

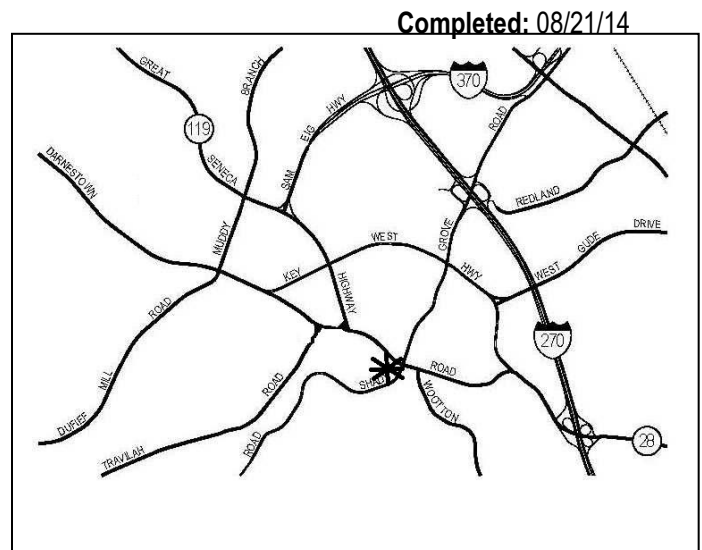


**The Universities at Shady Grove Parking Garage II, Mandatory Referral, MR2015001**

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**Description**

- Construction of a 45,000-square foot, 5-story parking garage with 700 parking spaces, pedestrian walkways, vehicular access drives and related infrastructure, stormwater management, and landscaping and lighting;
- 9630 Gudelsky Drive, at the intersection of Shady Grove Road and Darnestown Road, Rockville;
- Located in the *Great Seneca Science Corridor Master Plan* area, LSC South District and the Piney Branch Special Protection Area (SPA);
- 3.11 acres, LSC Zone;
- Applicant: The Universities at Shady Grove;
- Application accepted: 7/1/14.



**Summary**

- Staff recommends approval to transmit comments to the Applicant.
- The site is owned by the State of Maryland; therefore, forest conservation, stormwater management and historic resources plans are under review by several state agencies; no action on the Forest Conservation Plan is required by the Planning Board. A forest planting requirement of 1.3 acres should be located at a forest bank site within the County.
- The site is located in the Greater Shady Grove Transportation Management District (TMD) and the proposed parking garage will not generate new vehicle trips. However, a new traffic signal will be installed at Shady Grove Road and relocated Gudelsky Way based on a warrant study conducted for the relocated entry road (MR2014030).

Staff recommends approval to transmit the following comments to the Applicant:

1. Show on the Hardscape Plan's Legend the proposed locations of the parking garage's wayfinding signage (both internally and externally) with corresponding symbols and add these signage details.
2. The project's entire forest conservation planting requirement of 1.3 acres should be located at a forest bank site within the County. The Forest Conservation Plan should include a general note to identify the bank site.
3. Incorporate measures in the Stormwater Management Plan that would typically be regulated by a Water Quality Plan to protect the Piney Branch Special Protection Area to the maximum extent practical.

## **INTRODUCTION**

### **The Universities at Shady Grove Background**

The University System of Maryland has a 2003 Land Use Master Plan for the Shady Grove Campus. The Master Plan is the framework to guide future development of the Shady Grove Campus to meet the short and long-term educational needs of County residents and the business community. It contains a campus build-out of 985,000 square feet, including an approximately 11-acre increase in land area. Currently, a total of 519,000 square feet has been constructed at the campus with one parking garage and several surface-level parking lots containing 1,425 existing parking spaces. Parking Garage II is one of three structures proposed in the 2003 Master Plan.

#### Previous Mandatory Referral Reviews

In December 2003, the Planning Board reviewed MR2003401-USM-1 for the Universities Master Plan and a Site Plan for Education Center III building, and provided five comments focused on environmental and transportation planning considerations (relating to water quality and impervious surface levels, and transportation demand management, traffic statements and coordination of transit and ridesharing programs).

In September 2008, the Board reviewed and approved Mandatory Referral MR2008403-USM-1 for the first parking garage, which is six-stories in height and is located at the northeast intersection of Darnestown Road and Traville Gateway Drive with three comments relating to transportation, landscaping and lighting, and development information.

In February 2014, the Planning Director approved MR2014030 for a planned road relocation and vehicular access modifications to Gudelsky Way to provide for a new entry road to the campus from Shady Grove Road.



### **The Universities at Shady Grove Campus**

#### The Universities at Shady Grove Campus - Existing Conditions

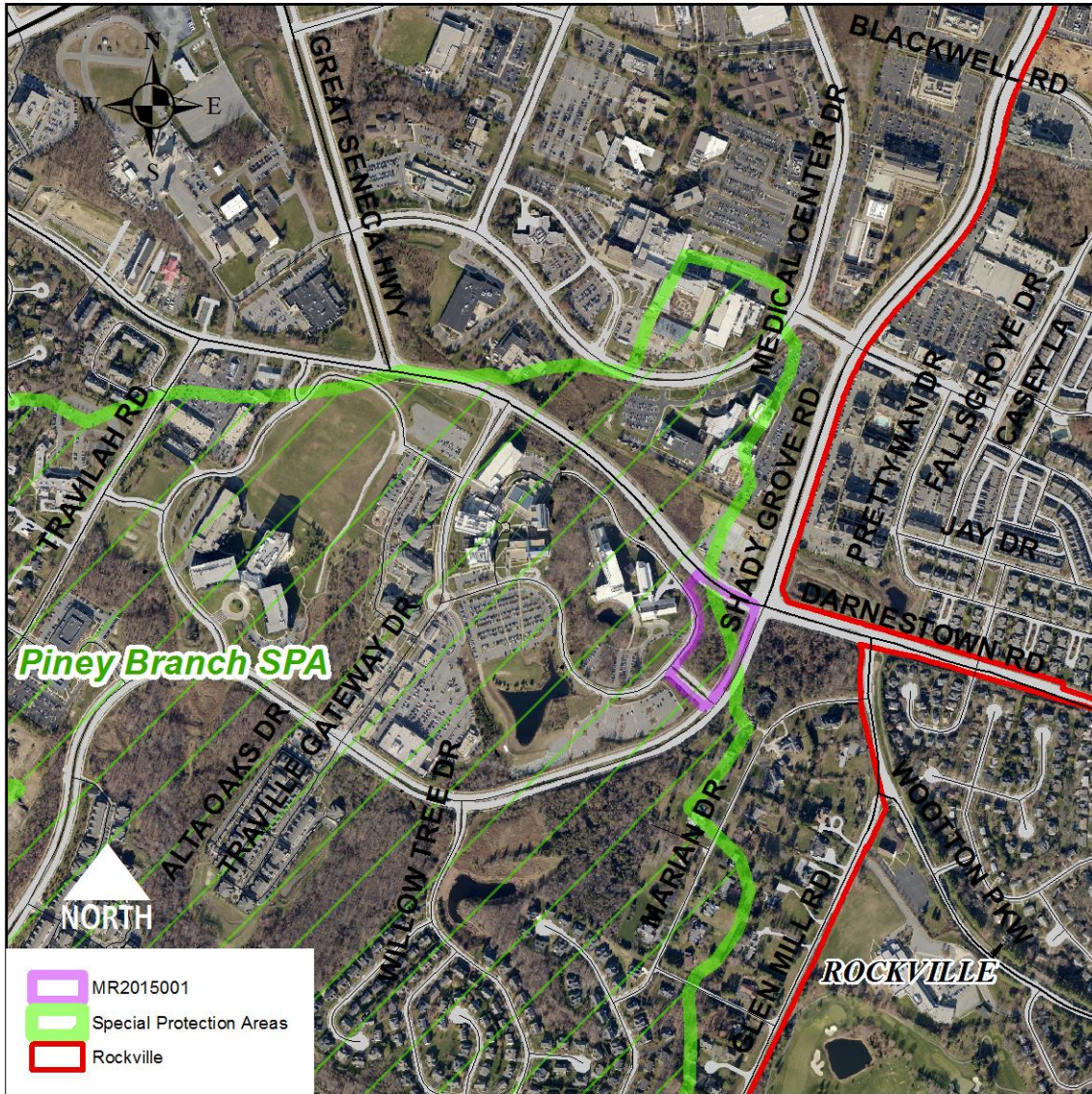
The Universities at Shady Grove Campus contains 45.71 acres on one lot owned by the State of Maryland. The campus is within the Shady Grove Life Sciences Center (SGLSC) and is zoned LSC (Life Sciences Center). The campus has a distinct natural character defined by an existing wetland and forest area running north to south through the center. The campus is gently sloped with a high point at the northern edge and drains toward a stream and wetlands that traverse its center. The stream drains south to the Gudelsky Pond. The wetlands are located along both sides of the stream and a second pond is located south of the research center. Most of the campus site is located within the Piney Branch Special Protection Area (SPA) (see the Vicinity Map). There are no known rare, threatened or endangered species associated with, or in the vicinity of the proposed parking garage site. There are no historic resources/properties at the project site.

#### **Neighborhood Description**

The following properties comprise the surrounding neighborhood:

Across Darnestown Road to the north are the Bioreliance, Otsuka and Human Genome Sciences biotech research buildings in the LSC Zone; A newly constructed County Fire Station is located at the northwest quadrant of the Darnestown Road/Shady Grove Road intersection. To the northeast, diagonally across the intersection of Shady Grove Road and Darnestown Road and inside the City of Rockville is the Falls Grove mixed-use development with planned build-out of 1,530 dwelling units, 950,000 square feet (sf) of office and R&D, and 150,000 sf of retail space. To the east and south of the site are residential subdivisions of Hunting Hills Estates and The Willows of Potomac in R-200 and R-200/TDR Zones. To the

west is the 192-acre Traville development in the MXN Zone with a planned build-out of 1.5 million sf of office, R&D, and retail space, and 750 apartments. This development also includes the Human Genome Sciences Research Center headquarters.



Vicinity Map

## PROJECT DESCRIPTION

### Parking Garage II - Site Description

The proposed parking garage will be located on 3.11 acres at the western quadrant of the Darnestown Road/ Shady Grove Road intersection. This area is undeveloped and consists primarily of disturbed pioneer forest of poor quality due to a large number of vines and invasive species having emerged over the years of unmanaged old field succession. The project site has several public utility easements which,

when coupled with the Applicant's program objectives and stormwater management requirements for positive drainage, will require the clearing of 2.2 acres of forest. Vehicular access to and from the garage will be internal to the campus from existing Gudelsky Drive.



**Parking Garage II location**

### **Site Design**

The proposed 45,000-square foot parking garage with 700 parking spaces on five levels will be constructed in one phase. Near the garage entrance are four carpool spaces, six handicap spaces, two electric vehicle spaces with charging stations and 11 spaces for fuel efficient/ low emission (FE/LE) vehicles. The garage will be set back 65 feet from the Darnestown Road right-of-way (ROW) at the garage's northeast corner and 50 feet from the Shady Grove Road ROW at the garage's southeast corner. At the garage's west side a proposed path meanders south and around it for several connections to pedestrian areas (sidewalks and paths), and connects to an existing concrete sidewalk along the south side of Shady Grove Road.

Construction of the proposed garage will follow completion of planned road improvements to eliminate Gudelsky Way and provide for a new entry road at Shady Grove Road (MR2014030). When the new entry road is completed, the former Gudelsky Way entrance will temporarily be used for the garage's construction traffic from Shady Grove Road. Upon completion of the garage, the Gudelsky Way connection to Shady Grove Road will be eliminated.



**Proposed Site Plan**

### Architecture

The Applicant identified eight primary objectives for the proposed garage's design and construction (Attachment A). The goal of these design objectives is to define the northeastern edge of the campus at a "gateway" location, use building materials to complement existing Universities' buildings and use an architecture style to express the Universities' mission as a campus that emphasizes research, science and technology.



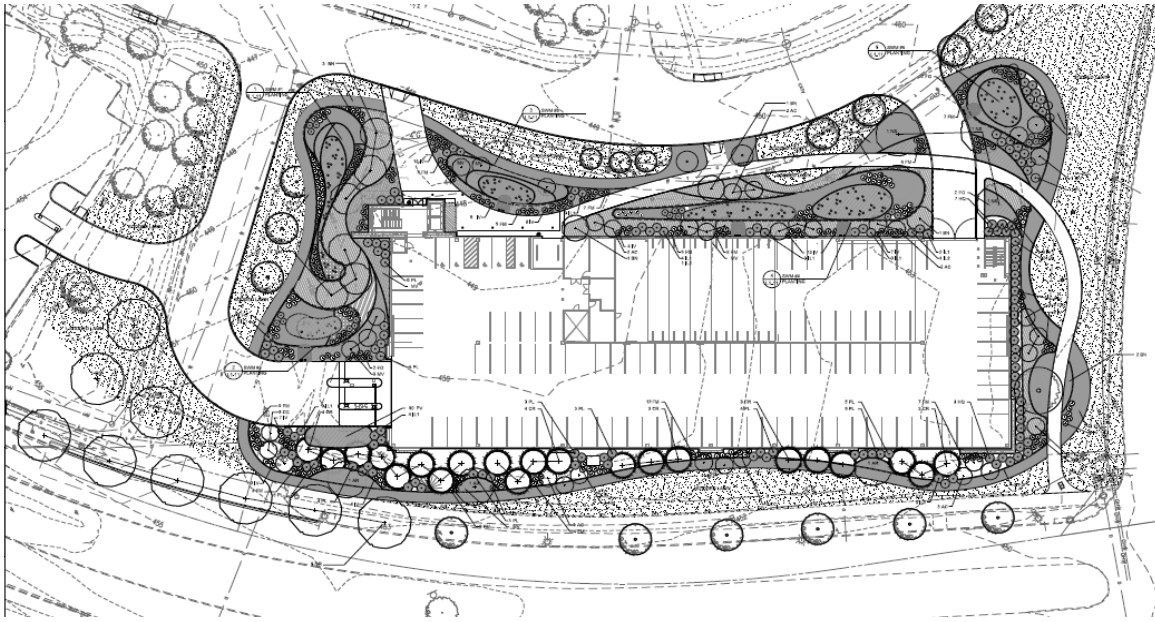
**Darnestown Road & Shady Grove Road view**



**South facade at Gudelsky Drive**

### Landscape and Lighting Plans

Landscaping along Darnestown Road and Shady Grove Road sides of the garage will be a mix of deciduous shade and evergreen trees, shrubs, perennials and manicured lawn area. The campus (internal) sides of the garage grounds will contain a more dense plant population of native plant shrubs, perennials, ground cover and ornamental grasses in a series of bio-filtration gardens, the latter to function as stormwater facilities. Stormwater management areas will provide educational opportunities in relation to pedestrian spaces through the inclusion of native plant species around the garage. Plant material selections and locations are based on sun/shade exposure, soils and moisture, micro-climates and salt tolerance (used in snow removal).



**Landscape and Lighting Plan**

Lighting for motorists and pedestrians will include a combination of architecturally styled “light sticks” and bollard lights primarily along the walkways. Lighting will match campus standards to maintain appropriate levels inside and around the garage; safety was the determining factor in the selection of fixtures and their locations.

## **ANALYSIS**

### **Relationship to the Master Plan**

The site is in the LSC South District of the *Great Seneca Science Corridor Master Plan* (see Attachment B). The proposal is consistent with guidelines from the Master Plan. For example, the proposed design addresses urban form aspects of the Master Plan with the parking garage’s two vehicular entrances on Gudelsky Drive with no direct access from the adjacent road network. There are bicyclist, pedestrian, and vehicular connections to the rest of the campus and the sidewalk along Shady Grove Road. These connections increase safety for bicyclists, motorists and pedestrians. Wayfinding signage are placed both internally and externally in relation to the garage. The garage’s proposed location will define the campus’ edge along Darnestown Road and Shady Grove Road. Proposed building materials complement other campus buildings and the garage is compatible with adjacent development.

Development of the site in the LSC Zone is consistent with recommendations in the Master Plan for a Life Sciences Center. The garage’s design includes key sustainability components to promote a sustainable community with environmentally conscious design and renewable energy resources. These design components include: parking spaces for two electric vehicle charging stations (EVCS), carpooling preferred parking and access controls in the garage for large events. The proposed structure is naturally ventilated; the rooftop contains 25 photovoltaic cells to generate 20% of the garage’s energy. The



garage's landscape plan is a series of native plant gardens and stormwater management areas that act as bio-filtration controls. The Applicant will apply for green building certification review by the Green Parking Council instead of Leadership in Energy and Environmental Design (LEED) certification.

### **LSC Zone Compliance**

The proposed parking garage's height is 75 feet at the highest point, well below the 200 feet maximum allowed in the zone. Parking provisions are consistent with the parking ratio approved for the campus in the Universities' 2003 Master Plan (3.16 parking spaces per 1,000 gross square feet of development). The proposed building is set back 65 feet and 50 feet from Darnestown Road and Shady Grove Road respectively. The LSC Zone does not require any set backs for parking structures. Overall, the proposal conforms to the LSC Zone.

### **Transportation Analysis - Master Plan Considerations**

#### Master-Planned Transportation Demand Management

The campus is located within the boundaries of the Greater Shady Grove Transportation Management District (TMD). The Applicant should work with the Greater Shady Grove TMD to assist the County in achieving and maintaining its Stage 2, non-auto driver mode share of 18%.

#### Master-Planned Roadways and Bikeways

In accordance with the 2010 approved and adopted *Great Seneca Science Corridor Master Plan* and the 2005 approved and adopted *Countywide Bikeways Functional Master Plan*, the classified roadways and bikeways are as follows:

1. The Shady Grove Road segment along the campus frontage is designated as a four-lane arterial, A-34, with a recommended 100-foot right-of-way and a dual bikeway, DB-23 (bike lanes and an existing shared use path on the west side). The existing right-of-way along the campus frontage varies from 100 to 107 feet.
2. Darnestown Road is designated as a four-lane arterial, A-280, with a recommended 100-foot right-of-way and a shared-use path, SP-59 (a signed shared roadway and a shared use path on the north side). Along the campus frontage, the existing right-of-way for Darnestown Road varies from 76 to 125 feet.
3. Gudelsky Drive, along the northern edge of the site, is a four-lane internal road with 36-foot wide paved travelway, a raised median, four-foot wide sidewalks on both sides, and green panels between the sidewalk and curb.

#### Shady Grove Road/New Entry Road Intersection and a New Traffic Signal

The existing Gudelsky Way connection between Gudelsky Drive and Shady Grove Road (MR2014030) will be closed and replaced with a new connection west of the proposed garage. This new connection will be signalized and will be completed before the proposed garage is constructed.

#### VICINITY MAP



#### The new entry road in MR2014030

##### On-Site Campus Parking

There are 1,425 existing parking spaces on the campus. The proposed elimination of Gudelsky Way will result in a loss of 50 of the existing 300-spaces at the surface parking lot, south of the proposed garage. With the 700 additional parking spaces in the proposed garage, the total number on campus will be 2,075 parking spaces, which are equivalent to 3.16 parking spaces per 1,000 gross square feet of development. This parking formula is from the Applicant's 1994 Campus Master Plan parking guidelines and it exceeds the required parking in the LSC Zone (2.5 parking spaces for each 1,000 square feet of gross floor area).

In addition, the proposed parking garage will provide additional parking capacity at the campus. The Applicant has no timeline for construction of a new academic building in the foreseeable future. The proposed garage will also be used for overflow parking for large-scale events periodically scheduled on campus.

##### Corridor Cities Transitway (CCT)

The Maryland Transit Administration's (MTA's) current "preferred alignment" and design of the CCT along Medical Center Drive includes a proposed loop extension to The Universities at Shady Grove Campus. The current CCT alignment will extend to the campus via Great Seneca Highway (MD119) from

the north and will have segments along Shady Grove Road and Darnestown Road in the vicinity of the proposed parking garage.

### Bicycle Facilities

A bike sharing station exists on the campus at the east side of Traville Gateway Drive just north of Gudelsky Drive. Ten inverted 'U' bike racks are located inside the proposed garage on the ground level near the main entrance to accommodate 20 bikes.

### Pedestrian Circulation

A pedestrian circulation plan contains two marked crosswalks with handicap ramps across Gudelsky Drive. Although both of these crosswalks are located midblock, the existing conflicting vehicular traffic is nominal to the northeast to/from the University of Maryland Institute Bioscience and Biotechnology Research. These proposed improvements comply with the Federal Americans with Disabilities Act (ADA) requirements.

A sidewalk connection is proposed to the southwest corner of the Shady Grove Road/Darnestown Road intersection. This intersection has existing handicap ramps and crosswalks across all but the eastern leg.

### Transportation Adequate Public Facilities (APF) Test

The proposed parking garage is considered a public facility at the Universities campus. The Applicant's Traffic Impact Statement states that no new vehicle trips will be generated by construction of the parking garage. Therefore, the number of peak-hour trips will not increase within the weekday morning peak period (6:30 a.m. to 9:30 a.m.) and the weekday evening peak period (4:00 p.m. to 7:00 p.m.). As a result, the APF test is not required because under Section TA4 of the 2012-2016 Subdivision Staging Policy:

"An applicant for a development which will be built solely as a public facility (such as a school, firehouse, police station, or library) need not take any action under TP Transportation Policy Area Review or TL Local Area Transportation Review when it undergoes a mandatory referral review by the Planning Board."

Staff finds the proposed pedestrian and vehicular facilities associated with the proposed parking garage to be adequate, safe and efficient.

## **Environment**

### Noise Compliance

The Application addresses potential noise impacts during and after the garage's construction to ensure minimal noise impacts to surrounding areas. The contractor will be required to follow all County noise ordinances during construction. At post-construction, the Applicant anticipates the garage will not generate objectionable noise.

### Special Protection Area (SPA) and Forest Conservation

The site is within the Piney Branch SPA. This SPA does not have impervious surface caps. There are no streams, wetlands and associated buffers located on the project site. Because the property is owned by the State of Maryland, authority for review and approval of the Forest Conservation Plan rests with the Maryland Department of Natural Resources (DNR); therefore, no action on the Forest Conservation Plan is required by the Planning Board. The Maryland DNR-approved Forest Conservation Plan will result in a forest planting requirement of 1.3 acres.

Because there is no suitable area on the campus to meet the FCP planting requirement, County policy next requires planting at a forest bank site inside the County. Staff considers the fee-in-lieu payment as the last option, after the first two options have been fully explored. Therefore, Staff strongly recommends locating the entire planting requirement at a forest bank site within the County to mitigate for the proposed forest removal for Parking Garage II. The Forest Conservation Plan should identify the bank site in a general note.

### Stormwater Management

Review authority and approval of stormwater management requirements also rests with the Maryland Department of the Environment (MDE).

The Application indicates the project strives to provide stormwater management treatment facilities that meet the intent and goals of the Special Protection Area to the maximum extent practical while complying with the permitting authority of MDE.

Therefore, even though the project lies within the boundaries of the Piney Branch SPA, no action by the Planning Board on a Water Quality Plan is required. Also, review of a Water Quality Plan by the State is not required. Nevertheless, the Applicant recognizes the importance of the Piney Branch SPA and has accounted for this in the project's stormwater treatment plans, using micro-bioretenion facilities to provide a total Environmental Site Design (ESD) treatment volume exceeding the minimum requirements. The stormwater management concept also proposes the addition of several non-rooftop disconnect treatment areas. Runoff beyond the capacity of these treatment activities will discharge into the existing stormwater pond on the Universities campus.

### Environmental Sustainability

The project incorporates sustainable practices and materials and accommodates high efficiency/hybrid vehicles, preferred parking for carpoolers, motorcycle/scooter parking, electric vehicle charging stations, and bicycle storage. The Applicant intends to submit this project to the Green Parking Council for certification. In addition to the features included in this proposal, the garage's design contains photovoltaic panels, potentially providing up to 20% of the garage's anticipated energy requirements. The design also incorporates natural ventilation and focuses plant selection primarily on native species (that are drought tolerant).

## **Community Outreach**

Planning Department Staff mailed out an initial public notice on July 10, 2014, with the tentative Planning Board hearing date (Attachment C). On August 6, 2014, the Applicant conducted an outreach meeting with the stakeholders from the community by letter dated July 15, 2014 (Attachment D). No recipients of the Applicant's meeting notice attended the meeting and no inquiries have been received by Staff since the initial public notice was mailed.

## **CONCLUSION**

The proposed Parking Garage II is compatible with existing adjacent development at the campus and in the neighborhood. The proposal is consistent with the GSSC Master Plan and its guidelines for the Universities at Shady Grove site. The project provides for increased connectivity at the campus and the community. Pedestrian and vehicular circulation systems will be adequate, safe and efficient. This proposal meets the intent and requirements of the LSC Zone. Staff recommends the Planning Board authorize transmittal of the comments to the Applicant, as listed at the front of this report.

### Attachments

- A. Applicant's Project Narrative
- B. GSSC Master Plan LSCs
- C. Planning Department's Public Notice letter
- D. Applicant's Public Notice letter

**MANDATORY REFERRAL REVIEW**

**THE UNIVERSITIES AT SHADY GROVE  
PARKING GARAGE II**

ROCKVILLE, MARYLAND

June 30, 2014

**PREPARED FOR**

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**The UNIVERSITIES**  
*at Shady Grove*

**PREPARED BY**



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- 1) GLPI.01 - GENERAL LOCATION PLAN
- 2) ECP 1.01 - OVERALL EXISTING CONDITIONS PLAN
- 3) ECP 1.02 – PROJECT SITE EXISTING CONDITIONS PLAN
- 4) SDP 1.01 - OVERALL SITE DEVELOPMENT PLAN
- 5) SDP 1.02 – PROJECT SITE DEVELOPMENT PLAN
- 6) URW 1.01 – UTILITIES & RIGHT-OF-WAY PLAN
- 7) VPP 1.01 - VEHICLE AND PEDESTRIAN PLAN
- 8) FSD 1.01 – FOREST STAND DELINEATION PLAN (SUBMITTED TO DNR)
- 9) FCP 4.01 – FOREST CONSERVATION PLAN (SUBMITTED TO DNR)
- 10) SWMI.01 - STORMWATER MANAGEMENT CONCEPT PLAN (SUBMITTED TO MDE)
- 11) SWM 1.02 – CURRENT STORMWATER MANAGEMENT PLAN
- 12) L 1.00 – HARDSCAPE, SITE AMENITIES & LIGHTING PLAN
- 13) L 1.10 – OVERALL LANDSCAPE PLAN
- 14) L 1.11 – STORMWATER MANAGEMENT LANDSCAPE PLAN
- 15) A1.01 – ARCHITECTURAL SCHEMATIC
- 16) A1.02 – ARCHITECTURAL SCHEMATIC
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### APPENDIX B – APPROVALS, CONFIRMATIONS & NOTIFICATIONS

- 1) DNR - FOREST STAND DELINEATION APPROVAL LETTER
- 2) DNR – RARE, THREATENED, AND ENDANGERED SPECIES CONFIRMATION LETTER
- 3) MHT – NO HISTORICAL PROPERTIES CONFIRMATION
- 4) DNR – FOREST CONSERVATION PUBLIC NOTIFICATION ADVERTISEMENT



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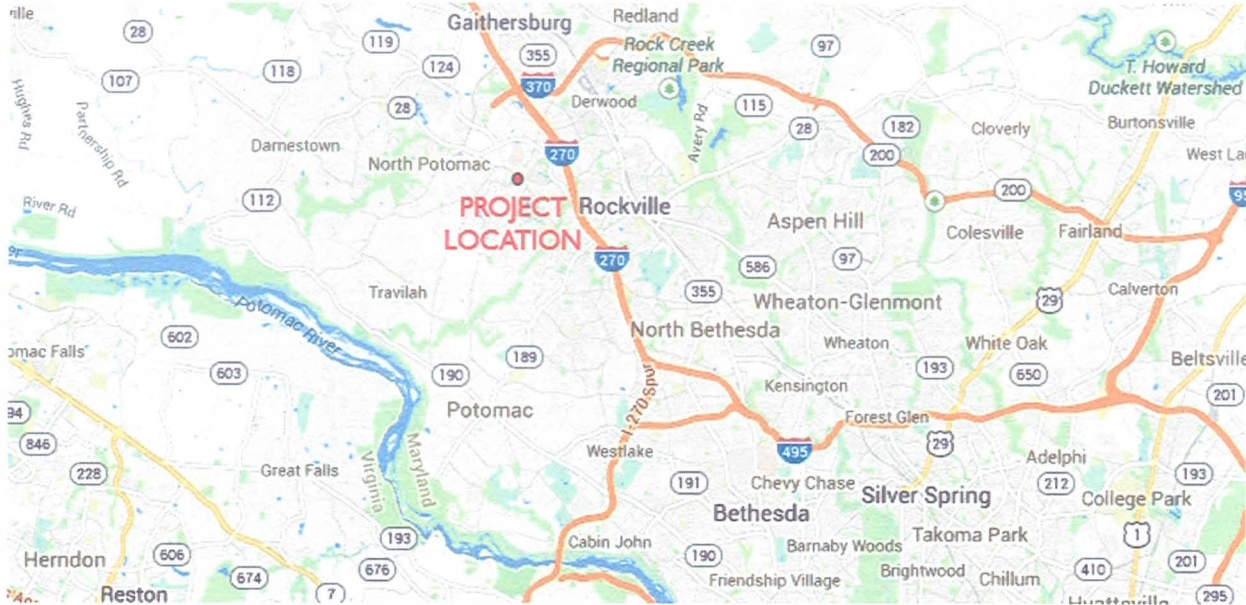
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# I) PROJECT NARRATIVE

## INTRODUCTION



VICINITY MAP



PROJECT LOCATION

To support anticipated future growth at the Universities at Shady Grove campus the university has planned the development of a second parking facility for the east edge of the campus in Rockville, Maryland, located in Montgomery County. The university campus occupies the south portion of an area designated by Montgomery County as the Life Sciences Center District (LSC). The LSC area is comprised of institutions intended primarily for research, development, education, and related activities. The primary purpose of the district is to promote research, academic and clinical facilities that advance the life sciences, health care services, and applied technologies. The Life Sciences Center District itself is part of the larger Montgomery County Great Seneca Science Corridor that incorporates areas of the cities of Gaithersburg and Rockville.

The project site occupies an important corner of the campus that is bounded by Darnestown Road to the north, Shady Grove Road to the east, and Gudelsky Drive to the west. The university leadership envisions that the parking facility shall serve as a gateway to the university, expressing the university's ideals as a center for academic research and technology while acknowledging its relationship as part of the Life Sciences Center District. The garage highlights the university's commitment to sustainable design through the implementation of technologies and materials that limit the facilities carbon footprint.

The primary objectives accomplished by the design and construction of the project are:

- Implementation of a new “open” (no mechanical ventilation) parking facility with approximately 700 total spaces with appropriate allocation that complies with ADA requirements. The garage patrons will primarily be commuting students and faculty. A secondary use will be for conference parking. Provisions have been made for the incorporation of access control measures at vehicular entrance/exit.
- The parking facility is aesthetically pleasing and serves as a gateway to campus and the Life Sciences Center District from vehicular approaches from the north and east.
- The parking facility utilizes forms and materials that express a modern aesthetic with an emphasis on technology that celebrates the universities mission as a center of research and technology. The materials are generally compatible with materials used elsewhere on campus – brick, concrete, glass, and metal.
- The project incorporates sustainable practices and materials and accommodates high efficiency/hybrid cars, preferred parking for carpoolers, motorcycle/scooter parking, electric car charging stations, bicycle storage.
- The design enhances pedestrian and vehicular driver safety through a design that reduces crossover paths for each and affords open sightlines as can be seen on the site plan.
- The facility is appropriately lit within the garage and on the grounds by high-efficiency LED fixtures. Garage lighting is controlled to economize on power consumption while maximizing daylighting. Fixtures incorporate step-down reductions through the use of photocell and motion sensors.
- The design incorporates a primary vehicular entrance and a secondary intermittent use entry. Both entries incorporate provisions for access controls.

- The garage project provides clear wayfinding signage within the garage for both vehicular and pedestrian flow.

The intention of this project is to provide 700 parking spaces in anticipation of future academic building development, which will require the loss of an estimated 300 existing parking spaces. The proposed garage complies with the approved 1994 Master Plan parking guidelines which require 3.16 parking spaces per 1,000 GSF of development and derived from enrollment projections. Construction of the parking garage will result in the following:

Gross Square Feet = 519,000	Total Parking Spaces Required = 1,640
	Total Parking Spaces Provided = 2,075

The new parking garage will be located adjacent to the intersection of Shady Grove Road and Darnestown Road. The entrance and exit from the garage will be internal to the campus from the existing Gudelsky Drive.

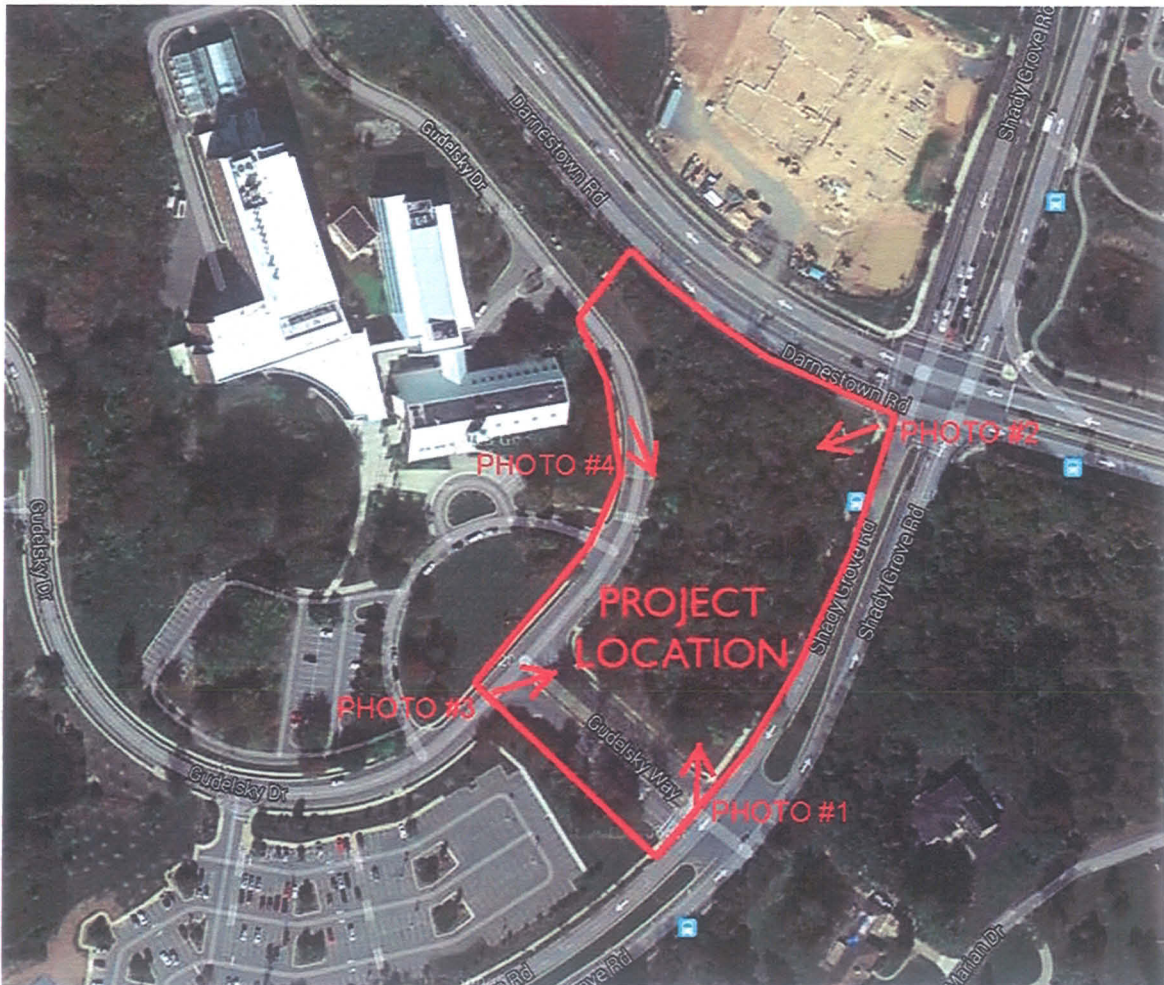




PHOTO #1 – CORNER OF SHADY GROVE ROAD & GUDELSKY WAY LOOKING NORTH



PHOTO #2 – CORNER OF SHADY GROVE ROAD & DARNESTOWN ROAD LOOKING WEST



PHOTO #3 – CORNER OF GUDELSKY DRIVE & GUDELSKY WAY LOOKING NORTH



PHOTO #4 – GUDELSKY DRIVE LOOKING SOUTH

## a) HOURS OF OPERATION

In general, the hours of operation for campus academic buildings and activities are Monday through Friday, 8:00 a.m. – 10:00 p.m.; Saturday, 8:30 a.m. – 7:00 p.m.; Sunday 8:00 a.m. – 10:00 p.m. The library in Building III remains open later for students, faculty and staff. The new parking garage does not have specified hours of operation and as such will have continuous operation.

## b) MONTGOMERY COUNTY GENERAL PLAN COMPLIANCE

The design intent of The Universities at Shady Grove Master Plan anticipates sizable parking structures for their importance in facilitating a reduction in impervious area- thus allowing increased building density for programmatic requirements such as classrooms and educational and service facilities (per 59-C-5.473). To this end, the Master Plan places three parking structures at entry points equidistant from the campus center. While the garages are located for parking distribution and efficiency of access, their role in form making is essential to successfully defining the building line at the street and to creating an internally-focused campus that highlights woodlands and wetlands as sustainable environmental features.

The new parking garage is designed to achieve the Master Plan goals and therefore generally conforms to the currently approved campus Master Plan. Additionally the campus Master Plan conforms to the goals and intentions set forth in the Great Seneca Science Corridor Master Plan (which itself promotes the removal of surface lots in favor of structured parking when applicable) and the plans for the development of the Life Science Center.

## c) SIDEWALK AND PATHWAYS

The proposed parking garage project is immediately adjacent to the intersection of Darnestown Road and Shady Grove Road. The project site corner of Darnestown Road and Shady Grove Road provides an existing curb ramp to receive pedestrian and bicycle traffic. This receiving curb ramp and the existing sidewalk adjacent to southbound Shady Grove Road will remain and be accessible during the parking garage construction.

The parking garage project will include a new walkway providing a connection from the existing corner curb ramp, into campus with crosswalks proposed to an existing campus sidewalk adjacent to Gudelsky Drive.

## d) TYPICAL ROADWAY SECTIONS

There are no roadway sections necessary for this design for public or private roads. The two parking garage access drives will connect to Gudelsky Drive (private drive). The primary entrance drive is predominately 2 lanes wide at 27 feet with a portion of the drive 3 lanes wide, 37 feet, as it approaches the garage entrance. The secondary entrance is 2 lanes wide at 24 feet. Both entrances are projected to have mechanical controls.

## e) HISTORICAL PROPERTIES

There are no known historical properties impacted by this project. Maryland Historical Trust has reviewed the site and confirmed no historical properties are impacted by the proposed project. A copy of the confirmation letter is enclosed in Appendix –B.

## f) PROJECT PHASING

The new parking garage will be constructed as an individual project and is not part of a phased project. The demolition of Gudelsky Way and construction of the new access drive however will be phased as necessary to keep construction traffic separate from ongoing campus activities and traffic.

The parking garage project immediately follows a project to re-locate the existing Gudelsky Way entrance to a more southern approach from Shady Grove road. The relocated entry drive will be completed prior to the start of the parking garage project and the former Gudelsky Way entrance will temporarily be used for construction traffic during the parking garage project. Upon completion of the parking garage project, Gudelsky Way will be permanently closed.

## g) LAND OWNERSHIP

The Universities at Shady Grove campus is a single 45.71 acre parcel owned by the State of Maryland with the following information: Parcel 410, Grid FR43, District 04, Subdivision 0001, Liber 15534, Folio 0302.

## h) PROJECT FUNDING

A Memorandum Of Understanding between Montgomery County and University Systems of Maryland (USM) outlines that USM will initially pay for the parking garage and related site improvements with the County reimbursing USM over 3 fiscal years starting in FY 15.

## i) PUBLIC PARKLAND

The proposed parking garage project will not impact public parkland.

## j) GREEN BUILDING CERTIFICATION

The Universities at Shady Grove campus is committed to being a leader in sustainable development and construction practices. The design team has learned that the United States Green Building Council Leadership in Energy and Environmental Leadership (LEED) certification is no longer available for parking structures. As such the parking garage project will be submitted to the Green



Parking Council for certification. As this certification program is in its infancy and not all sustainable credits information has been released, the design team cannot at this time determine the level of accreditation the project may achieve. As soon as the enrollment process is made available, the project will be submitted for review and certification.

In addition to the Green Parking Council certification, the project is proposing the incorporation of photovoltaic panels (PV). If the final budget permits the installation of the PV panels, current estimates suggest the panels could provide up to 20% of the anticipated energy demands for the garage. Further, the garage design provides natural ventilation of the structure and includes plant selections primarily consisting of native and adaptive species.

## 2) GENERAL LOCATION MAP

The Shady Grove Campus is located in an area bounded on the north and east by Darnestown Road, on the south by Shady Grove Road, and on the west by Traville Gateway and the Traville Gateway shopping center. A General Location Map is provided in Appendix A.

## 3) SITE DEVELOPMENT PLAN

The project will consist of a 5-level, (700 +/- space) parking garage with 2 separate access drives and a vehicular connection to the existing surface lot adjacent to the project site. The primary access drive on the south side of the garage is proposed to be 3 lanes wide allowing for flexibility of traffic control procedures during large events. The secondary access drive on the west side of the garage is 2 lanes wide and will typically be used only during larger events.

A concrete walkway (8 ft. wide) will provide a pedestrian connection from the existing campus walkways to the existing walkway adjacent to Shady Grove Road. Several painted crosswalks will be provided at Gudelsky Drive with another crosswalk at the new driveway connection to the surface parking lot.

The project will also include electrical, telecommunication, water, storm drain upgrades, while protecting nearly all of the existing utilities. Several micro-bioretenion facilities will provide stormwater management while a dense planting plan and lighting will enhance the experience of students, faculty, and guests.

The existing site (3.4 +/- acres) primarily consists almost entirely of disturbed pioneer forest of relative poor quality due to a large number of vines and invasive species having developed over years of unmanaged old field succession. The site also contains a number of public utility easements which coupled with the parking garage program and stormwater management requirements will require the clearing of 2.2 acres of forest. The forest clearing is detailed further in the Forest Stand Delineation and Forest Conservation plans and reports.

All site work will be constructed in accordance with applicable federal, state, and local codes and regulations.

Site Plans, SDPI.01 and SDPI.02 are enclosed in Appendix A. The site plan contains the existing elements to remain, site and adjoiner boundaries, proposed building footprint, vehicular and pedestrian connections, utilities, and stormwater management facilities.

#### 4) UTILITIES AND RIGHTS-OF-WAY MAP

The location of existing utilities and associated rights of way are shown on URWI.01 in Appendix A. There are two WSSC owned water lines in the vicinity of the proposed project site. A single 12" WSSC water main (WSSC contract no. 825298F) travels along Gudelsky Drive from the west side of the campus to the east side. That same water line splits and goes south at the existing Gudesly Way (WSSC contract no. 825298E).

There is a single WSSC owned sanitary sewer segment on the west side of campus, just north of Gudelsky Road (WSSC contract no. 982150C). This is an 8" PVC sanitary line and is not within the project limits of disturbance.

A C & P telephone & Pepco easement exists on the east side of campus, containing several significant power poles with telephone lines. The nearby power poles will provide the source of power for the parking garage and will extend underground from an existing power pole.

There is also a public utility easement for a 4" gas line to the southeast corner of the campus along Shady Grove Road.

Other easements on campus, but not within the project limits of disturbance include a 2.3 acre forest conservation easement along the northern side of campus and three minor water and sewer easements along Darnestown Road. Additional Forest Conservation Easements are likely to be recorded as a part of a separate project (New Entry Road), however the recordation of easements associated to that project could not be confirmed prior to submittal of this document. The parking garage project does not propose any impact to existing or proposed easements by other projects.

A new storm drain system will be constructed as part of the parking garage project. The system will consist of inlets, manholes, and storm drain piping. The system will convey run-off from the proposed development to the appropriate stormwater management facilities. The storm drain system will be designed in accordance with Montgomery County standards. The location of the storm drain system is indicated on sheet SDPI.02 in Appendix – A.

#### 5) PEDESTRIAN AND VEHICULAR CIRCULATION MAP

The Universities at Shady Grove is bounded by Darnestown Road to the north and east, Traville Gateway Drive to the west, and Shady Grove Road to the south. Regional access is provided by I-270 to W. Montgomery Avenue to Darnestown Road (from the south), or I-270 to Shady Grove Road (from the north). There are two current access points for the campus: Gudelsky Drive is off of Traville Gateway Drive via a roundabout and the new entry road which will be signalized (construction to begin August 2014, prior to the parking garage project).

Shady Grove Road and Traville Gateway Drive both provide access to Traville Village Center, a nearby shopping center with retail and office uses. A Vehicle and Pedestrian Plan, VPP 1.01, is

enclosed in Appendix A. This plan illustrates the primary vehicular and pedestrian routes into and around the Shady Grove Campus.

The parking garage project will remove Gudelsky Way and convert this roadway into the primary access drive for the parking garage. This access drive will also include a connection drive to the adjacent surface parking lot. A secondary access drive will be provided to the garage from Gudelsky Drive. A concrete walkway will provide a pedestrian connection from the existing walkway along Shady Grove Road to the existing walkways on campus.

## 6) NATURAL RESOURCE INVENTORY/ FOREST STAND DELINEATION

A Forest Stand Delineation (FSD) plan was prepared by Eco-Science Professionals, Inc. in collaboration with Site Resources Inc. The FSD was submitted to the Maryland Department of Natural Resources on May 29, 2014 and includes the delineation of the forest stand, specimen trees, soils types and wooded areas not within the project limits. No steep slopes are present within the project site. Stream, wetlands, and associated buffers are present on the campus, however they do not exist within the project site. The project will drain to the Gudelsky Pond stormwater management facility after discharging from several micro-bioretenion facilities on the site. The Forest Stand Delineation plan (FCA file # C14-29) has been approved by DNR. A copy of the Forest Stand Delineation Plan is enclosed in Appendix- A and a copy of the DNR approval letter is enclosed in Appendix –B.

Federal Emergency Management Administration (FEMA) Community Panel Numbers FM24031C0327D and FM24031C0329D indicate that neither the University of Maryland Shady Grove campus nor the proposed project limits are within a FEMA 100-year floodplain.

Submissions have been made to DNR and the US Fish and Wildlife Service (USFWS) to verify that no rare, threatened, or endangered species or critical habitats are readily observable within the project limits. DNR has confirmed no species are recorded on the site per state and federal records. A copy of the confirmation letter is enclosed in Appendix –B.

## 7) SPECIAL PROTECTION AREA

The site is located within the Piney Branch Special Protection Area (SPA). Since the University of Maryland, as the applicant for this project is a State entity; the stormwater management and erosion and sediment control permitting will be subject to review and approval by the Maryland Department of Environment (MDE). A courtesy copy of the MDE Stormwater Management and Erosion Control submission is enclosed in Appendix-A.

## 8) FOREST CONSERVATION PLAN (FCP)

Since the University of Maryland is a State entity, all forest conservation requirements for this project will be submitted to, reviewed and approved by the Maryland Department of Natural Resources.

The campus currently has a number of areas already recorded for Forest Conservation Easement and is working to recorded additional areas as a part of the New Entry Road project. No impacts to those recorded or pending recorded easements are proposed by the parking garage project. Additionally much of the remaining land on campus has been master planned for future building development. As such no suitable land on-site can be allocated to meet the Forest Conservation requirements for the Parking Garage #2 project. Further no adequate or suitable off-site parcel has been identified as an available option to meet the FCP planting requirements. As such the owner recognizes they will need to provide a fee-in-lieu payment to meet the afforestation and reforestation requirements.

A copy of the Forest Conservation Plan is enclosed in Appendix- A.

## 9) TOPOGRAPHIC MAP

The existing project area generally slopes from the Shady Grove Road toward Gudelsky Drive. The center of the site is a minor plateau at elevation 453, draining primarily to the southwest to Gudelsky Drive at 448.

The proposed plan captures nearly all of the runoff from the site into micro-bioretenion facilities and storm drains which eventually discharge into the existing Gudelsky Pond on the campus. Existing topography can be viewed on the Existing Conditions Plan enclosed in Appendix-A. The proposed topography can be viewed on the Site Development Plan, also enclosed in Appendix-A.

## 10) PRELIMINARY STORMWATER MANAGEMENT CONCEPT PLAN

The site is located with the Piney Branch Special protection Area (SPA). Since the University of Maryland, as the applicant for this project is a State entity; the stormwater management and erosion and sediment control permitting will be subject to review and approval by the Maryland Department of the Environment (MDE). A courtesy copy of the concept stormwater management and erosion control plans submitted to MDE is enclosed in Appendix-A. As the project design has continued to advance, a refined stormwater management plan titled SWM 1.02 Current Stormwater Management Plan is also enclosed in Appendix A.

Based on the Maryland Department of the Environment criteria, this project is considered "New Development" since the existing amount of impervious area within the project areas is less than 40%. As such, the project will be required to provide treatment for a minimum PE of 1.8 inches or and ESD volume of 10,430 cubic feet. The proposed limits of disturbance of this project total approximately 3.43 acres all of which are contained within the campus boundary.

Stormwater management treatment will be provided via 6 micro-bioretenion facilities (this number has been revised since the concept plan was produced), currently providing a total ESD treatment volume greater than the minimum required. Additionally several areas of non-rooftop disconnect

are now proposed. Further all proposed ESD features and much of the disconnect will be collected into proposed and existing storm drain systems that discharge into the existing Gudelsky Pond (MDE Dam #409), providing a secondary treatment.

## 11) LANDSCAPE PLAN & LIGHTING PLAN

The proposed garage will be heavily used by students, faculty and campus guest. Additionally the garage will be highly visible from Shady Grove and Darnestown Roads. The campus recognizes the importance in developing a parking facility that not only meets the functional needs of the campus, but one that is also aesthetically pleasing to the campus and surrounding community. As such the campus is determined to provide a landscape that not only compliments the architecture of the parking structure, but one that provides a safe, warm and welcoming gateway into the campus.

The landscape adjacent to Shady Grove Road and Darnestown Road provides for a more formal landscape with deciduous and evergreen trees, shrubs, perennials and areas of manicured lawn, whereas the campus side of the garage is more densely planted with shrubs, perennials, groundcovers and ornamental grasses. Additionally the stormwater management areas and associated planting provide educational opportunities in immediate proximity to pedestrian spaces.

Plant materials have been carefully selected and placed according to their tolerance of varying conditions such as sun/shade, soils, moisture, micro-climates and salt tolerances. Safety, maintenance practices and locations of existing and proposed utilities will also shape the planting design and selections. A copy of the proposed overall landscape LI.10 and stormwater specific landscape LI.11 is enclosed in Appendix A.

Pedestrian and vehicular lighting will be located through the project. The pedestrian lighting will primarily occur along the proposed walkways and may be a combination of architecturally styled "light sticks" and bollard lights, which the vehicular lighting will match campus standards. Lighting will be located to maintain appropriate lighting levels around the site with safety as a key driving force in the locations and selection of fixtures. A copy of the hardscape, site amenities and lighting, sheet LI.00 is enclosed in Appendix A.

## 12) OVERALL CONCEPT DEVELOPMENT PLAN

The proposed parking garage project complies with the currently approved campus master plan. The parking garage is part of the overall campus development and precedes future academic building construction so that parking may be provided prior to the anticipated loss of parking when future academic buildings are constructed.

## 13) NOISE COMPLIANCE

Although the construction will be located on campus and is separated from the nearest residential community by Shade Grove Road and a mature tree buffer off-site, the campus recognizes that

construction activities will inevitably generate noise. To ensure minimal noise impact to surrounding areas, the contractor will be required to follow all County noise ordinances during construction. Post construction, it is not anticipated the garage will generate a nuisance due to noise.

#### 14) ARCHITECTURAL SCHEMATICS

Enclosed in Appendix A are several 3-D architectural schematics illustrating the general scale of the garage and relationship of the garage to the surrounding campus and roadway environments. Additionally the viewer can get a sense of the material selections and overall aesthetics of the proposed garage.

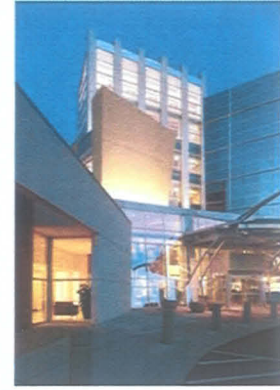
#### 15) TRAFFIC IMPACT STATEMENT

The parking garage in itself does not generate new vehicular trips into campus. Additionally the garage is proposed for construction this year to offset the potential future loss of parking elsewhere on campus, if additional academic development occurs. Further the project does not directly impact access to or from Shady Grove Road. The adjacent "New Entry Road" project recently received approval for their signal warrant analysis and new traffic signal design.

## the life sciences center

### Planning for Science, Health Care, and Transit

The Plan's vision for the LSC builds on the strong foundation of existing institutions and businesses, and the County's land use plan that brought together health services, academia, and research and development companies. Today, the LSC has the largest concentration of, and is the premier location for, research and biotechnology companies in the County.



The future viability of the LSC requires the following components:

- opportunities for growth and expansion of existing enterprises
- a dynamic environment that will attract skilled workers and investment
- infrastructure and services to support future development
- staging development to balance growth and minimize adverse impacts
- sustainable practices that provide a quality of place.

Transit is an essential element of this Plan and is the basis for the land use and zoning recommendations. A strong public and private commitment to the Plan's transit proposals will help ensure that the LSC is connected internally as well as to the rest of the Corridor.

### Vision

*"It's heading right at us, but we never see it coming...The most important things happening in the world today won't make tomorrow's front page...They'll be happening in laboratories—out of sight, inscrutable and unhyped until the very moment when they change life as we know it."*

— "The Future is Now," *The Washington Post*, April 13, 2008

This Plan establishes a blueprint for the LSC that includes an expanded, first-class medical center, research facilities, academic institutions, and an array of services and amenities for residents, workers, and visitors. It will have an open space system that incorporates the area's natural environmental features into a larger network, connecting destinations by paths and trails, and providing opportunities for a range of outdoor experiences.

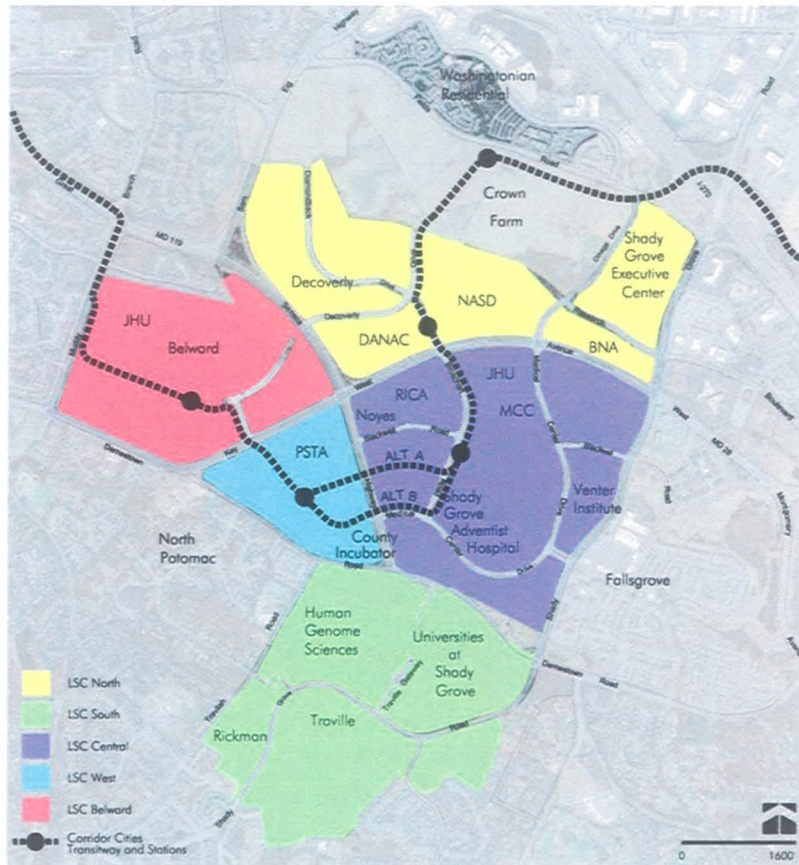
The LSC of the future will be served by a fully integrated transit system that links mid-County activity centers via the Corridor Cities Transitway (CCT). Access to high quality transit is increasingly important to businesses trying to attract knowledge-based, creative class workers. The LSC will continue to be a specialized employment center but it will be connected by transit with nearby residential communities at the Shady Grove Metro Station, the King Farm, the Crown Farm, Kentlands, and the Watkins Mill Town Center.

The following objectives will help implement the Plan's vision:

- Life science uses should be given priority.
- Density and height should be concentrated at transit stations amid transit-oriented mixed-use development at LSC Central, LSC West, Belward, and LSC North.
- Historic and environmental resources should be protected.

- Buildings within one-eighth mile of the future CCT stations should be at least 60 feet high. In all other areas, the desired minimum building height is 36 feet (three stories of occupied space) in order to retain land for future higher densities.
- Mixed-use development is emphasized; single purpose or free standing retail buildings are inconsistent with the Plan's vision in any phase of development.
- Structured parking should be hidden from the street; although surface parking is inconsistent with the Plan's vision, it is anticipated and acceptable on an interim basis.

## map 5 Life Sciences Center Districts



*In previous plans, the Life Sciences Center was identified as the block that includes Shady Grove Adventist Hospital and the larger area was called the R&D Village. This Plan applies the term LSC more broadly to five districts, incorporating the Belward property to the west and the Universities at Shady Grove to the south.*

## Today's LSC

The LSC's two academic institutions—the Universities at Shady Grove (USG) and the Johns Hopkins University-Montgomery County Campus (JHU-MCC)—have increased its prominence and expanded opportunities for collaboration. Shady Grove Adventist Hospital provides the broader community with a full range of health care services. A number of biotechnology companies, including Human Genome Sciences, BioReliance, and the J. Craig Venter Institute, are located here. Many of the goals for the LSC have been realized. As originally envisioned, the LSC had a specific land use purpose with a unique employment niche. Residential and retail development was planned for large tracts surrounding the LSC, rather than integrated within the Center. The LSC and R&D Zones ensured that land would be reserved for life sciences to concentrate these uses and accomplish the original vision for the LSC. Housing and retail were specifically excluded from the LSC and R&D zones to enable the



primary land uses of medical, life science, and academia to become established and have room to grow.

Today, the LSC contains nearly seven million square feet of commercial development and has 3.7 million square feet of approved development in the pipeline. Many LSC sites have maximized their development potential under the existing zoning.

The LSC’s physical framework is modeled on a 20-year-old development program for suburban research parks. The LSC looks and functions like a conventional office park, with single-purpose clusters separated by wide highways and surrounded by parking lots. This model ensures auto-dependence and discourages walking. There is so little variety of uses in the LSC today that employees often drive to lunch spots because there are no services within easy walking distance.

**table 1 life sciences center: existing and proposed zoning**

Zone	Description	Existing Acreage	Proposed Acreage
LSC	Life Science Center	226	419
CR	Commercial-Residential	0	162
R&D	Research and development	167	0
O-M	Office building, moderate intensity	85	51
I-3	Technology and business park	24	0
H-M	Hotel-motel	3	3
C-2	General commercial	42	0
C-3	Highway commercial	3	0
C-4	Limited commercial	4	1
C-T	Commercial, transitional	0	2
MXN	Mixed-use neighborhood	192	192
MXPD	Mixed-use planned development	42	42
R-10	Multiple-family, high density residential	7	7
R-60/TDR	Residential, one-family/TDR	60	60
R-90/TDR	Residential, one-family/TDR	62	0
R-200	Residential, one-family	22	0
RT-8	Residential, townhouses	5	5

## Tomorrow's LSC: Linking Land Uses/Connecting Communities

This Plan envisions the LSC with an enhanced role as the County's premier life sciences location. Transforming today's suburban, auto-oriented LSC into tomorrow's walkable, vibrant science center requires changing the built environment and the mix of uses over time. The CCT is the centerpiece of the Plan's vision for the LSC.

The CCT in the I-270 Corridor will:

- provide a transit option among the Corridor Cities
- improve mobility within the Corridor
- alleviate congestion on I-270
- extend transit service west and north of the Shady Grove Metro Station (the terminus of the Red Line).

The 14-mile CCT transit line will run from the Shady Grove Metro Station to the Comsat site in Clarksburg. Fourteen stations are planned, with park-and-ride facilities at seven. The alignment is planned as an exclusive, dedicated facility for either light rail transit (LRT) or bus rapid transit (BRT) with limited interaction with vehicular traffic at local street crossings. It is planned to include a multi-use path.

Both the 1964 General Plan and the 1970s Gaithersburg and Germantown plans included the concept of a transitway. It has been recommended in all subsequent I-270 Corridor master plans, including the 1994 *Clarksburg Master Plan and Hyattstown Special Study Area* and the 1993 *Frederick County Comprehensive Plan*.

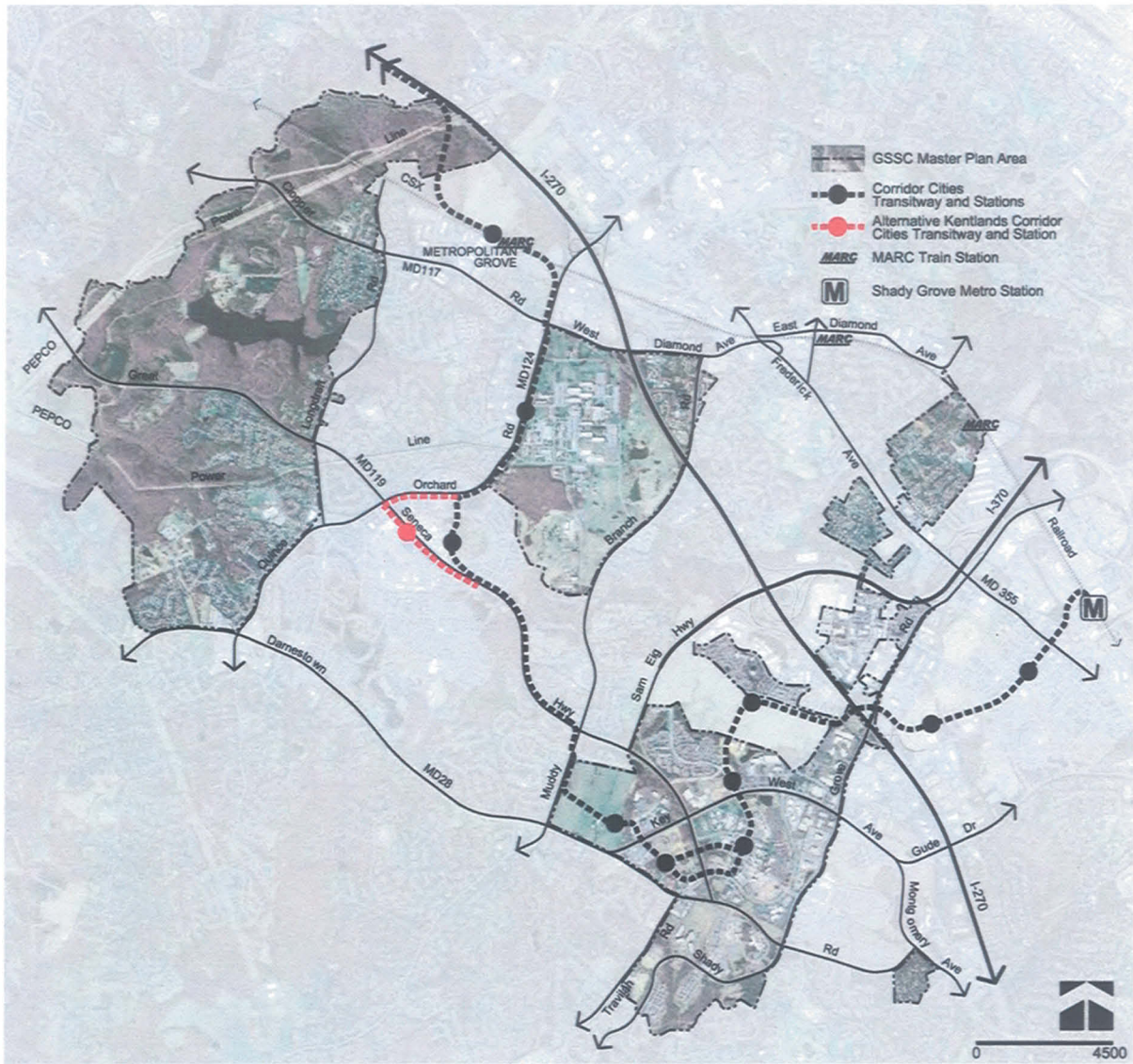
This Plan recommends aligning the CCT through the heart of the LSC where it can serve businesses, institutions, and other users.

The Plan builds a pattern of density focused on the four LSC districts where CCT transit stations are proposed: North, Central, West, and Belward. Increased density is recommended at proposed transit stations and development can only proceed in stages that are linked to the provision of infrastructure, most importantly, the CCT.

The LSC South District is not recommended for increased densities largely because it is within the Piney Branch Special Protection Area. The CCT route will bring transit close to LSC South, where it can serve the Universities at Shady Grove, Human Genome Sciences, and the Traville community. The alignment offers two alternatives between the LSC Central and LSC West stations.

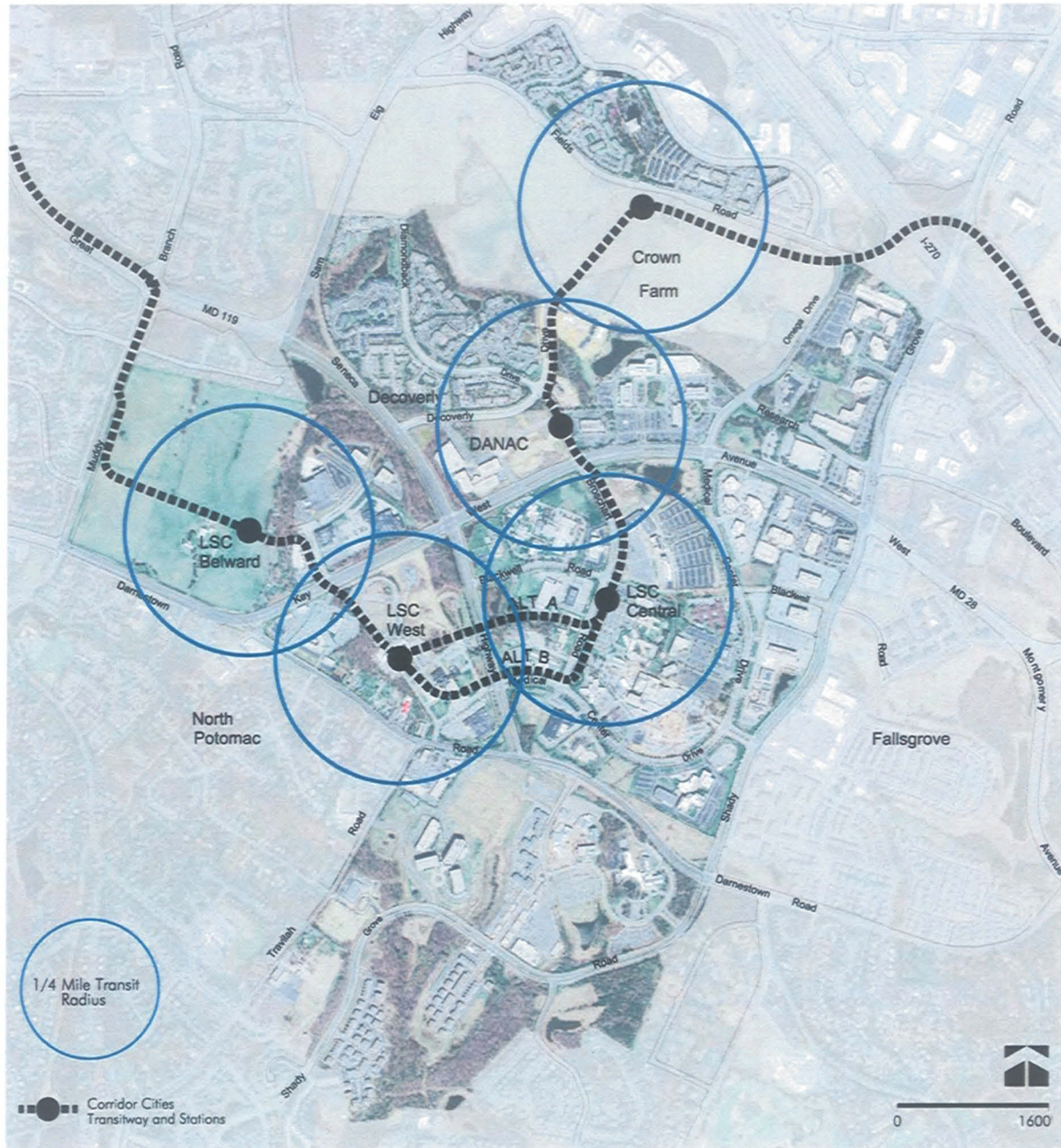


map 8 Corridor Cities Transitway (Phase 1)



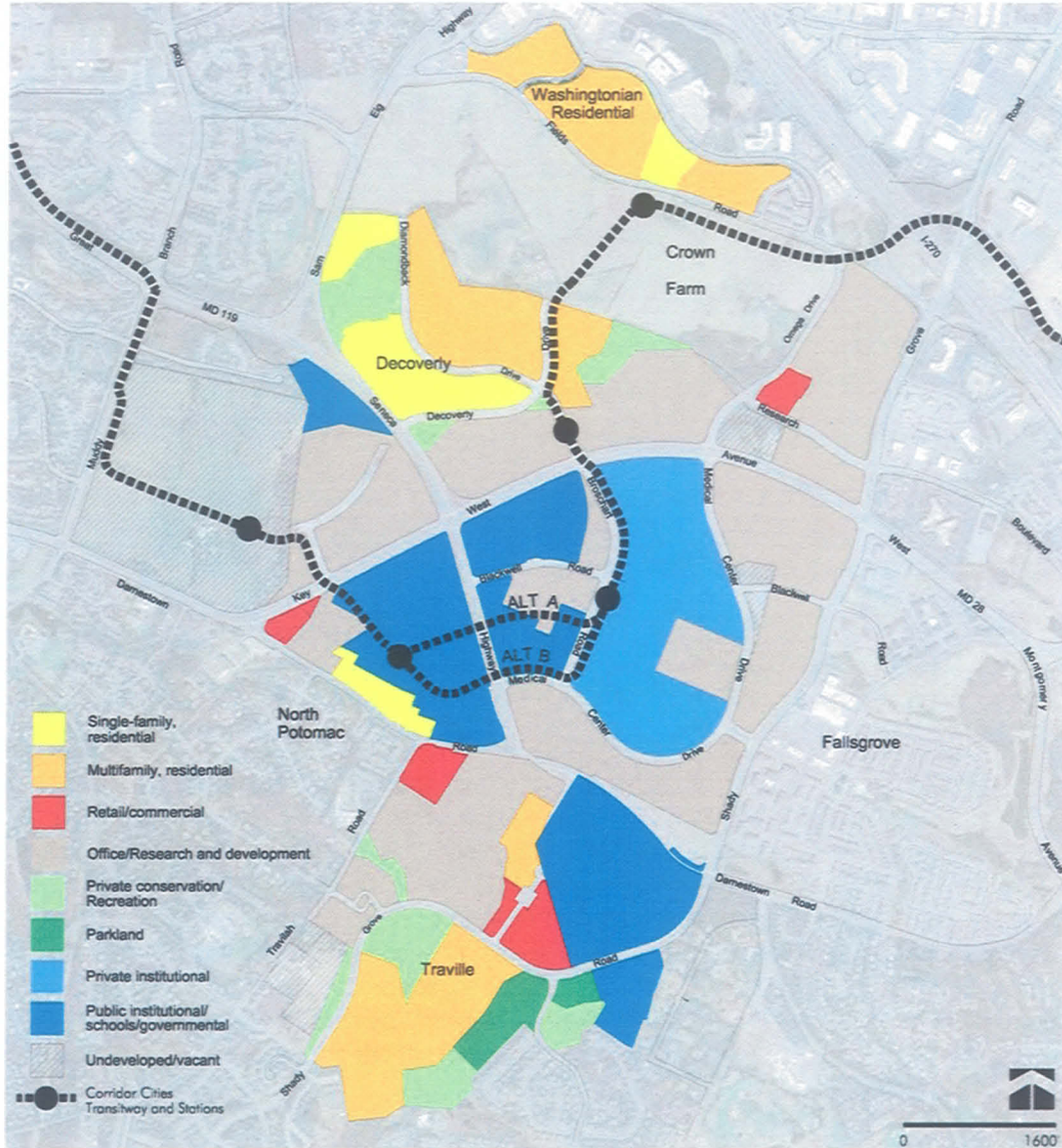
The CCT's first phase will be from the Shady Grove Metro Station to the Metropolitan Grove MARC Station. The second phase would extend the line from Metropolitan Grove north to Germantown and Clarksburg. The CCT route and design will not only connect people and places, but its stations will be the focal point of new development in the Corridor.

map 9 Corridor Cities Transitway: LSC Alignments and Stations



The Plan's four proposed LSC stations are located where new development and redevelopment is expected, increasing the number of potential CCT riders within a quarter-mile radius, or a five-minute walk.

map 10 LSC Existing Land Use



- There are 3,262 dwelling units in the LSC area—
- 1,368 units in the Washingtonian residential cluster
  - 1,144 at Discoverly
  - 750 (including 230 senior units) at Traville

Overall, the potential residential land use for the greater LSC could yield a maximum of 5,750 additional dwelling units to complement a projected total of 52,500 jobs (based on existing, approved, and proposed development). The resulting ratio of 5.8 jobs per dwelling unit is based on the existing housing in the greater LSC area (3,262 dwelling units, including the Traville, Discoverly, and Washingtonian residential cluster) combined with the potential new housing (5,750 dwelling units) for a total of 9,012. This jobs-housing ratio reflects the Plan’s emphasis on the life sciences and health care services but does not include the substantial amount of existing housing nearby in Rockville, Gaithersburg, and Potomac. Within an approximate two mile radius of the LSC, there are over 25,000 existing households and the jobs-housing ratio is 2.8.

The LSC will be part of a continuum of communities linked by the CCT, enabling people to live and work within the corridor and get where they need to go by transit. At CCT stations to the east and west of the LSC, over 10,000 dwelling units are planned in pedestrian-oriented, mixed-use communities, including the Shady Grove Metro Station, the Crown Farm, and Watkins Mill Town Center. Creating such places fosters sustainable development and helps reduce sprawl as well as our dependence on autos.

### Urban Form and Open Spaces

The LSC districts will be connected through a refined street network, transit, and trails. The highest density and building height will be concentrated at the proposed CCT stations. People may live and work in the same district, but interact with colleagues in another district. Overall, mobility will be enhanced through options other than cars, and shorter trips.



The streets, buildings, and open spaces will create a physical environment that supports the research community and enhances opportunities for people to interact. Design guidelines for the LSC, in a separate document, provide detail to guide new development and implement the urban form recommendations in this Plan.



The Plan’s urban design recommendations set the scale and character for the LSC.

- Circulation on a pedestrian-oriented street grid that creates pedestrian and bicycle connections to transit and between uses and districts.
- Buildings that define the public spaces, streets, plazas, parks, and views.
- A system of public open spaces that provides a setting for community activity and also preserves natural resources.
- A standard for sustainability that reflects the LSC’s cutting edge science.

### Circulation

The LSC will have a walkable street system with a grid network. Streets and transit will tie the districts together. The LSC Loop, described below, will unify the pedestrian and bicycle circulation system of sidewalks, bikeways, trails, and paths that provide mobility and recreation options. The CCT will include a multi-use path that will enhance connectivity among the LSC districts.

- Grid network of streets
- Sidewalks connecting districts, providing access to transit and public spaces
- CCT transit stations and multi-use path

### Buildings

Buildings oriented to the streets and public spaces will be built based on development standards that accommodate a variety of uses, including laboratories, prototype manufacturing, offices, academic buildings, residences, and retail spaces. Allowing mixed uses is critical to achieving the Plan’s vision. Building standards will also ensure that new development provides compatible transitions to adjacent neighborhoods along Darnestown and Muddy Branch Roads.

- Buildings and residential entrances oriented to streets
- Parking garages located on block interiors
- Visible retail focused at CCT stations

### Sustainability

Sustainability is defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs. A sustainable community integrates economic viability,

environmentally conscious design, social equity, and renewable energy sources. The compact, walkable, and green community envisioned for the plan area integrates many aspects of sustainability. It accommodates new residents and businesses while reducing land consumption and vehicle miles traveled, thereby reducing the carbon footprint from new development in the County.

Urban development patterns served by transit can reduce dependence on the automobile. Outside of the Belward site, most new development will take place over existing surface parking lots. An expanded street grid with adequate sidewalks and street trees along with the LSC Loop will encourage people to walk or bicycle to local services or destinations. Energy conservation, onsite energy generation, or renewable energy sources will reduce the costs of energy transmission and the carbon footprint of the new development. Energy efficient building design will reduce energy costs for building materials and energy usage. On-site stormwater management improves water quality and quantity. Street trees add to the tree canopy and reduce the heat island effect. Mixed uses put services in easy reach of residents. New residential development will provide more affordable housing and expand opportunities for economic diversity located near transit and services.

Sustainable development first preserves existing resources and then improves environmental conditions.

### **Resource Protection and Preservation**

This Plan recommends ways to restore environmental functions in the Plan area as it redevelops, including: water quality protection (intercepting, detaining, evaporating, transpiring, and filtering precipitation and infiltrating it into ground water tables, preventing erosion and sedimentation, controlling flooding), air quality protection (filtering pollutants from air, producing oxygen), climate protection (sequestering and storing carbon, reducing urban heat island effect), protection of biological diversity (provision of habitat), and health benefits (clean air and water, recreational benefits, mental health benefits). Redevelopment of already disturbed areas will avoid losses of natural resources in the outer portions of the County. To preserve and enhance natural resources and their associated functions in the Life Sciences Center, this Plan:

- Creates a local street network that avoids impact to natural resource areas as much as possible (see page 53).
- Recommends that facility plans for any new roads minimize impacts to existing resources.
- Recommends creation of the Life Sciences Center Loop (see page 32). Existing natural resource areas are preserved through the Planning Board's Environmental Guidelines and connected by the LSC Loop.
- Where possible, use required forest and tree planting to enhance and expand existing resources.

### **Water Quality**

Wherever development occurs, water quality impacts result primarily from the creation of impervious surfaces that seal off the soil layer and remove forests and tree canopy. Increases in imperviousness and decreases in forest cover have been associated with declines in water quality. Pollution from vehicles and road salts accumulates on roads and parking lots, and is washed off and carried into nearby streams in rain and snow events. In summer, rain water is heated on contact with unshaded impervious surfaces, creating temperature spikes in aquatic systems that can be damaging to aquatic organisms. Rainfall and snowmelt runs off impervious surfaces quickly, creating erosive flows that damage streams and carry harmful sediments into streams, rivers, and the Chesapeake Bay. Infiltration is the most difficult of the environmental functions to restore, as it requires reconnecting runoff with the soil. Approaches for improving water quality in urbanizing areas should recognize opportunities presented by both horizontal and vertical surfaces at various levels throughout the development.

Many of the techniques recommended in this Plan are included in the Environmental Site Design (ESD) stormwater treatment approaches now required by State and local laws and regulations. In addition, the County will be undertaking retrofit programs consistent with the requirements of the state stormwater permit. The result of this combination of regulation, County retrofit programs and master plan recommendations will be the restoration of natural resources and environmental functions that can be incorporated into the concentrated development pattern envisioned for this area.

To protect water quality, this Plan:

- Recommends site design and construction options that minimize imperviousness. These options include:
  - Compact development.
  - Parking options such as reduced parking requirements and the use of structured parking and/or shared parking facilities (see page 55).
- Recommends the use of bioswales, planter beds, rain gardens, pervious pavement, the incorporation of non-paved areas into open spaces, and similar techniques included in Environmental Site Design. Techniques that increase soil volume and porosity under paved areas are recommended to enhance infiltration opportunities.
- Recommends the use of vegetated roofs and walls.
- Recommends increasing tree canopy. Specific tree canopy goals are:
  - Predominantly commercial mixed-use areas: 15-20 percent minimum canopy coverage.
  - Predominantly residential mixed-use areas: 20-25 percent minimum canopy coverage.
  - The Belward Campus, with its specialized institutional use and protection of existing natural resources, should have minimum canopy coverage of 30 percent.These goals should be met by combining forest conservation requirements with street tree plantings and landscaping plantings (see page 86). Public and private open space areas should strive for a minimum of 25 percent canopy coverage. Surface parking areas should meet or exceed 30 percent canopy coverage.
- Recommends incorporating tree canopy and infiltration techniques into portions of the LSC Loop that connect existing natural areas.
- Recommends incorporating tree canopy and infiltration techniques into other open spaces wherever feasible.
- Recommends landscaping with plants that do not require extensive watering or fertilization. Native plants that are adapted to grow in our area are preferred.
- Recommends the use of low-flow plumbing fixtures in buildings.
- Promotes using techniques that capture and re-use stormwater and/or graywater (graywater is water from sinks, bathtubs and showers that can be safely used for watering plants or flushing toilets). This may include the use of rain barrels and cisterns. These uses must be consistent with County health regulations.

### **Piney Branch SPA**

Portions of the Life Sciences Center area are included in the Piney Branch Special Protection Area for water quality and contain remnants of the rare habitat provided by the serpentinite rocks that underlie parts of this area. Special Protection Areas require that a water quality plan be prepared detailing how impervious surfaces will be minimized and how advanced and redundant stormwater treatment measures will be achieved. Most of the Special Protection Area is in the LSC South District, where this Plan recommends that development be restricted to existing and approved development, with the exception of the Rickman Property. Development on this property should minimize new impervious surfaces especially on that portion of the property that drains to the Special Protection Area. A small portion of the SPA extends north of Darnestown Road into the southern portion of the LSC Central District. Most of this area is already developed.



- Future redevelopment in this area should minimize imperviousness in their site designs, particularly in the Special Protection Area (see page 50).
- Any development that involves or is adjacent to serpentinite habitat should preserve this area and provide additional buffering wherever possible.

### **Air Quality**

Most impacts to air quality result from the operation of motorized vehicles and regional energy production involving the combustion of fossil fuels. Impacts include the emissions of precursors of ground-level ozone, volatile organic compounds, carbon monoxide, oxides of nitrogen and sulfur, and fine particulates. Amelioration of air quality impacts involves restoring air filtering and oxygen-producing functions, reducing vehicle miles traveled, and reducing use of energy produced by burning fossil fuels.

To restore air filtering and oxygen-producing functions, this Plan:

- Recommends increasing vegetation through the use of planter beds, bioswales and rain gardens, landscaping, street trees, and vegetated roofs and walls to the maximum extent feasible through aggressive application of Environmental Site Design.

To reduce vehicle miles traveled, this Plan:

- Recommends creating compact, mixed-use development that encourages and facilitates non-motorized travel and reduces travel distances.
- Recommends providing alternatives to automobile travel, including:
  - Public transit in the form of the CCT and local bus service.
  - Incorporating trails into the LSC Loop. Trails in regulated areas such as stream buffers and forest conservation easements should be natural surface; trails outside of environmentally regulated areas may be hard-surfaced to facilitate travel by bicycle (see page 92).
  - Incorporate other pedestrian and bicycle trails throughout the Life Sciences Center, and make connections to other Countywide and local jurisdiction trail systems (see pages 92).
  - Make the existing area more walkable by improving road crossings (see page 86).
- Encourages other measures, such as the provision of bicycle parking facilities, to promote and facilitate non-motorized travel.

### **Climate Protection**

Carbon dioxide and other greenhouse gasses are released into the atmosphere by combustion of fossil fuels to power motorized vehicles and to provide power for lighting, heating and cooling buildings and powering electronics and appliances, and by deforestation. Summertime energy use is driven higher by urban heat island effects from radiant heating of hard surfaces. Approaches to mitigating climate impacts focus on reducing energy consumption, increasing use of renewable energy, restoring carbon sequestration and storage functions, and reducing urban heat island effect.

The carbon footprint analysis contained in the Appendix to this Plan shows that, even if we cannot account for potential improvements to building and vehicle technology or behavioral changes to reduce energy consumption, per capita carbon dioxide emissions will be significantly less with compact, transit served development than would be the case if the same number of new homes and jobs were built on vacant land in other parts of the County.

Taken in isolation, the carbon footprint of new development in the Plan area will be greater than would occur under the 1990 Master Plan; however, the increase in the carbon footprint for the entire County will be less under this Plan. The compact, walkable, transit served community will enable people and employers to make even greater reductions in the carbon footprint. The following recommendations are aimed at reducing the carbon footprint through reduced energy consumption,

promotion of renewable energy generation, increased carbon sequestration and reduced urban heat island effect.

To reduce carbon footprint, this Plan:

- Recommends development that is compact, features a mixture of land uses, is walkable and served by public transit to make efficient use of land and resources, to reduce vehicle miles traveled and facilitate non-motorized travel.
- Creates opportunities for new development and redevelopment that take advantage of existing infrastructure and adaptive re-use of existing structures where feasible.
- Recommends that development meeting LEED or equivalent certification of any level obtain as many points as possible from approaches that reduce carbon emissions, including:
  - Site and building design and orientation that takes advantage of passive solar heating and lighting opportunities, maximizes potential for use of renewable solar energy systems, and permits passive cooling through proper shading and ventilation.
  - A commitment to reduce energy and water consumption.
  - A commitment to use recycled building materials, locally produced materials, and local labor.
  - A commitment to use building deconstruction techniques to facilitate re-use and/or recycling of building materials.
  - A commitment that new buildings meet the minimum energy efficiency standards of 17.5 percent below the calculated baseline performance or meet the appropriate ASHRAE advanced energy design guide. Renovated buildings should commit to meet a 10.5 percent energy efficiency standard below the calculated baseline performance or meet the appropriate ASHRAE advanced energy design guide.
  - Incorporates renewable energy systems to supply a portion of a building's energy needs, where feasible. Such systems may include:
    - o solar power
    - o wind power
    - o geothermal heating and cooling systems.
- Recommends maximizing tree canopy coverage. (See goals for tree canopy coverage in the water quality section).
- Recommends the use of green roofs and walls.
- Recommends the use of light-reflecting roof surfaces where green roofs cannot be used.
- Recommends increasing vegetation throughout the Life Sciences Center. Approaches include:
  - Targeting unforested portions of regulated areas for reforestation.
  - Incorporating street trees and landscaping trees throughout the Life Sciences Center.
  - Use of vegetated roofs and walls.
  - Use of planter beds, bioswales and rain gardens.
  - Incorporating vegetation into hardscaped open space areas.

### **Protection of Biological Diversity**

Protection of biological diversity focuses on preserving existing habitat, and on restoring habitat where feasible. Biological diversity is maintained when habitat is protected and invasive species are controlled. Control of invasive species and reducing wildlife overpopulations are operational issues not appropriate to address in a master plan. While an urban environment cannot typically support highly diverse plant and wildlife populations, much can be done to improve conditions for native plants and animals.

To protect biological diversity, the Plan:

- recommends preservation of existing natural areas, including the forest at the corner of Key West Avenue and Great Seneca Highway
- recommends the use of native plants and trees in landscaping and street tree planting to the maximum extent possible

- recommends the use of plants that serve as hosts for butterflies and other pollinator insect species
- recommends preservation of the 10-acre forested tract west of the power line and north of Game Preserve Road on the McGown property
- recommends preservation and additional buffering of the endangered *Krigia* dandelion population.

### Health and Wellness

Health and wellness are promoted by providing an environment with clean air and water, by providing opportunities to exercise and recreate, and by establishing an environment that helps reduce stress. The recommendations detailed in the above sections will all help contribute to health and wellness.

In addition, this Plan:

- encourages that walkways and bicycle trails be safe and attractive to encourage walking, jogging and biking
- recommends that public open spaces be attractively designed destinations within the community to draw in pedestrians and cyclists
- encourages using some open spaces and green roofs as community gardens to promote the consumption of locally-grown seasonal fruits and vegetables
- creates the 3.5-mile LSC Loop path which incorporates natural features, and provides non-motorized connectivity for the districts and destinations throughout the Life Sciences Center.

### Community Facilities, Open Spaces, and Connectivity

Community facilities, services, and amenities contribute to making great places to live, work, and play. The LSC’s proposed redevelopment offers an opportunity to enhance public facilities, amenities, and recreational options. An interconnected pedestrian and bike system will link neighborhoods—both existing and future—to each other, parks, transit, and other destinations. This Plan recommends using urban design, parks, and trails to create an open space network for the LSC that will provide a range of experiences and a sense of place, integrating the built and natural environments and passive and active spaces. Where possible, connections to existing neighborhoods surrounding the LSC should be created or enhanced.



This Plan provides a site for a future elementary school in the LSC West District, should it be needed to accommodate students that could be generated from build-out of the potential residential densities. In addition, a future high school site has been reserved on the Crown Farm in the City of Gaithersburg.

A fire station is needed in this area, and the northwest corner of Shady Grove Road and Darnestown Road has been selected.

A new community center, the North Potomac Recreation Center, is planned on Travilah Road adjacent to Big Pines Local Park, as recommended in the 2002 *Potomac Subregion Master Plan*. This Plan recommends that consideration be given to the purchase of a site for a new local park in the Quince Orchard area.

As the LSC grows into a major hub for life sciences research and development, a library specializing in science and medical research may be desirable. A high technology library could provide an inspiring environment for innovation and entrepreneurship, a place where students of all ages can rub shoulders with the industry's best minds. A publically accessible specialized library could be funded through private sector development contributions to an amenity fund and could be located at Belward or the JHU-MCC site, or another appropriate location in LSC Central.

### **Open Spaces**

Thriving places rely on a high quality public realm. Parks and open spaces offer community gathering places, foster a sense of place and civic pride, and encourage environmental stewardship; essential components of community life. The best communities incorporate substantial green elements and open spaces that provide opportunities for recreation, outdoor socializing, collaborating, and connecting to nature. This Plan recommends that parks, publicly accessible open spaces, civic gathering places, and trails be designed as part of a comprehensive system that contributes to a sustainable community. To achieve this goal, an interconnected pedestrian and bike path system should link new and existing neighborhoods to parks and other destinations.

Additional parks and open spaces (described more fully in each District) will be created to provide recreational opportunities that support and enhance the vision of the LSC. The future open space system will support a vibrant and sustainable work life community by creating open spaces that will be easily accessible by walking or transit and will provide a range of experiences for a variety of people.

This Plan recommends a series of open spaces provided through a combination of public and private efforts. Both residential and commercial development projects should provide recreational facilities, open spaces, and trail connections that shape the public realm, help implement the Plan recommendations, and serve existing and future employees and residents.

The open space system will include:

- an extensive open space network on the Belward property with a variety of passive, active, and cultural experiences
- completion of the Muddy Branch Trail Corridor along the western edge of the Belward property
- civic greens at each CCT station
- a shared park/school site in LSC West as well as a public civic green
- development of Traville Local Park in LSC South
- green corridors between and through major blocks linked by the LSC Loop to connect destinations and integrate passive and active spaces
- an additional active use Local Park in the Quince Orchard area (outside the LSC; see page 60).

### **Community Connectivity and the LSC Loop**

The organizing element of the LSC open space plan is a 3.5-mile multi-use path loop connecting the districts and destinations with extensions from the core loop that link to the surrounding communities, including the cities of Gaithersburg and Rockville (see Map 11 on page 33). Connectivity between the LSC Districts and adjacent neighborhoods is described more fully in the following District section. The LSC Loop will run alongside existing streets, such as Medical Center Drive and Omega Drive, and be completed on new streets in LSC West. It will incorporate the proposed multi-use path next to the CCT through LSC West and onto the Belward property.

The LSC Loop will link activity centers and community facilities, including the planned high school on the Crown Farm (in the City of Gaithersburg), the historic Belward Farm, and the civic green and retail center on LSC West. Creation of the loop (including landscaping and facilities such as benches) will be the primary amenity requested of property owners. CCT stations along the Loop include the Crown Farm, Belward, and LSC West. Each CCT station in the LSC will have a public open space and property

owners will also be requested to contribute to the implementation of this amenity. From the Loop, paths will connect with other destinations and activities in the area, including Falls Grove and Traville. Traville Local Park, in LSC South, is proposed to include a small rectangular field, half-court basketball, older children's playground, and a tot lot, and should be accessible from an extension of the LSC Loop.

The LSC's existing stream buffer areas should be integrated with the Loop, offering passive outdoor experiences. The on-road hard surface portion of the Muddy Branch Trail Corridor intersects the Plan area at the southwest corner of the Belward property, and should connect to the rest of the Countywide trail system.

Not all open space can or should be publicly owned and managed. Public amenity spaces in new developments will provide recreation and open space. Public parks and publicly accessible facilities and open spaces should complement each other and be seamlessly integrated to create a cohesive pattern of open space.

The LSC Loop will:

- create extensions (from the main loop) that connect surrounding neighborhoods with the LSC, providing residents of these communities with access to the transit stations, activities, amenities, and open spaces in the LSC Districts
- create a primary recreational feature that connects the districts, destinations, and open spaces throughout the area
- provide connections to area amenities, including the historic Belward Farm, retail destinations, the proposed high school and elementary school, and the natural path system through the stream buffer areas
- connect destinations by paths, including stream valley park trails such as Muddy Branch
- integrate regulated green spaces such as wetlands, streams, and forest conservation easements to provide passive recreational experiences
- provide connections to Traville Local Park in LSC South.

### **LSC South: Mixed-Use Center**

This 245-acre district south of Darnestown Road includes the Traville community's retail and residential uses, Human Genome Sciences (HGS), and the Universities at Shady Grove, an innovative academic center that is part of the University System of Maryland.

LSC South is in the Watts Branch Watershed and is part of the Piney Branch sub-watershed, which was designated a Special Protection Area (SPA) due to its fragile ecosystem, unusually good water quality, and susceptibility to development pressures. SPAs require approval of a water quality plan demonstrating a high level of stormwater control and treatment. Accordingly, this Plan recommends minimal additional development.

The retail and residential developments at Traville are built-out, with approximately 100,000 square feet of retail and 750 dwelling units, 230 of which are senior housing. The HGS site is approximately half built-out. The Universities at Shady Grove have produced a master land use plan for their site, which is approximately half built-out.

This Plan recommends that the 5.2-acre property on the southeast corner of Darnestown Road and Travilah Road be rezoned from C-4 to CR 0.75: C 0.5, R 0.75, H 80 to allow the possibility of mixed-use or residential development at this corner.

Only the 13-acre Rickman property on Travilah Road is undeveloped. The Plan recommends the Rickman property be rezoned from the R&D Zone to CR 0.5: C 0.5, R 0.5, H 80. The CR Zone has a height limit of 40 feet for standard method development. However, a maximum height of 80 feet on this property could be considered to minimize imperviousness and encourage compact development, which may include parking underneath buildings (ground-level). The Rickman property is not subject to the Staging requirements.

The Piney Branch SPA bisects the Rickman Property. A key to protecting water quality in the SPA is limiting impervious surfaces. Development within this SPA requires a water quality plan that details how stormwater runoff will be managed to prevent further degradation to water quality in the SPA. The water quality plan is prepared by the developer and reviewed and approved during the development review process. Guidelines for the development of the Rickman property are provided below. In addition, a population of state endangered *Krigia dandelion* is located east of the property along Shady Grove Road. The road was specifically aligned to avoid disturbance of this plant. Further development in this area should avoid disturbance of this population and provide a buffer area from new uses.

This Plan encourages the physical and visual integration of LSC South with the areas north of Darnestown Road, through building design and massing, street character and improved connections across Darnestown Road, and access to the CCT stations at LSC Central and West. These stations are between one-half to three-quarters of a mile (a 10-15 minute walk) from LSC South destinations. With higher density development around the CCT stations, the transit locations will become more visible and recognizable as landmark features.

HGS and USG, along the south side of Darnestown Road, have developed as campus-style, inward-focused designs with parking lots adjacent to Darnestown Road. Future development at these sites should create a building edge along Darnestown Road near Great Seneca Highway. On the north side of Darnestown Road, redevelopment of the PSTA site will also create opportunities for new buildings to address the street edge, especially the corner of Darnestown Road and Great Seneca Highway.

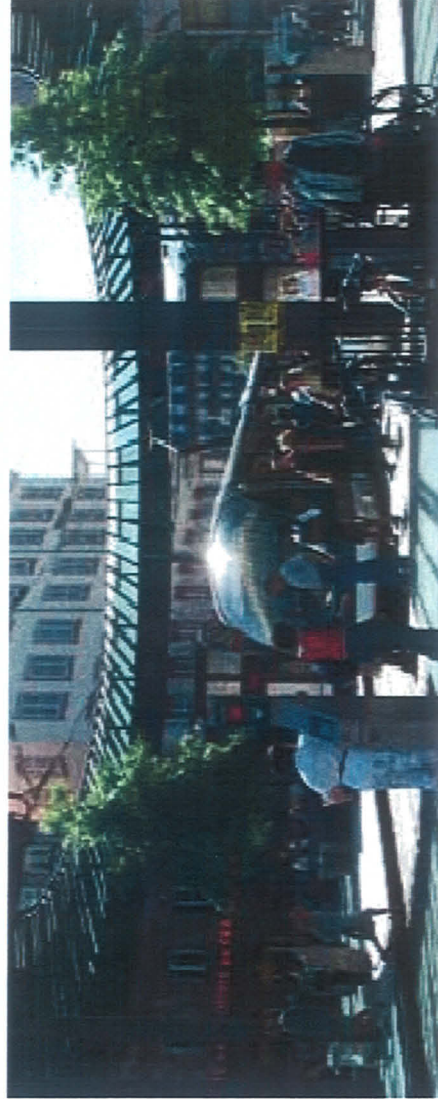
# Vision

## Great Seneca Science Corridor Master Plan

"The Master Plan establishes a blueprint for the Life Sciences Center (LSC) that includes an expanded, first-class medical center, research facilities, academic institutions, and an array of services and amenities for residents, workers, and visitors. It will have an open space system that incorporates the area's natural environmental features into a larger network, connecting destinations by paths and trails, and providing opportunities for a range of outdoor experiences.

The Life Sciences Center will be served by a fully integrated transit system that links mid-County activity centers via the Corridor Cities Transitway (CCT). Access to high quality transit is increasingly important to businesses trying to attract knowledge-based, creative class workers. The LSC will continue to be a specialized employment center, but it will be connected by transit with nearby residential communities at the Shady Grove Metro Station, the King Farm, the Crown Farm, Kentlands, and the Watkins Mill Town Center."

*Lightrail Station  
Strasbourg, France*



Today, the buildings and spaces in Great Seneca Science Corridor Master Plan area are complementary in use and function, but unsustainable as self-sufficient entities. They function like typical research parks, with wide roadways and setback buildings forming visually separated spaces and physical barriers that prevent a cohesive and accessible built environment.

A successful corridor would maintain the identity and function of individual areas by creating a framework for expansion and growth to bring places closer to each other. The result should be a continuous built environment that meets the needs of a larger community and the science community, while providing specialized sites for research and medical functions, as well as places for living and recreation.

In the Life Sciences Center, the creation of a successful corridor should also spur the development of a sustainable community, one that evolves with a holistic perspective of its impact on the environment, the economy, and well being of its residents.

Sustainable communities can use strategic building orientation and site design to incorporate natural resources and create a variety of open spaces and community amenities. By protecting and augmenting existing resources on site, sustainable communities enhance local ecosystems through the planting of native landscaping, preservation of open space and wildlife habitat, and restoration of natural water cycles.

This is particularly true of science and research facilities where evolving fields must respond to constant change. They must simultaneously allow for concentrated individual work while also actively promoting interdisciplinary communication. Flexibility and expandability are extremely important to ensure continued growth.

The Guidelines do not issue specific design directives but highlight techniques and approaches that can help create five distinct neighborhoods that coalesce into a single corridor that will evolve as a premier environment for medical, science, and technology research and applications.

## Design Objectives

### Connectivity

Establish comprehensive transit, pedestrian, bicycle and road networks that connect to retail, life sciences employment, academic facilities, and local and regional parks by:

- improving pedestrian safety at major intersections and strengthening connections between the districts in the Life Sciences Center
- creating an engaging pedestrian environment along streets with building facades and spaces that define and activate the public realm
- providing on-street parking wherever possible
- connecting people to the regional Metrorail system via the CCT.

### Design

Create a sustainable community focused on cutting-edge medical, science, and technology research and applications by:

- supporting the construction of flexible and multi-purpose buildings that allow changes in use
- encouraging aggressive use of building systems and technologies to decrease energy use, and reduce carbon emissions
- encouraging design excellence through use of innovative building materials, facade articulation, street-oriented buildings, and sustainable building practices.

### Environment

Reduce impact on the natural environment by:

- creating walkable environments that reduce our reliance on automobiles
- using innovative stormwater management techniques to meet Environmental Site Design (ESD) guidelines for urban areas
- promoting energy conservation and generation as a primary building and public space design feature
- encouraging building massing that sustains air flow and access to natural light
- integrating active and passive sustainable features and technologies into building and open space design.

### Diversity

Create a true mix of uses to support an active urban environment that supports the life sciences by:

- implementing land use patterns that combine laboratories, offices and academic institutions along with residential, office, and retail uses
- creating housing opportunities that accommodate a range of family needs
- creating an attractive, compact built environment that fosters collaboration between professionals and academics in a variety of disciplines.



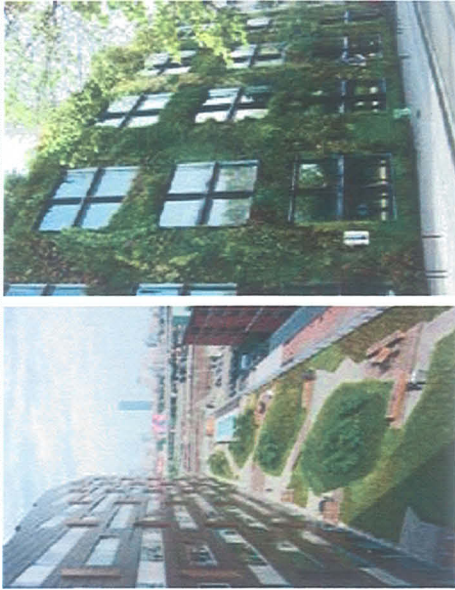
*British Columbia Cancer Research Center  
Henriqz Partners Architects  
Vancouver, BC*

*Washington Mutual Center  
Phillips Farevaag Smallerberg  
Seattle, WA*





### Green Roofs and Living Walls



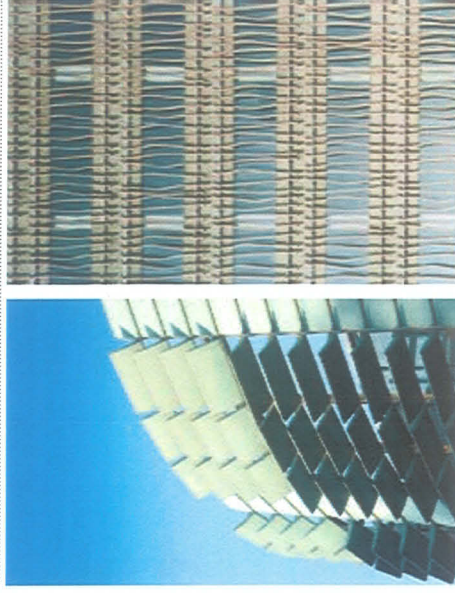
Use green walls and green roofs to reduce heat island effect and increase perviousness. Where possible, use native vegetation and species that require little or no watering or fertilization. Green roofs should cover at least 33 percent of the roof, excluding mechanical equipment space, and have a minimum depth of four inches. Green walls should be on blank walls facing streets, open spaces, and parking garage facades as well as for general aesthetic enhancements.

### Natural Ventilation



Use building design and mechanical systems to reduce HVAC loads and improve indoor air quality. Where possible, design buildings with thin floor plates and operable windows to allow natural cross ventilation. Consider use of fan-assisted cooling systems and open staircases to provide stack ventilation.

### Recyclable and Renewable Materials



Use rapidly renewable building materials and materials made from recycled content. These materials are typically harvested within a ten-year cycle, and FSC Certified Wood products are encouraged. Materials extracted, harvested or recovered as well as manufactured within 500 miles of the project site are strongly encouraged.

## Building Sustainability

The Great Seneca Science Corridor Master Plan strongly encourages use of sustainable building practices and site design:

- use existing infrastructure and adaptive re-use of existing buildings
- use site and building design and orientation for passive solar heating and lighting
- maximize the potential for renewable solar energy systems
- incorporate passive cooling through proper shading and ventilation
- reduce energy and water consumption
- use recycled building materials, locally produced materials, and local labor
- use building deconstruction techniques to facilitate re-use and/or building material recycling
- adopt minimum energy efficiency standards of 17.5% below baseline performance or the appropriate ASHRAE advanced energy standard for new buildings
- meet 10.5% energy efficiency standard below calculated baseline performance for renovated buildings
- incorporate renewable energy systems such as wind, solar power, and geothermal heating and cooling systems
- use light-reflecting roof surfaces where green roofs cannot be used

LSC North: Residential and Office

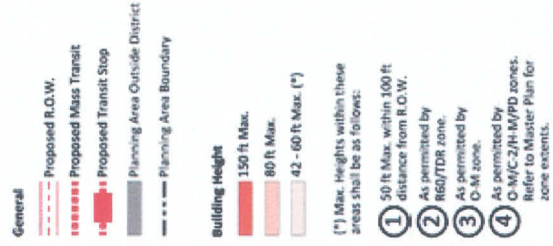


Great Seneca Science Corridor Master Plan

- Zoning:** Life Sciences (LSC)  
Residential (R-60/TDR)  
Commercial-Residential (CR)  
Office Building, Moderate (OM)  
Hotel-Motel (H-M)  
General Commercial (C-2)

**Key Recommendations**

- Extend Discoverly Drive into and through Crown Farm to Fields Road
- Create LSC Loop from Fields Road along CCT alignment connecting to the LSC Belward and Central districts
- Create new streets with short blocks
- Construct interchanges at Great Seneca Highway and Sam Ely Highway and at Key West Avenue at Shady Grove Road



LSC South: Mixed-Use Center



Great Seneca Science Corridor Master Plan

- Zoning:** Life Sciences (LSC)  
Commercial-Residential (CR)  
Planned Development (PD-22)

**Key Recommendations**

- Improve pedestrian connections between LSC South and areas to the North, emphasizing connections to future transit stations
- Protect the Piney Branch sub-watershed
- Construct Traville Local Park
- Extend Great Seneca Highway as a business district street south of Darnestown Road





**MONTGOMERY COUNTY PLANNING DEPARTMENT**  
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

**ATTACHMENT C**

July 10, 2014

**RE: MANDATORY REFERRAL REVIEW**  
**THE UNIVERSITIES AT SHADY GROVE - MR2015001 – PARKING GARAGE #2**

Dear Resident:

This is to notify you that the Montgomery County Planning Board has received a mandatory referral application, pursuant to Section 7-112 of the state law, for the following project, tentatively scheduled for a hearing before the Planning Board on the date below. Mandatory referral law requires all federal, state and local governments and public utilities to submit proposed projects in the regional district for review and approval by the Planning Board. The Board's approval and comments are advisory in that the statute does allow the applicant to overrule the Planning Board's decision and proceed. This, however, is a rare occurrence.

The hearing date listed in this notice is tentative and subject to change; no further notices will be sent out. The final notice of hearing will be published in the Planning Board's weekly agenda, which can be viewed on the Board's web page at [www.montgomeryplanning.org](http://www.montgomeryplanning.org). Any further information can be obtained by contacting the project manager listed below or at the following link: [http://www.mcatlas.org/Development\\_Info/](http://www.mcatlas.org/Development_Info/). The Mandatory Referral application can be viewed in Development Activity Information Center (DAIC) in the above link with the nine character project number. Next, follow the prompts in DAIC to view the application materials. Or, The University at Shady Grove's application is also available for your inspection at the Maryland-National Capital Park and Planning Commission, 8787 Georgia Avenue, Silver Spring.

Please notify your neighbors and community homeowners' association members of this notice. The Planning Board encourages community input on all its projects including mandatory referrals, and welcomes citizen participation in its review processes. If you or other members of your community have any concerns, please contact the staff person listed in this notice.

**PROJECT:** **Mandatory Referral MR2015001**  
The Universities at Shady Grove – Parking Garage #2

**APPLICANT:** The Universities at Shady Grove

**ADDRESS:** 9630 Gudelsky Drive, Rockville, Maryland

**MASTER PLAN:** Great Seneca Science Corridor

**SCHEDULED FOR:** September 4, 2014

**HEARING SITE:** Montgomery County Planning Board  
8787 Georgia Avenue  
Silver Spring, Maryland 20910

**CONTACT:** Lori Shirley  
301-495-4557  
[Lori.Shirley@montgomeryplanning.org](mailto:Lori.Shirley@montgomeryplanning.org)  
Khalid Afzal, Area 2 Planning Division Team Leader  
301-495-4650  
[Khalid.Afzal@montgomeryplanning.org](mailto:Khalid.Afzal@montgomeryplanning.org)

  
**The UNIVERSITIES**  
*at Shady Grove*



July 15, 2014

Re: The Universities at Shady Grove - Parking Garage #2

Dear Universities of Shady Grove Community:

We are writing to invite you to a Public Presentation for the newly proposed Parking Garage #2 project on the Universities at Shady Grove campus at the intersection of Darnestown Road and Shady Grove Road. The presentation is being offered as a courtesy by the campus to inform local community of the proposed project.

Public Presentation:

Date: Wednesday, August 6<sup>th</sup>, 2014  
Time: 6:00 p.m.  
Location: Building #3, Room 2220  
The Universities at Shady Grove Campus  
9636 Gudelsky Drive  
Rockville, MD. 20850  
RSVP: Jane Briggs @ 301-738-6111

**Proposed Site Plan:**

