the busy activity of general campus. Shrubs and groundcovers should be low and dwarf forms to maintain openness and safety. Shrub plantings should generally be in large cohesive masses for easy maintenance and plant identification.

E. Natural Areas

All native plants in the preserved natural areas should be retained and the invasive exotic plants removed. Restored natural areas such as near the restored stream or dormitories should be planted with native plants in a random, "naturalized manner" with the plantings thick enough to inhibit students from cutting through and forming new paths. Most natural areas on campus should be the native forest, but some areas could be planted in meadow where open views or contrasting texture are desired. Well located natural stone boulders and curbs on paths can also help to keep pedestrians and bicyclists on paths.

16. Landscape Design Guidelines: Planting Palette

Introduction

As described in the North Sector Landscape Master Plan, the planting scheme is divided into 8 zones or types defined by use, site conditions and relative soil moisture. For example, the pond and lowland forest areas by the restored stream have a planting palette appropriate for low wet areas. The proposed wetland botanic garden in this area would act as both an entrance display and educational resource to the campus. Upland areas around campus lawns and streets have plant palettes more appropriate for the drier and more exposed conditions and they are selected to provide clear and open site lines for safety and to endure the challenging conditions of the busy core campus. Street trees will be in plant beds or when in pavement, in cobbles and Silva cells.

The Hillock and the Phase 1 Courtyard are at the high point of the campus and their designs evoke the geology of the underlying granite ridge line. The plant palette supports this theme with plants that are typically found in xeric upland habitats of the Virginia Piedmont.

The following plant palettes list describe each zone and list plants that can be typically used for that particular zone area.

North Sector Planting Zones

ENTRANCE ROAD PLANT PALETTE

Cornus florida
Dogwood

Cercis canadensis
Redbud

Amelanchier arborea
Serviceberry

Rhus aromatica
Dwarf Fragrant Sumac

Cercis canadensis
Redbud

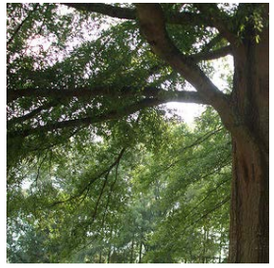
Amelanchier arborea
Serviceberry

University Drive from Ox Road to the intersection with George Mason Boulevard is partially wooded on both sides with lawn strips immediately adjacent to the road. Though there is a parking lot on a portion of the south side of the street, a narrow strip of existing forest between it and the road provides a forested impression. The corridor should remain forested with the lawn on either side replaced with thick beds of flowering groundcovers and low understory trees that will not interfere with existing forest canopy. The seasonal color will reinforce the woodland quality and provide a beautiful and memorable entrance experience .

Currently the lawn areas separating the street and sidewalk are in bad shape and virtually bare in some places from heavy foot traffic. To keep pedestrians on the walkways, the plant beds can be slightly raised and heavily planted. Low fences or curbing are other possible ways to keep pedestrians on the sidewalk. The sidewalks should be widened to assure that they can handles the handle the foot traffic.

Botanical Name	Common Name
Understory Trees	
Amelanchier arborea	Serviceberry
Cercis canadensis	Redbud
Cornus florida	Dogwood
Shrubs , Groundcovers, and Bulbs	
Aster divaricatus	Whitewood Aster
Carex pennsylvanica	Pennsylvania Sedge
Crocus spp.	Crocus
Galanthus nivalis	Common Snowdrop
Geranium maculatum	Wild Geranium
Ilex glabra	Inkberry
Itea virginica	Virginia Sweetspire
Narcisuss sp.	Daffodil
Pachysandra procumbens	Allegheny Pachysandra
Rhus aromatica 'Gro-Low'	Dwarf Fragrant Sumac
Sisyrinchium angustifolium	Blue-Eyed Grass

STREET PLANT PALETTE



Quercus phellos
Willow Oak

Ulmus americana
American Elm

Fraxinus americana
White Ash

Platanus x acerifolia
London Plane Tree

Streets in the North Sectoir are typically formalized throughways that are planted with distinct allees of trees. Most of the streets on the plan are vehicular routes with sidewalks on the side separated by planted verges. Also included is the Student Walk which is primarily a pedestrian route, but serves as a service lane at certain hours.

Street trees should be planted along the streets at 20' to 30' intervals in planting strips or where there is a more foot traffic in cobbled paved plant beds. Beds of thickly planted low shrubs or groundcovers should line many of the sidewalks on both sides (under the street trees) to reinforce the geometry and sight lines of the walk, inhibit walking off the path, and frame the general campus spaces beyond.

Botanical Name	Common Name
Trees	
Acer rubrum	Red Maple
Fraxinus pennsylvanica 'Patmore'	Seedless Green Ash
Fraxinus americana	White Ash
Liquidambar styraciflua 'Cherokee	Sweetgum
Platanus x acerfolia 'Bloodgood' and 'Columbia'	London Plane Tree
Quercus bicolor	Swamp White Oak
Quercus phellos	Willow Oak
Quercus rubra	Northern Red Oak
Ulmus americana 'Valley Forge'	Valley Forge American Elm
Shrubs and Groundcovers	
Clethra alnifolia 'Hummingbird'	Dwarf Clethra
Cornus sericea 'Kelseyi'	Kelseyi Red Twig Dogwood
Ilex glabra	Inkberry
Itea virginica	Virginia Sweetspire (dwarf varieties)
Liriope muscari 'Big Blue'	*Blue Lily Turf*
Native grasses spp.	*Native grasses*
Pachysandra terminalis	Japanese Pachysandra
Sisyrinchium angustifolium	Blue-eyed Grass

GENERAL CAMPUS PLANT PALETTE

Liriodendron tulipifera
Tulip Poplar

Oxydendron arboreum
Sourwood

Quercus alba
White Oak

Ostrya virginiana
Hophornbeam

Acer saccharum
Sugar Maple

Quercus phellos
Willow Oak

The general campus is the quintessential collegiate landscape with large shade trees and lawn below and is rightfully the primary open space in the academic and student services areas. It should be open and generally informal with enough space between trees to allow broad views and wide canopy spread of native specimen trees.

Certain trees that grow better in groves such as the Tulip Poplar and Sourwood could be planted in small copses in the lawn.

Botanical Name	Common Name
Trees	
Acer saccharum	Sugar Maple
Aesculus glabra	Ohio Buckeye
Fraxinus americana	White Ash
Liriodendron tulipifera	Tulip Poplar
Magnolia grandiflora	Southern Magnolia
Ostrya virginiana	American Hornbeam
Oxydendron arboreum	Sourwood
Quercus alba	White Oak
Quercus phellos	Willow Oak
Quercus rubra	Northern Red Oak
Quercus velutina	Black Oak
Tilia americana	Basswood
Shrubs (only in interstitial or edge areas)	
Hydrangea quercifolia	Oakleaf Hydrangea
Ilex glabra	Inkberry
Itea virginica	Virginia Sweetspire
Jasminum nudiflorum	*Winter Jasmine*
Prunus laurocerasus 'Otto Luyken'	*Otto Luyken Holly*
Viburnum dentatum	*Arrowwood*
Viburnum trilobum	American Cranberrybush

COURTYARDS & PLAZA PLANT PALETTE


Panicum virgatum
Switch Grass


Quercus prinus
Chestnut Oak


Pinus strobus
Eastern White Pine


Fothergilla gardenii 'Mt. Airy'
Dwarf Fothergilla


Ilex verticillata
Winterberry


Prunus serotina
Black Cherry

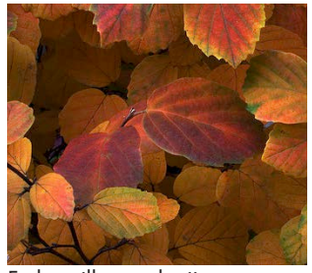
There are special gathering places in North Sector such as the Phase One Administration Courtyard and the plazas adjacent to the Front Lawn and the Quad. Their plant palettes are based on the use and quality of those particular places. The Phase One Administration Courtyard has the theme of an upland "geology" garden near the highpoint on the campus and its plantings should reflect a higher and more dry environment. Some of the other courtyards and plazas could relate more to the open campus lawns nearby.

Botanical Name	Common Name
Trees	
Amelanchier arborea	Serviceberry
Carpinus betulus fastigiata	Upright European Hornbeam
Ostrya virginiana	American Hornbeam
Pinus strobus	Eastern White Pine
Prunus serotina	Black Cherry
Quercus alba	White Oak
Quercus prinus	Chestnut Oak
Quercus rubra	Northern Red Oak
Quercus velutina	Black Oak
Ulmus americana 'Valley Forge'	Valley Forge American Elm
Shrubs	
Clethra alnifolia	Summersweet
Fothergilla gardenii 'Mt. Airy'	Dwarf Fothergilla
Hydrangea quercifolia	Oakleaf Hydrangea
Itea virginica	Virginia Sweetspire
Ilex glabra	Inkberry
Myrica cerifera	Southern Bayberry
Myrica pensylvanica	Northern Bayberry
Viburnum dentatum	Arrowwood Dentatum

Botanical Name	Common Name
Grasses	
Equisetum spp.	Horsetail
Eragrostis spectabilis	Purple Lovegrass
Panicum virgatum	Switch Grass
Schizachyrium scoparium	Little Bluestem
Perennials	
Asclepias tuberosa	Butterfly Weed
Aster cordifolius	Heart-Leaved Aster
Coreopsis verticillata	Threadleaf Coreopsis
Delphinium tricorne	Dwarf Delphinium
Echinacea purpureum	Purple Coneflower
Heuchera spp.	Coral Bells
Rudbeckia spp.	Black Eyed Susan
Sedum spp.	Sedum
Tiarella cordifolia	Foamflower

THE HILLOCK PLANT PALETTE

Aronia arbutifolia
Red Chokeberry



Fothergilla gardenii
Dwarf Fothergilla

Hypericum frondosum
Golden St. Johnswort

Rudbeckia sp.
Blackeyed Susan

Sporobolus heterolepis
Prairie Dropseed

Viburnum prunifolium
Blackhaw Viburnum

The Hillock is the high point of the core campus. It is to be planted with a distinct palette of xeric native trees and groundcovers typical of high and dry areas in the piedmont. The plant palette will help identify this area as a unique natural feature on the campus.

Botanical Name	Common Name
Trees	
Acer saccharum	Sugar Maple
Cornus florida	Dogwood
Juniperus virginiana	Eastern Red Cedar
Quercus coccinea	Scarlet Oak
Quercus prinus	Chestnut Oak
Rhus copallina	Winged Sumac
Shrubs	
Aronia arbutifolia	Red Chokeberry
Hypericum frondosum	Golden St. Johnswort
Fothergilla gardenii	Dwarf Fothergilla
Hamamelis virginiana	Witch Hazel
Rhus aromatica 'Gro-Low'	Dwarf Fragrant Sumac
Vaccinium corymbosum	Highbush Blueberry
Viburnum prunifolium	Blackhaw Viburnum
Perennials and Groundcovers	
Panicum virgatum	Switch Grass
Rudbeckia spp.	Blackeyed Susan
Sedum sp.	Sedums
Sporobolus heterolepis	Prairie Dropseed
Vaccinum angustifolium	Low-Bush Blueberry
Yarrow Sp.	Yarrow

UPLAND MESIC FOREST PLANT PALETTE

Acer rubrum
Red Maple

Rhododendron periclymenoides
Pixterbloom

Quercus Prinus
Chestnut Oak

Cimifuga racemosa
Black Cohosh

Quercus rubra
Red Oak

Vaccinium corymbosum
Highbush Blueberry

The "mesic" or middle ground forest still exists on much of the campus and is the dominant forest in this part of the central Piedmont. It is characterized by large oaks and hickories and a multi-layered understory that includes dogwood, serviceberry, mountain laurel, blueberry, ferns and wildflowers.

Much of this forest on campus is infested with non-native, invasive plants. The invasive plants should be removed and certain areas of the forest replanted and restored with native plants as shown on the landscape plan.

Shrubs

Botanical Name	Common Name
Hydrangea quercifolia	Oakleaf Hydrangea
Kalmia latifolia	Mountain Laurel
Lindera benzoin	Spice Bush
Rhodendron catawbiense	Catawba Rhododendron
Rhododendron periclymenoides	Pinxterbloom Azalea
Vaccinium corymbosum	Highbush Blueberry

Trees

Botanical Name	Common Name
Acer rubrum	Red Maple
Acer saccharum	Sugar Maple
Amelanchier arborea	Serviceberry
Cercis canadensis	Redbud
Chionanthus virginicus	Fringetree
Cornus florida	Dogwood
Fagus americana	Beech
Liriodendron tulipifera	Tuliptree
Quercus alba	White Oak
Quercus bicolor	Swamp White Oak
Quercus alba	White Oak
Quercus bicolor	Swamp White Oak
Quercus prinus	Chestnut Oak
Quercus phellos	Willow Oak
Quercus rubra	Northern Red Oak
Tilia americana	Basswood

Perennials

Aster divaricatus	Whitewood Aster
Cimifuga racemosa	Black Cohosh
Delphinium tricorne	Dwarf Delphinium
Heuchera spp.	Coral Bells
Tiarella cordifolia	Foamflower

LOWLAND HYDRIC FOREST PLANT PALETTE


Aesculus pavia
Red Buckeye


Magnolia virginica
Sweetbay magnolia


Platanus occidentalis
Sycamore


Lindera benzoin
Spicebush


Asimina triloba
Paw Paw


Hamamelis virginiana
Witch Hazel

The daylighted and restored stream and its nearby flood plain should be replanted as a forested riparian area . The plant palette for this zone is a mix of native plants typical of the hydric conditions in these low forested areas.

Trees

Botanical Name	Common Name
Acer rubrum	Red Maple
Aesculus pavia	Red Buckeye
Amelanchier canadensis	Serviceberry
Asimina triloba	Paw Paw
Betula Nigra	River Birch
Carpinus caroliniana	Hornbeam
Diospyros virginiana	Persimmon
Fagus grandifolia	American Beech
Ilex opaca	American Holly
Ilex verticillata	Winterberry
Juniperus virginiana	Eastern Red Cedar
Liquidambar styraciflua	Sweetgum
Magnolia virginiana	Sweetbay Magnolia
Nyssa sylvatica	Black Gum
Platanus occidentalis	Sycamore
Prunus serotina	Black Cherry

Shrubs

Botanical Name	Common Name
Cornus amomum	Silky Dogwood
Hamamelis virginiana	Witch Hazel
Hydrangea arborescens	*Wild Hydrangea*
Lindera benzoin	*Spicebush*
Myrica cerifera	Southern Waxmyrtle
Viburnum dentatum	Arrowwood
Viburnum nudum 'Winterthur'	Winterthur Viburnum

Perennials and Groundcovers

Chasmanthium latifolia	River Oats
Lobelia cardinalis	Cardinal Flower
Osmuda cinnamomea	Cinnamon Fern
Tiarella cordifolia	Foamflower
Thelypteris novabo-racensis	New York Fern

WETLANDS AND POND PLANT PALETTE

Amelanchier canadensis
Shadblow Serviceberry

Cephalanthus occidentalis
Buttonbush

Cornus sericea
Redtwig Dogwood

Nyssa aquatica
Water Tupelo

Salix spp.
Willow

Ilex verticillata
Winterberry

The plants in this palette are not only for the pond surround, but also various rain gardens distributed around the north sector.

Particularly around the pond, the plants will be part of an educational native and wetland botanic garden and are to be planted in masses that will be easily identified and maintained. The seasonal color and flowers of the botanic garden will substantially enhance the views from the entrance roads and nearby buildings.

Botanical Name	Common Name
Trees	
Acer saccharinum	Silver Maple
Amelanchier canadensis	Shadblow Serviceberry
Betula Nigra	River Birch
Magnolia virginiana	Sweetbay Magnolia
Nyssa aquatica	Water Tupelo
Taxodium distichum	Bald Cypress
Salix spp.	Willow
Shrubs	
Alnus spp.	Alder
Baccharis halimifolia	Eastern Baccharis
Cephalanthus occidentalis	Buttonbush
Clethra alnifolia 'Hummingbird'	Dwarf Sweet pepperbush
Cornus sericea	Red Twig Dogwood
Ilex decidua	Possumhaw
Ilex glabra	Inkberry
Ilex verticillata	Winterberry
Itea virginica	Sweetspire
Leucothoe axillaris	Coastal Doghobble
Myrica cerifera	Wax Myrtle
Rhododendron viscosum	Swamp Azalea
Sambucus canadensis	Elderberry
Viburnum dentatum	Arrowwood viburnum

Botanical Name	Common Name
Perennials	
Aesclepias incarnata	Swamp Milkweed
Aster novi-belgii	New York Aster
Carex sp.	Sedge
Coreopsis spp.	Coreopsis
Eupatorium purpureum 'Little Joe'	Dwarf Joe Pye Weed
Hibiscus coccineus	Swamp Hibiscus
Juncus effusus	Common Rush
Liatris spicata	Blazing Star
Lobelia cardinalis	Cardinal Flower
Water Plants	
Iris hexagona	Dixie Iris
Nymphaea odorata	Fragrant Water Lily
Pontederia cordata	Pickerel Weed
Sagittaria latifolia	Arrowleaf
Saururus cernuus	Lizard's Tail
Grasses and Groundcovers	
Chasmanthium latifolia	River Oats
Sorghastrum nutans	Indian Grass
Panicum virgatum	Switchgrass
Sisyrinchium angustifolium	Blue-eyed Grass
Muhlenbergia capillaris	Muhly grass

17. Site Materials Guidelines

Paving Materials

There are a number of divergent building styles on campus, most are recently built, but they vary in look and materials from one part of the campus to another. The landscape materials palette should be consistent throughout the campus to provide aesthetic continuity to the grounds and help unify the campus. The materials should be of contemporary design to reflect the innovative and progressive nature of academic research ongoing at the university and match the contemporary aesthetic of many of the recent buildings. At the same time the material should be from local sources to support the local economy, for environmental sustainability, and reinforce a regional sense of place.

In general, paving materials should be formed with clean contemporary lines and using local materials such as locally produced light colored concrete, local light grey colored granite pavers or granite colored concrete pavers, and local brick.

A. Sidewalks. The majority of the pathways and sidewalks on the campus are a light colored, beige or grey concrete. There are some plazas in the older campus core that have brick patterns. The light colored concrete should continue to be used as the light ("albedo") tone is good for heat reflectivity, reducing environmental heat island effects, it provides a consistent look throughout the campus, and is relatively inexpensive to build and maintain.

A problem with the concrete walkways is that they are often quite wide to handle the heavy use, but they appear out of human scale and give the impression of monotonous expanses of paving. To reduce the perceived scale, the sidewalks should include borders or gutters along the outer edges of the walkways to reduce perceived width of the walk (see University Drive before image). Borders could also help to keep pedestrians on the walkway and from veering into plant beds

These borders could be of similarly colored concrete pavers or local grey granite cobbles. Where budget does not allow paver borders of contrasting colored concrete (grey), borders delineated by a score joint could be used. Each sidewalk border should be approximately 1/5th the width of the of the total whole sidewalk width. Special landings, intersections and crossings could be paved with the border material.

Sidewalk with extended porous edge

The image to the right (top) shows a similar stretegy of using boarders on sidewalks. In this case it is a gravel edge that effectively inhibits pedestians from walking on the edge and protects the ground and nearby plants from the foot traffic. The gravel edge could also be a good location to gather and infiltrate stormwater runoff.

Granite cobbles

Plaza paving pattern

B. Paths. New path materials, such as crushed stone or decomposed granite paths could be used in lightly traveled and informal natural areas as a pilot project to help maximize pervious surface area on campus.

Crushed stone path

Bicycle path

C. Bike Paths. Unique paved routes for bicycles improve campus safety, reduce the need for on-campus driving, and encourage healthier lifestyles of the campus community. These lanes should be well marked and safely separated from vehicular and pedestrian traffic where possible.

D. Plazas. Plazas and Terraces could be constructed with either granite colored concrete pavers, local granite cobbles, or brick. Brick is a good, environmentally inert material, produced locally and already used on the campus. Its dark color tends to be less heat reflective therefore it should be reserved for plazas that are well shaded.

Grey cobbles pavers could be used as a highlight or border in brick plazas. Light grey "granite colored" concrete pavers in clean contemporary shapes could be used for plaza paving. Certain important plazas, such as at the Phase 1 Administration building, could use grey granite paving in bands to evoke the geology theme. Grey concrete pavers in a running bond brick pattern could be used in the rest of that courtyard as a contrast to the granite.

E. Stairs. Light colored concrete to match the sidewalks is appropriate in most parts of the North Sector. Where budget allows, light grey granite steps could be used in special places such as an important courtyard.

Plaza/courtyard edge

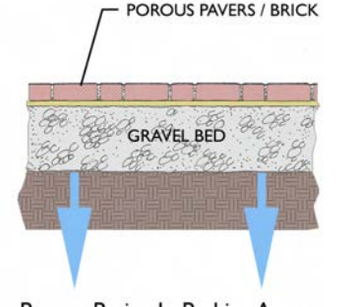
Stairs with granite edge

F. Crosswalks and Traffic Calming. Crosswalks should be paved with granite colored brick or cobble shaped smooth concrete pavers. Crosswalk borders and interstitial areas between crosswalks at intersections are to be paved with large granite cobbles or cobble like granite colored concrete pavers for traffic calming and to provide a finished look to the road. Many of the roads on campus are excessively wide, more like the nearby suburban arteries in Fairfax County than pedestrian friendly roads appropriate to a university campus. Efforts to reduce the perceived wdith and to slow traffic with granite cobble or concrete paver borders or highlights and traffic calming are encouraged. Medians and parking spaces of concrete pavers could also reduce the large expanses of asphalt.

G. Parking Spaces. Consistent with the master plan goals of restoring natural site hydrology, parking spaces using grey colored porous concrete pavers may be introduced in smaller lots on a pilot basis. Granite cobbles or cobble-like concrete pavers in contrasting gray or tan tones can be used for edges and parking space delineators.

Crosswalk

"Ecostone" Porous Paving with Conc. Cobble Surround



Porous Paving In Parking Areas

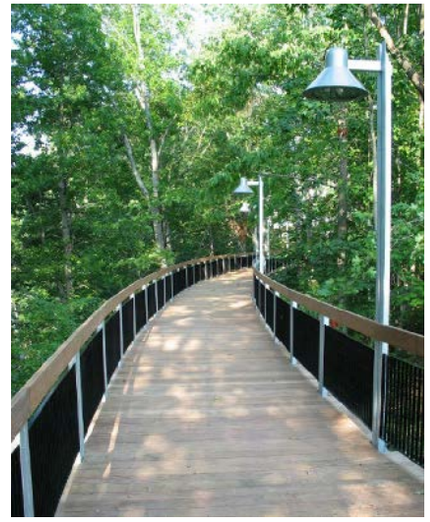
18. SITE FURNITURE & LIGHTING

A. Pedestrian Bridges. Bridges in the North Sector are primarily associated with the restored Rabbit Branch stream and pond. They should be designed in a clean modern style decked with pressure treated lumber or if possible sustainably harvested ipe wood for longevity. The railings should be steel or ipe with steel cable slats. The structure of the bridge can be steel or sustainably harvest treated yellow pine stained to match the ipe. Piers and decks at the proposed pond could be ipe with concrete piers.

B. Monolithic Seat Walls, Amphitheater Steps and Benches. Simple large seats and benches are good places to gather or have impromptu outdoor lessons. Monolithic benches and large steps of local light grey granite or granite-like precast concrete should be situated liberally throughout the north sector. The Hillock and the Phase 1 Courtyard are at the high point of the campus. Their designs evoke the geology of the underlying granite ridge line. Benches and seat walls in these areas should be of granite to support the “geology“ theme.

Monolithic Seat Wall

Amphitheater Lawn Steps



Pedestrian Bridge

C. Regular Benches, Bollards, and Street Furniture. Contemporary design and clean simple lines in stainless steel or grey steel-like colors should be the aesthetic for street furniture. Sustainably harvested ipe or other dark hardwood slats could be used for bench seats in some informal areas.

D. Light Standards, Poles, and Path lights. Lighting details should be consistent with the contemporary design of the buildings. Light housings and standards should be in stainless steel or grey steel-like colors. All lights should be down-lit to reduce light pollution and utilize energy saving LED technology. The lights shown are by Bega Lighting.

Water Fountain (Belson Co.)

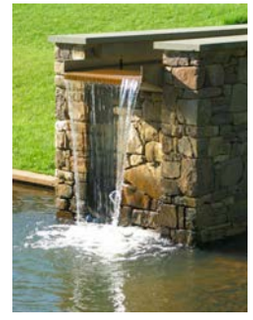
Decks

Campus Furniture

Bollards

Campus Furniture (informal areas)

Planters

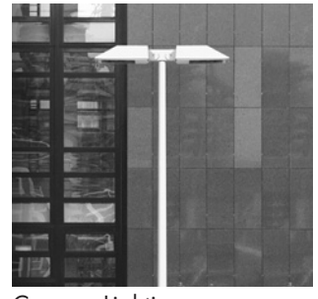


Water Scupper

Bicycle Rack

Trash Can (Landscape Forms, Inc.)

Campus Lighting



Campus Lighting

Campus Lighting

19. Architectural Design Guidelines
Architectural Expression

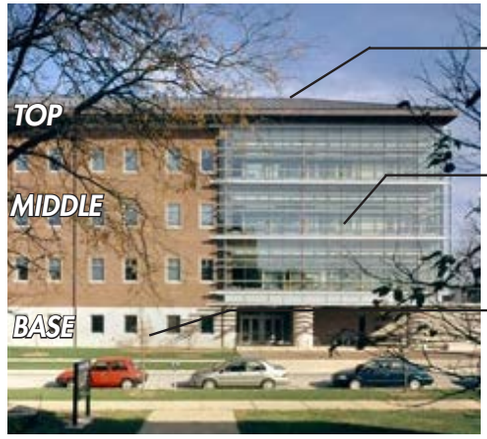
The new plan for the North Sector is designed to change not only the character, but also the image of the campus from one of surface parking and automobiles to one of a vibrant pedestrian-oriented community. The plan provides a welcoming new face and entrance to the campus, with new gateways and places linking the interior of the campus to the local community while strengthening the campus identity.

In particular, the North Sector gateway is conceived to frame arrival views of the campus, offer a more exciting arrival experience for visitors and students alike, and establish a more distinct university presence and academic image.

Architectural Design Guidelines
The Design Guidelines are intended to provide general guidance for typical development of the North Sector site. Within such parameters, the Architectural Design Guidelines represent a more articulated and unified set of recommendations for the design of its buildings.

The Design Guidelines are not intended to be prescriptive, but rather serve as guidance for a harmonious development of the North Sector as well as a reflection of the physical elements and character of the George Mason Campus. The architecture and image of the building, along with its surrounding landscape, pathways, open and public spaces help make these special and identifiable sites within the fabric of the campus.

While the general Design Guidelines delineate the basic campus form expected for the North Sector, the Architectural Design Guidelines more specifically aim to assure the quality and consistency of the architecture within the North Sector. Furthermore, the Architectural Design Guidelines ensure that the architectural language of the buildings in the North Sector is in-tune with and reflects the image and identity of the overall campus and of George Mason University.



The Architectural Design Guidelines seek to establish a standard of design excellence throughout the North Sector area that is generally consistent with the character of the overall Campus while forward-looking in its design philosophy, and provide locations of opportunity for unique design excellence.
In particular, these guidelines are focused on and recommend a consistent architectural expression in the building design, articulation of the facades, adequate variation in the building envelope, and the use of certain building materials consistent with the campus modern design approach and with the overall image that it wants to portray.

Architectural Expression:

- Distinctive roof forms, profiles and cornices shall be encouraged to provide visual interest to the tops of buildings.
- Articulation of vertical surface through form and/or material changes should be utilized to decrease the apparent mass of the building.
- Corner buildings should incorporate articulation and forms that emphasize the corner, including roofline articulation and form that emphasizes the corner.
- The visual impacts of utilities, mechanical equipment, and other services and equipment shall be minimized through screening or buffering.

20. Architectural Design Guidelines: Facade Articulation

The **Architectural Design Guidelines** seek to establish a standard of design excellence throughout the North Sector area that is generally consistent with the character of the overall Campus, is forward-looking in its design philosophy, and provides locations for unique design excellence.

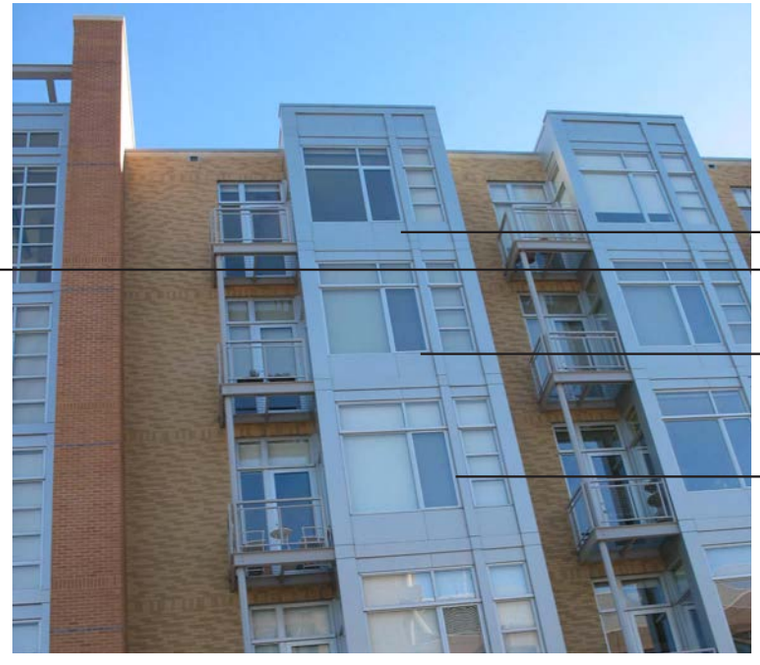
All building design within the North Sector will be subject to individual project review.

Facade Treatment:

- Buildings must clearly articulate a Base, Middle, & Top
- Windows should comprise a minimum of 20% of upper facades visible from public rights-of-way.
- Windows shall be vertically proportioned to enhance the overall surface articulation.

Facade Treatment (cont'd.):

- Buildings should incorporate vertical elements such as multi-story bay windows, balconies, and fenestration which break the facade planes and create visual play of light and shadow. Avoid long uninterrupted horizontal elements.
- All buildings shall have ground level articulation such as awnings, overhangs, signage, and glazing at building entrances and retail use.
- Variations in rooflines, particularly in long buildings, should be used to create visual interest and breakdown the mass of the building.



21. Architectural Design Guidelines: Materials

The **Architectural Design Guidelines** seek to establish a standard of design excellence throughout the North Sector area that is generally consistent with the character of the overall Campus, is forward-looking in its design philosophy, and provides locations for unique design excellence.

All building design within the North Sector will be subject to individual project review.

Materials:

- The use of high-quality durable materials which enhance the building and convey a sense of permanence shall be required. Desirable facade materials include brick, stone, concrete, glass, metal and tile.
- In general, heavier materials such as stone and concrete shall be used at the building's base.
- In general, lighter materials such as brick, stone cladding, metal, and tile shall be used as major building surface material with stone, concrete, and/or metal accents.

Significant Architectural Feature Highlighted with Metal

Darker Brick Accentuates Base

Metal Panels Accent Building Side

High-Quality Brickwork

Materials (cont'd.):

- In general, lightest materials such as metal and glass shall be used at the building top.
- Special architectural features may be highlighted by the use of complementary materials that differ from the main body of the building.
- Materials should reflect and respect local climate conditions and context, and where practicable should be sourced locally and have recycled content.

22. Sustainable Design Guidelines

Sustainability is a major concern for the Campus, as George Mason University is an underwriter of the American College and University Presidents Climate Commitment (ACUPCC), providing measures that reduce the ecological impact of the campus. Consequently, a sustainable approach is expected for all development within the North Sector. This should include, but is not limited to, environmentally sensitive site design, aggressive stormwater management strategies, energy efficient buildings, resource efficiency, and the use of best management engineering practices for protecting and restoring the natural habitat on campus, including the recovery of Rabbit Branch stream valley and retention of natural species.

Future development in the North Sector area will exhibit state-of-the art sustainable design. The intention is to promote environmental stewardship, improve the water quality and the environs of the Campus landscape, preserve and restore the natural habitat, improve air quality and encourage energy conservation.

All projects approved for development in the new plan will utilize sustainable building practices and seek to achieve LEED Silver or equivalent according to the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) rating system. Sustainable principles and practice will become standard for all new buildings, infrastructure, public places, streetscapes and other elements of the master plan.

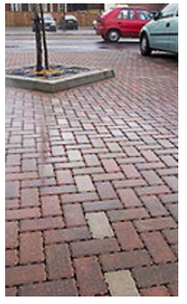
Green Roofs

Green Roofs

Rain Gardens/Planting Areas with Native Species

Principles and techniques used on all development must result in best management practices to control stormwater runoff and minimize urban heat island effects. Techniques to be used include (but are not limited to): green roofs, permeable hardscape, extensive tree planting, native species, rain gardens, and structural soils in tree planting areas.

These techniques and others will help to achieve sustainable goals and will be integrated into all projects within the North Sector area.



Permeable Hardscape

1. Protecting and Restoring the Watershed

As noted in the Master Plan, the two stream corridors encircling the campus core are key elements in the campus identity. In addition, both of the stream watersheds are encompassed within the campus, giving the University the ability to control and positively affect the health of these two streams and the watersheds downstream. Restoring the streams is a great opportunity for the University to be positive steward of this portion of the Potomac and Chesapeake Bay watersheds.

Due to the special importance of these streams to environmental sustainability and campus identity, this plan proposes to daylight and restore the uppermost portion of the Rabbit Branch which is currently encased in a pipe under the parking lot immediately to the south of University Drive. The restored stream would begin at a pond that could manage stormwater flows while providing a striking and beautiful element at the entrance to the campus at University Drive. The following list outlines methods that are also necessary for the full restoration of the Rabbit Branch and a regeneration of natural site hydrology:

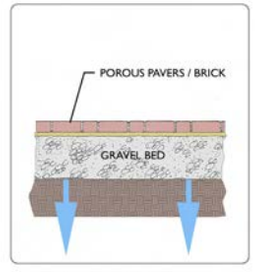
a. All stormwater pipes that empty into the stream should be diverted to storm-water treatment facilities such as rain gardens (biofilters), constructed wet-lands, or a stormwater pond.
b. Use open air storm drainage and vegetated swales for stormwater conveyance instead of pipes.
c. New parking spaces (outside of the parking garages) and all low-traffic paved roads (such as service lanes and alleys) to the extent feasible should be paved with porous pavers underlain by gravel recharge beds. In general, as many stormwater infiltration areas as possible are recommended.
d. The streams channels are currently deeply incised and eroded. The banks should be restored and stabilized and the replanted with native vegetation.
e. New buildings should utilize green roofs and cisterns to mitigate excess stormwater flows.

Rain Garden

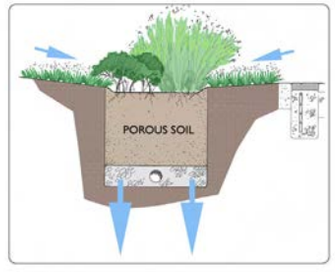
Restored Stream at the University of Virginia

Dell Pond at the University of Virginia

Below Grade Cistern



Porous Paving In Parking Areas



Rain Garden

2. Native Plantings
A minimum of 85% of all new plants will be native or cultivars of native plants. The reminder of the other new plants will be noninvasive exotics. Native plantings are adapted to the local environment and are used to provide wildlife habitat, minimize or eliminate chemical fertilizers and pesticides and affirm a sense of place.

3. Minimize Lawn in Public Areas
Lawn is often treated with pesticides and chemicals and requires irrigation for proper maintenance. It provides minimal wildlife habitat and provides minimal stormwater infiltration. For these reasons, lawn will be used only as necessary for public gathering spaces and recreation not as a general ground cover

4. Save Existing Trees and Preserve Wild Areas
Endeavor to save as many of the healthy existing trees as possible.

5. Local, Recycled and Sustainably Harvested Materials
Use locally produced materials for paving, street furniture and site walls thereby supporting the local economy, local environmental oversight of production and reducing energy needs for transport. We favor materials that are recycled or produced or harvested in a sustainable manner.

6. Low Toxicity
Utilize inert and low toxicity in site building materials and piping.

7. Recycling Construction Debris
There will be considerable construction debris from the demolition of the current roads and structures. Endeavor to reuse of the masonry and paving materials as bedding for roads and paths.

8. Organic and Fertilization & Low Toxicity Maintenance
Plant fertilizers and soil amendments will be specified as organic. Landscape maintenance protocols will stipulate integrated pest management practices instead of chemical insecticides wherever possible.


Green Roof


Infiltration trench and rain garden (NBWLA, WaterColor, Florida

9. Designate Portion of Site for Wildlife Habitat and Restoration
20% of the site will be dedicated to environmental restoration and wildlife habitat. Establish protected wildlife corridors and provide passages (tunnels) under roads suitable for wildlife movement. This will also provide educational opportunities for students.

10. Arrange Plantings for Energy Efficiency
A composition of shade trees and wind break plantings will contribute to maximal building energy efficiency.

11. No Potable Water used in Landscape for Irrigation
The use of regionally adapted plants and minimizing lawn should minimize the need for any irrigation other than to establish new plantings. Future plans need reduce pond water or cisterns for irrigation or car washing instead of potable water.

12. Minimal Light Pollution and Lighting Efficiency
Street and site lighting will be designed to minimize light pollution while providing a safe and attractive civic environment. Glare shields and light angles will reduce potential glare into the nighttime sky. Specification of energy efficient and solar powered exterior lights will reduce energy consumption.

13. Reduce Heat Island Effect
Generous shade tree plantings on streets and paved areas and the use of light colored reflective materials will contribute to a cooler summertime temperatures. This will save on air conditioning costs and counter effects of global warming

14. Long term Endurance and Sustainability
Using materials and building techniques that insure construction longevity and low maintenance costs overtime may cost more initially, but provide savings in maintenance and energy costs overtime. Site design and material selection will incorporate such strategies when possible.

Weir at stream with bridge (NBWLA, ATD Campus)

Part III

Phase 1 Administration Building

Phase 1 - Administration Building

Introduction

The Administration Building will be the first phase of a coordinated two-building cluster focused on a central plaza (Mason Plaza). The central plaza and surrounding sidewalks will feature high quality paving materials such as brick or stone and contain a large landscaped open space with specimen trees.

Retail spaces, if any, will be located on the central plaza, with alternate or additional locations on either University Drive or Patriot Circle, away from the corners facing George Mason Boulevard.

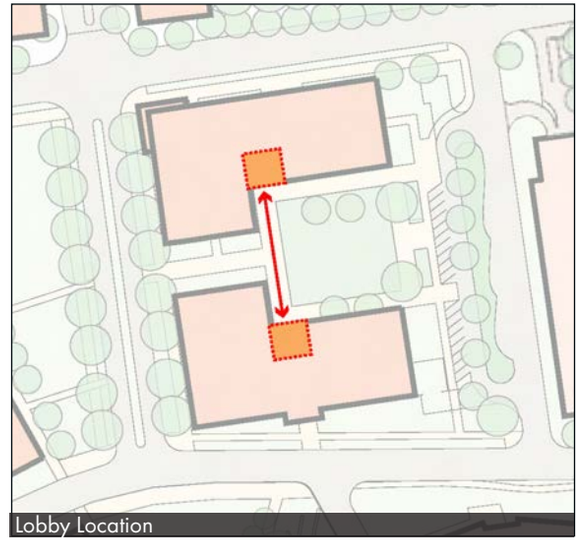
The buildings and site will be designed to conform to LEED standards and will provide space for a bus transit station on the east side of the block. The central plaza will be connected to the bus station by one or more pedestrian paths.

Key Plan

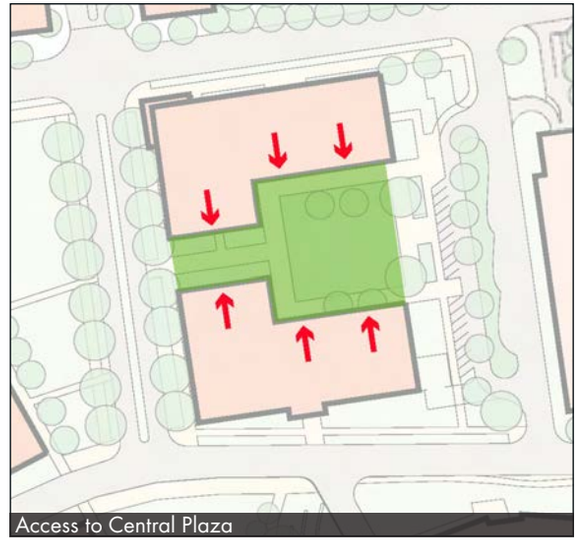

Massing Model of Phase 1 Administration Building and Phase 2 Academic Building in Context of North Sector

Building Design Principles

- The main lobby entrance for each of the two buildings will be located directly across from the other and be accessed from the plaza.
- The buildings will have multiple access points to the central plaza.
- The service entries for the buildings will be located on the east side of the block and be shielded from view by landscaping and/or architectural screening. Short-term parking will also be located on this side of the block.
- While respecting traditional ideas about the "base, middle, top" organization of building facades, the buildings' articulation will utilize contemporary forms and materials.


Lobby Location

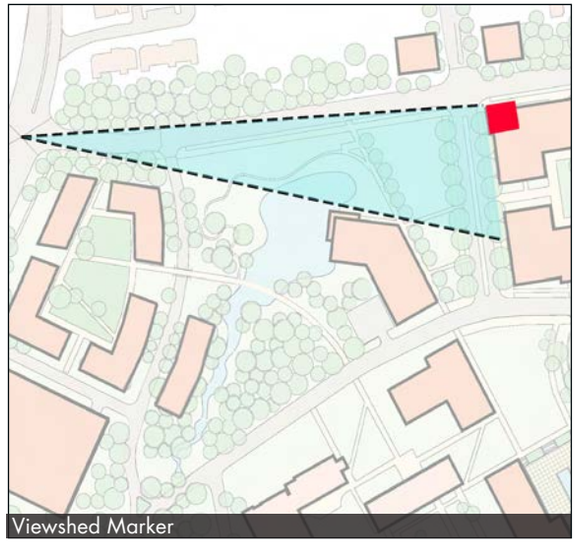
Short-term Parking Location


Access to Central Plaza

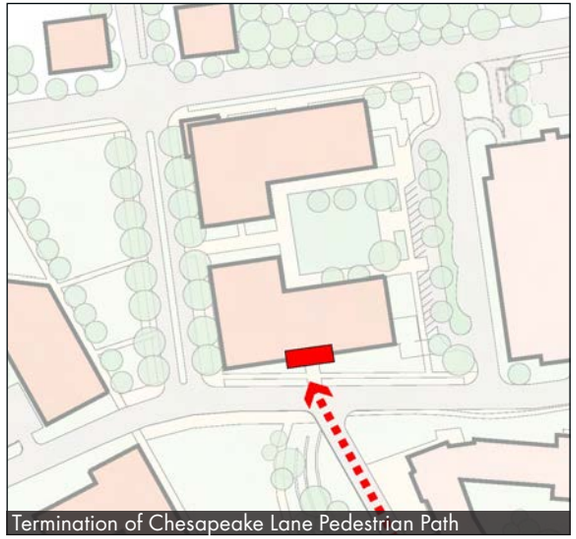

Service Location and Screening

Building Design Principles (cont'd..)

- As part of the primary viewshed from the campus entry, the southeast corner of University Drive and George Mason Boulevard will be marked by an iconic architectural feature.
- The Phase 1 Administration Building will contribute to the first impression of the campus for visitors and the façade materials and detailing of the building should reflect this status.
- The Patriot Circle façade of the Phase 3 academic building will include an architectural feature marking the termination of the Chesapeake Lane Pedestrian Path.
- An interior passage in the Phase 3 building will connect the Chesapeake Lane Pedestrian Path to the central plaza between the buildings.


Viewshed Marker

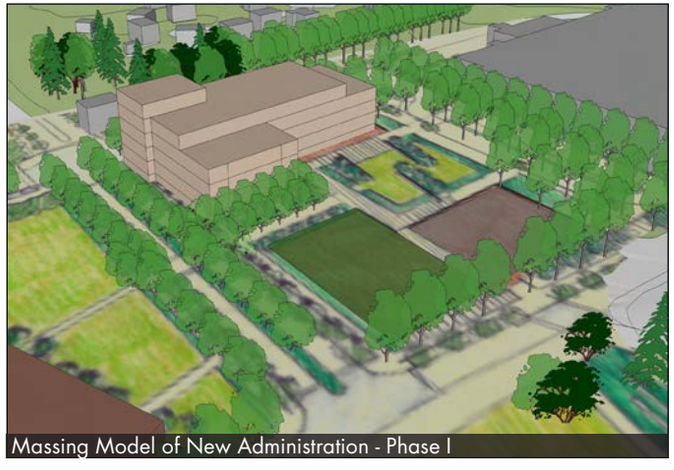

Primary Facade Articulation


Termination of Chesapeake Lane Pedestrian Path

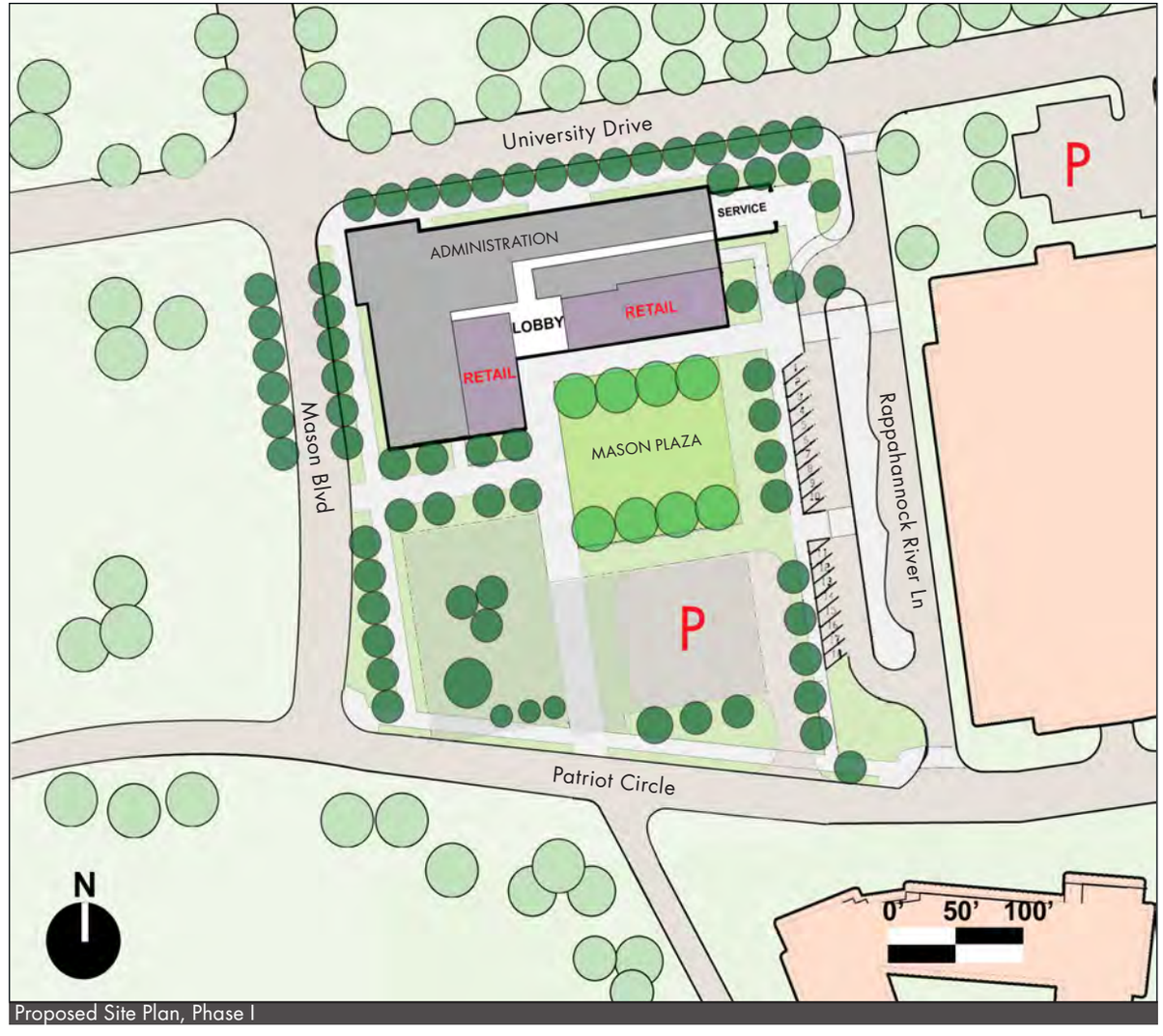

Interior Passage Connecting Chesapeake Lane to Central Plaza

Proposed Site Plan - Phase I

The proposed Phase 1 site plan anticipates the future buildout of the two building cluster, by including the new Administration Building, the central courtyard (Mason Plaza), a smaller parking lot, and a green space (on the site of the second future building) in the first phase of development. The plan incorporates the existing bus dropoff area and maintains the existing configuration of Patriot Circle and Mason Blvd; while adding convenient, but unobtrusive, short-term parking in a loop off the bus and parking garage access road. Pathways are oriented to connect to important campus amenities such as the new entrance Mason Park and Chesapeake Lane while also providing easy through-access to the bus station and parking garage. Service access, properly screened, is placed on the east side of the new Administration building, off of the parking lane.



Massing Model of New Administration - Phase I



Proposed Site Plan, Phase I

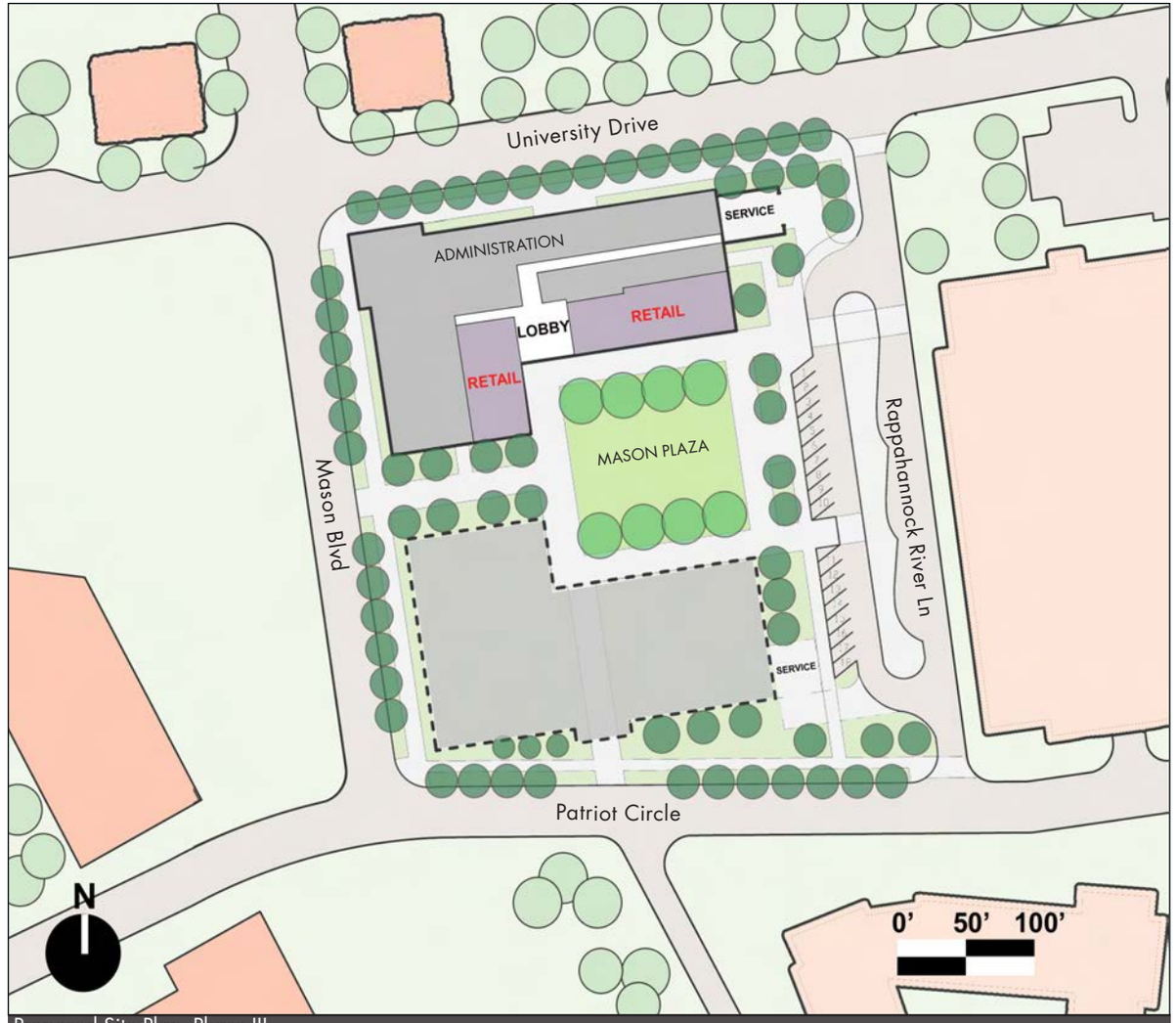
Completed Site Plan - Phase III

The proposed Phase 3 site plan reflects the full buildout of the two building cluster, by including the second special use building (academic/administrative) on the former sites of the temporary parking lot and green space (the south side of the block) as the final phase of this development.

The completed plan incorporates new alignments of the Patriot Circle and Mason Blvd as proposed by the North Sector Master Plan; as well as new sidewalks and landscape along the south and west sides of the block.

Service access to the second building is placed on the east side of the building, off of the parking lane, and will be properly screened to blend with the building architecture.

Massing Model of New Administration and Academic Buildings



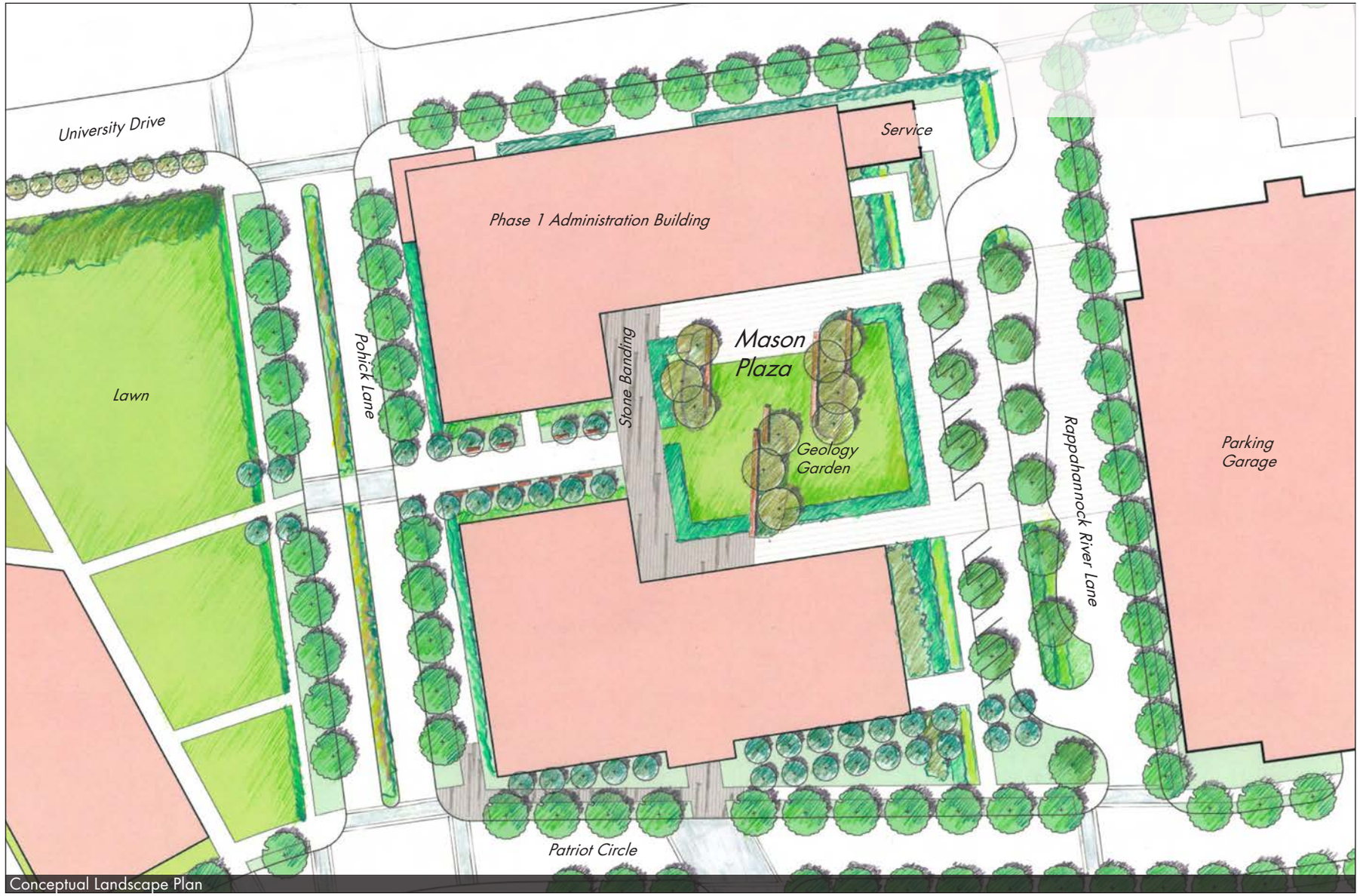
Proposed Site Plan, Phase III

Site Landscape Plan

The Hillock and the Phase 1 courtyard are at the highpoint of the main ridge that runs through the center of campus. Their designs evoke the geology of the underlying granite ridgeline.

Monolithic stone benches and seat walls in the courtyard should be of granite to support the "geology" theme. The design of the Phase 1 courtyard is based on the striated geologic formations on the underlying bedrock of the ridge in the area.

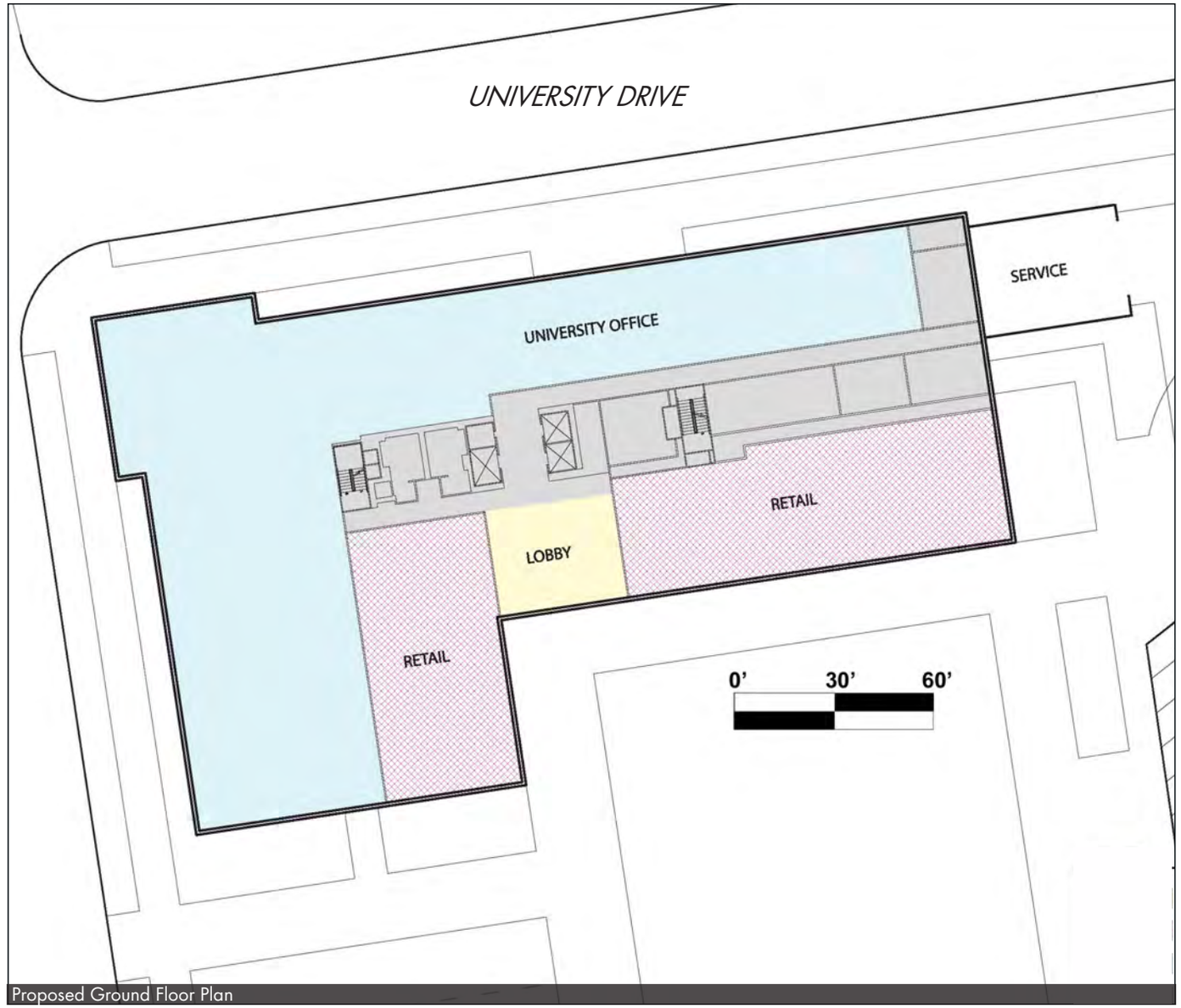
Stone bands of paving surrounding the Phase 1 courtyard run parallel to the ridgeline. The stone bands stop at the face of the southern building in the plaza and return on the sidewalk, pointing towards the hillock and connecting the buildings to the natural ridgeline.



Conceptual Landscape Plan

Proposed Ground Floor Plan

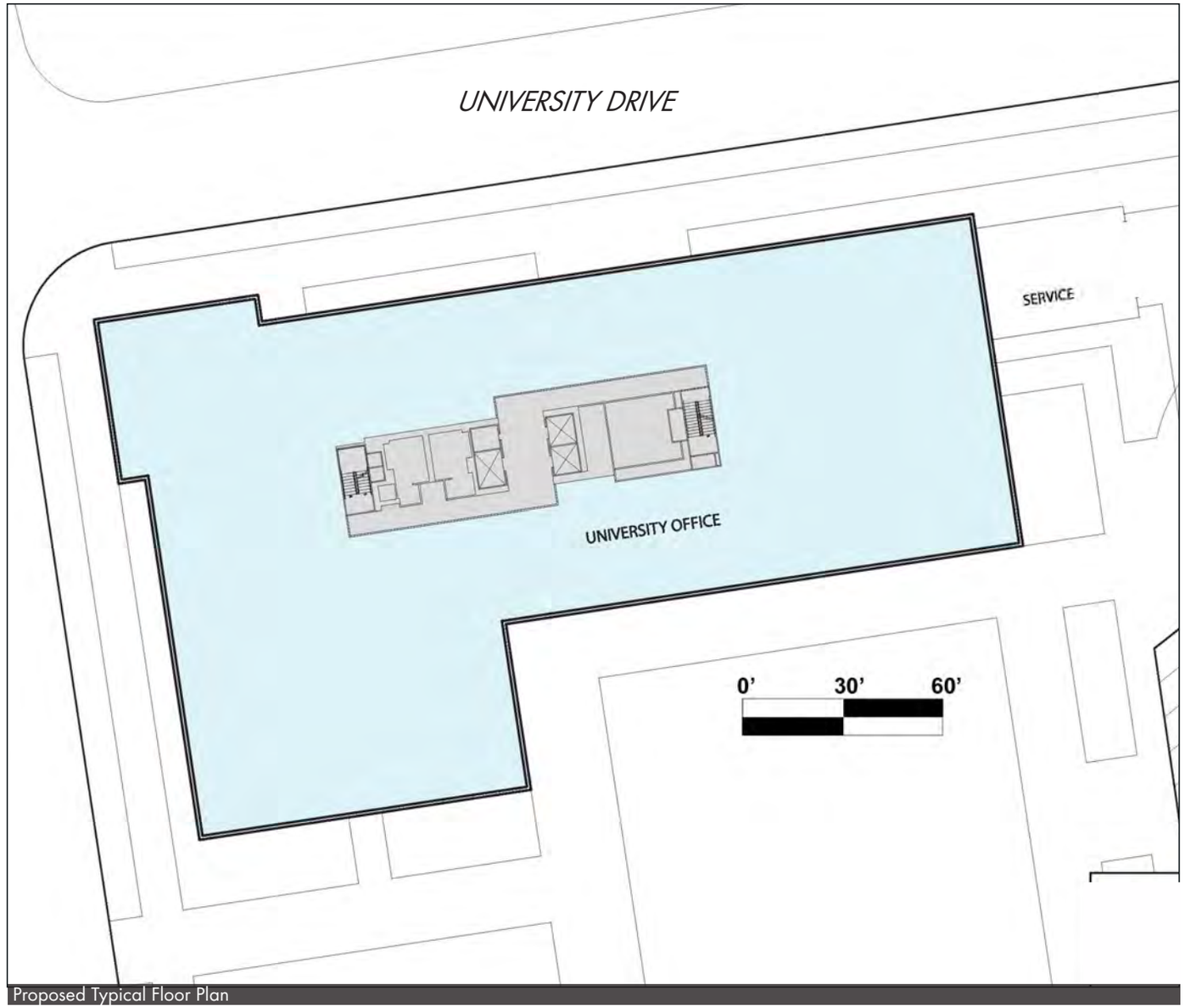
The Ground Floor features a lobby accessible from the central plaza, focusing the building entry to its campus face. Retail uses are proposed along the plaza sides of the building in order to maintain the small scale, campus nature of the retail. The remainder of the floor, on the outside edges of the building, are dedicated for University administrative uses. Service and mechanical spaces are placed for ease of access to the exterior service area (east side of building).



Proposed Ground Floor Plan

Proposed Typical Floor Plan

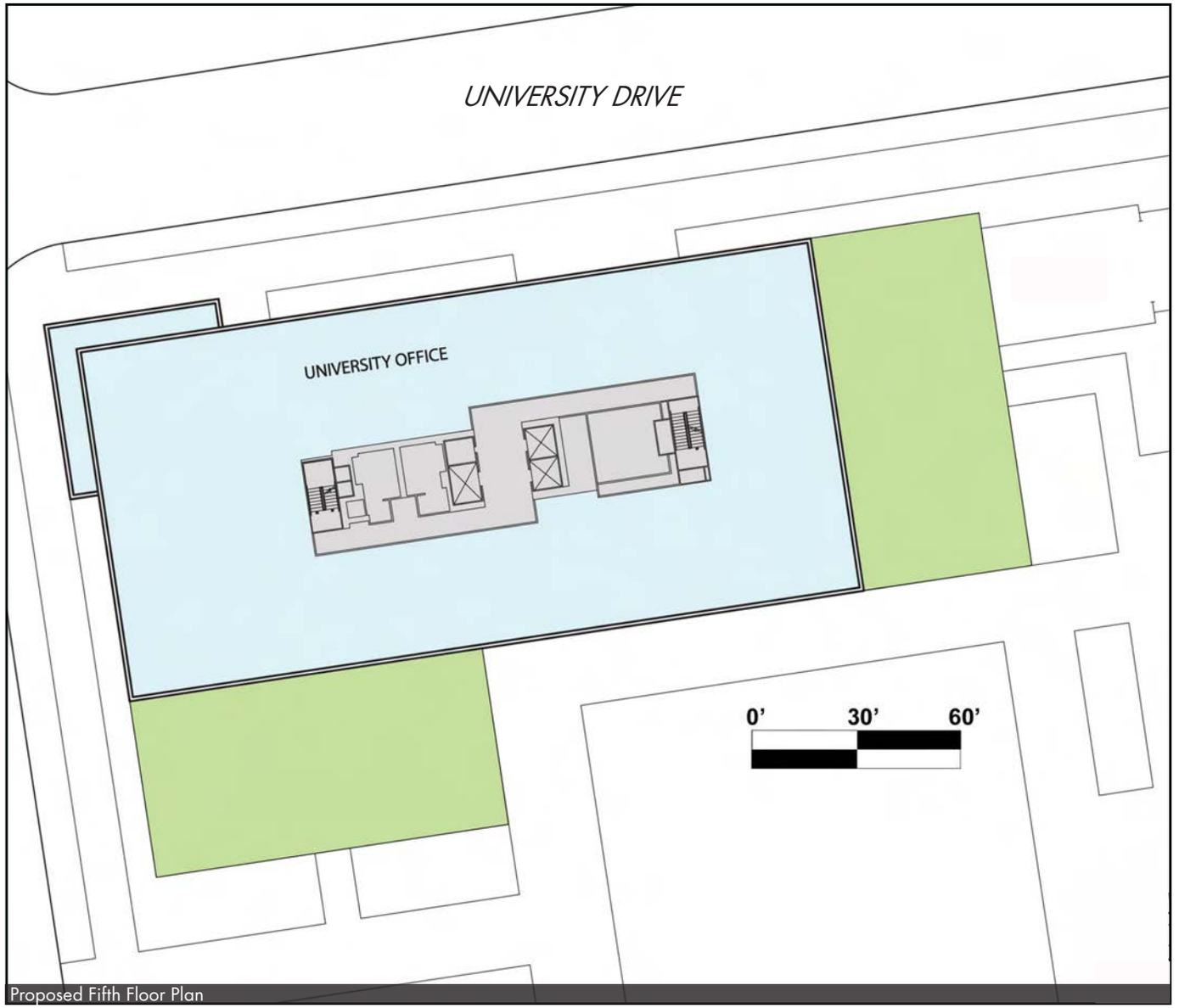
The Typical Floor Plan, floors 2-4 of the Phase 1 Administration Building, feature full, sub-dividable, 30,000 sf floorplates dedicated to University office space. A compact core and circulation layout maximize the flexibility of the office space.



Proposed Typical Floor Plan

Proposed Fifth Floor Plan

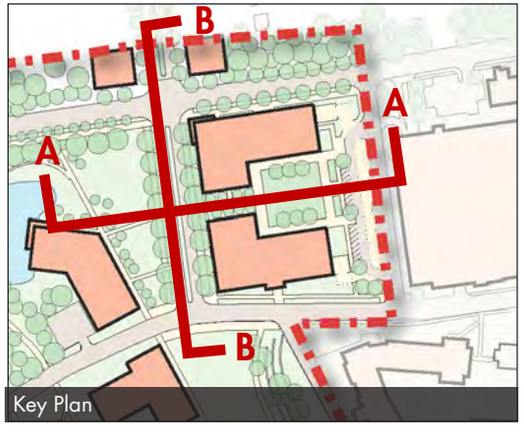
The Proposed Fifth Floor Plan steps back the building from its east and south sides. This setback reflects the expected overall program of the building and provides opportunities for further building mass articulation and the possible introduction of accessible green roofs.



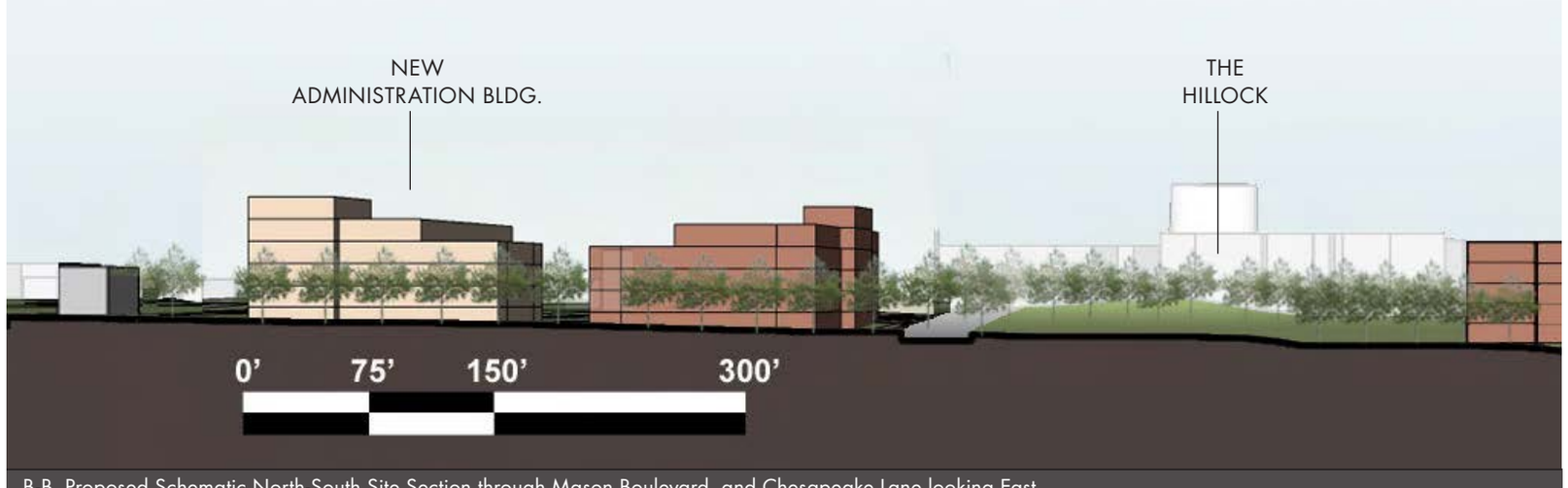
Proposed Fifth Floor Plan

Schematic Site Sections

A-A Proposed Schematic East-West Site Section through Mason Plaza looking North



Key Plan



B-B Proposed Schematic North-South Site Section through Mason Boulevard and Chesapeake Lane looking East

Bird's-eye View of Proposed North Sector Entrance

GEORGE MASON UNIVERSITY
FAIRFAX CAMPUS, VA

NORTH SECTOR MASTER PLAN & DESIGN GUIDELINES

June 22, 2009

EHRENKRANTZ ECKSTUT & KUHN ARCHITECTS

GEORGE MASON UNIVERSITY

NELSON BYRD WOLTZ LANDSCAPE ARCHITECTS