MCPB
Item Nos.
Date: 1/17/13

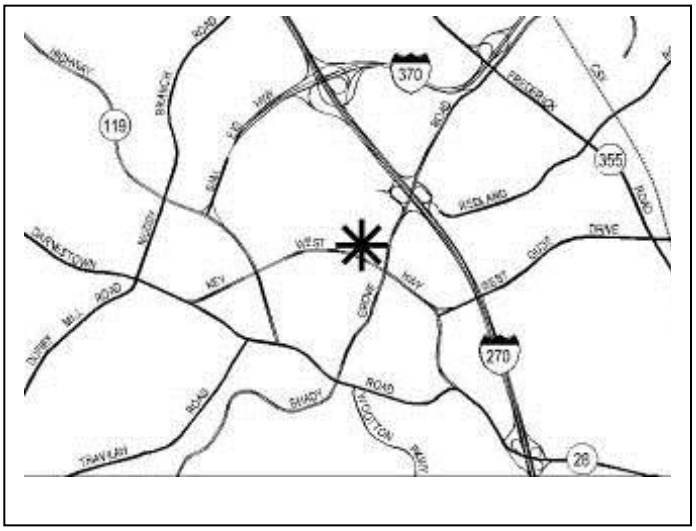
Preliminary Plan No. 11986186A, Site Plan No. 820120190, Hanover Shady Grove

PB Patrick Butler, Senior Planner, Area 2 Division, Patrick.Butler@montgomeryplanning.org, 301-495-4561
Lori Shirley, Planner Coordinator, Area 2 Division, Lori.Shirley@montgomeryplanning.org, 301-495-4557
Joshua Sloan, Supervisor, Area 2 Division, Joshua.Sloan@montgomeryplanning.org, 301-495-4597
MK Glenn Kreger, Chief, Area 2 Division, Glenn.Kreger@montgomeryplanning.org, 301-495-4653

Date of Staff Report: 1/4/13

description

- Conversion of approved but unbuilt commercial development to residential uses on two existing lots, in order to construct up to 452,152 square feet of new multi-family residential uses in two buildings, for up to 366 units, including a minimum of 13.66% MPDUs, with public use space, residential amenity space, structured parking, and one revised binding element;
- On 6.92 gross acres, zoned CR1.5 C1.5 R1.5 H100;
- Located on the north side of Research Boulevard approximately 500 feet east of the intersection with Omega Drive within the Great Seneca Science Corridor (GSSC) Master Plan area;
- Filing Date: 6/13/12;
- Applicant: Hanover R.S. Limited Partnership on behalf of Shady Grove Investors I, LLC & Shady Grove Investors II, LLC.



summary

- Staff recommends approval of the Preliminary Plan and Site Plan with conditions.
- Conversion of approved commercial capacity is exempt from staging.
- The Planning Board previously approved Sketch Plan 320120020 by resolution dated May 22, 2012. There is one modification to the binding elements with this Site Plan: The transit access improvement public benefit, originally approved with the Sketch Plan, has been removed at the request of the Applicant because of right-of-way constraints. The Applicant has replaced this public benefit with the energy conservation benefit to ensure compliance with the public benefit requirement.
- The Project will be built in one phase and will provide the required public use space and public benefits, including structured parking facilities, tree canopy, and public parking, which have been analyzed according to the objectives of the master plan and the previously approved sketch plan.
- Previously approved Forest Conservation Plan is being amended and a Category I Conservation Easement is being expanded to accommodate the proposed development.
- The Applicant is requesting a waiver of Section 50-20 per Section 50-38 of the Subdivision Regulations to permit a pedestrian bridge to cross a lot line and connect an existing garage to one of the proposed residential buildings.

PRELIMINARY PLAN RECOMMENDATION AND CONDITIONS

Staff recommends approval of Preliminary Plan No. 11986186A subject to the following conditions:

1. Approval is limited to two lots with a maximum density of up to 452,152 square feet of residential uses for up to 366 multi-family units, including a minimum of 13.66% moderately priced dwelling units (MPDUs).
2. The Applicant must enter into a Traffic Mitigation Agreement with MCDOT and the Planning Board to participate in the Greater Shady Grove Transportation Management District (TMD) and assist the Transportation Management Organization (TMO) in achieving the 2010 *Great Seneca Science Corridor Master Plan*'s Stage 2 non-auto driver mode share goal of 18%. The Traffic Mitigation Agreement must be executed prior to certification of the site plan.
3. The Applicant must provide bicycle parking spaces as required by Section 59-C-15.62(a) of the Zoning Ordinance for the total number of residential units approved at site plan.
4. The Applicant must clearly designate and distinguish visitor parking spaces from residential parking spaces within each garage so that residents are restricted from parking in visitor spaces.
5. The Applicant must accommodate the master-planned "signed shared roadway"/on-street bike lane on Omega Drive along the Subject Property frontage by widening the outside lane to 14 feet. The County will stripe or designate the bike lane when functional.
6. The Category I and Category II conservation easement areas on both parcels must be recorded by plat prior to any land disturbing activities occurring on-site.
7. A financial security agreement reviewed and approved by M-NCPPC Associate General Counsel Office must be obtained for the planting requirements and invasive management work specified on the amendment to the Final Forest Conservation Plan (FFCP) prior to any land disturbing activities occurring onsite.
8. The Planning Board has accepted the recommendations of the MCDOT in its letter dated November 9, 2012, and hereby incorporates them as conditions of the Preliminary Plan approval. Therefore, the Applicant must comply with each of the recommendations as set forth in the letter, which may be amended by MCDOT provided that the amendments do not conflict with other conditions of the Preliminary Plan approval.
9. Prior to recordation of plat(s), the Applicant must satisfy the provisions for access and improvements as required by MCDOT.
10. The Planning Board has accepted the recommendations of the Montgomery County Department of Permitting Services ("DPS") stormwater management concept approval letter dated July 5, 2012, and hereby incorporates them as conditions of the Preliminary Plan approval. Therefore, the Applicant must comply with each of the recommendations as set forth in the letter, which may be amended by DPS provided that the amendments do not conflict with other conditions of the Preliminary Plan approval.
11. The Subject Property is located in the Gaithersburg High School Cluster. The Applicant must make a School Facilities Payment to DPS at the elementary school level. The Applicant will be required to pay at the "highrise/mid-rise with/structured parking" residential unit rate for all units for which a building permit is issued. The amount of the payment will be determined by the rate in effect at the time the payment is made. The timing of the payment is determined by DPS.
12. No clearing and grading of the site, or recording of plats prior to certified site plan approval. Demolition of existing buildings may occur prior to certified site plan approval. The Applicant may receive a demolition permit prior to approval of the certified site plan and record plat, subject to approval from DPS.

13. Final approval of the number and location of buildings, dwelling units, on-site parking, and site circulation will be determined at site plan.
14. In the event that a subsequent site plan approval substantially modifies the subdivision shown on the Preliminary Plan with respect to lot configuration or right-of-way location, width, or alignment, the applicant must obtain approval of a Preliminary Plan amendment prior to certification of the site plan.
15. The Certified Preliminary Plan must contain the following note: "Unless specifically noted on this plan drawing or in the Planning Board conditions of approval, the building footprints, building heights, on-site parking, site circulation, and sidewalks shown on the Preliminary Plan are illustrative. The final locations of buildings, structures and hardscape will be determined at the time of site plan review. Please refer to the zoning data table for development standards such as setbacks, building restriction lines, building height, and lot coverage for this lot. Other limitations for site development may also be included in the conditions of the Planning Board's approval."
16. All necessary easements must be shown on the Record Plat.
17. The Adequate Public Facilities (APF) review for the Preliminary Plan will remain valid until December 14, 2013.
18. All other applicable terms, conditions, and findings of the previous preliminary plan approval, as contained in the Planning Board Opinion dated August 29, 2002, remain in full force and effect.

SITE PLAN RECOMMENDATION AND CONDITIONS

Staff recommends approval of Site Plan 820120190, Hanover Shady Grove, for 452,152 square feet of multi-family residential development limited to up to 366 mid-rise units on the subject property. All site development elements as shown on the site, landscape, and lighting plans stamped by the M-NCPPC on December 11, 2012 are required except as modified by the following conditions:

1. Sketch Plan Conformance
   The development must comply with the applicable binding elements and conditions of Sketch Plan 2320120020 approved by the Planning Board by Resolution dated May 22, 2012, as amended by this Site Plan 820120190.

2. Preliminary Plan Conformance
   The development must comply with the conditions of the approved Resolution for Preliminary Plan 11986186A, including any amendments approved by the Planning Board.

3. Public Benefits
   The Applicant must provide the following public benefits and meet the applicable criteria and requirements of the Zoning Ordinance and the CR Zone Incentive Density Implementation Guidelines, as amended, for each one:
   a. Transit Proximity,
   b. Affordable Housing,
   c. Dwelling Unit Mix,
   d. Enhanced Accessibility for the Disabled,
   e. Structured Parking,
   f. Public Open Space,
   g. Exceptional Design,
   h. BLTs,
   i. Energy Conservation,
   j. Tree Canopy, and
   k. Vegetated Area

   Each public benefit must be verified by Staff to be complete as required by the submittals listed for each prior to issuance of any use-and -occupancy permit for the associated buildings, except as noted below. Any disagreement regarding the application or interpretation of the Public Benefits may be brought to the Planning Board for resolution.

4. Transportation – Pedestrian and Bicycle Facilities
   The Applicant must provide 149 bicycle parking spaces as follows:
   a. For the public bike parking spaces, 20 bicycle parking spaces with inverted-U bike racks, or approved equivalent, located as follows:
      1) Spaces for eight bicycles near each main entrance of the two buildings.
      2) Spaces for four bicycles near the open space at the corner of the Omega Drive/Key West Avenue intersection.
   b. For the private bike parking spaces, a total of 129 secured bike parking spaces or bike lockers where 67 spaces are located in Building 1's garage and 62 spaces are located in Building 2's garage and in a well-lit area near the elevator or the entrance.
      Final location and facility details to be determined by certified Site Plan.

5. Moderately Priced Dwelling Units ("MPDUs")
    a. The development must provide 13.6 percent MPDUs on-site in accordance with the letter from the Department of Housing and Community Affairs dated December 13, 2012.
    b. An Agreement to Build between the Applicant and DHCA must be executed prior to the release of any building permits.

6. Recreation Facilities
   The Applicant must provide at least the following recreation facilities for each building, as shown on the Site Plan, conforming to the Recreation Guidelines approved by the Planning Board in September 1992:
    a. Indoor Community Space;
    b. Indoor Fitness Facility;
    c. 1 Swimming Pool (at Building 1);
    d. 19 Picnic/Sitting Areas; and a
    e. Pedestrian Sidewalk System.

7. Maintenance
   Maintenance of all on-site Public Use Space is the responsibility of the Applicant and subsequent owner(s). This includes maintenance of paving, plantings, lighting, and benches/sitting areas. Maintenance may be taken over by a governmental agency by agreement with the owner and applicable agency.

8. Architecture
   The final exterior architectural character, proportion, materials, and articulation must be substantially similar to the schematic elevations shown on the submitted architectural drawings, as determined by Staff.

9. Financial Security and Agreement
   Prior to issuance of first building permit within each relevant phase of development, the Applicant must provide a performance bond(s) or other form of financial surety in accordance with Section 59-D-3.5(d) of the Montgomery County Zoning Ordinance with the following provisions:
    a. The Applicant must provide a cost estimate of the materials and facilities, which, upon Staff approval, will establish the initial surety amount.
    b. The amount of the bond or surety shall include plant material, on-site lighting, recreational facilities, exterior site furniture, and entrance piers within the relevant phase of development.
    c. Prior to issuance of the first building permit, the Applicant must enter into a Site Plan Surety & Maintenance Agreement with the Planning Board in a form approved by the Office of General Counsel that outlines the responsibilities of the Applicant and incorporates the cost estimate.
    d. The Bond/surety must be tied to the Development Program, and completion of plantings and installation of particular materials and facilities covered by the surety for each phase of development will be followed by inspection and reduction of the surety.

10. Development Program

    The Applicant must construct the development in accordance with a development program that will be reviewed and approved by Staff prior to the approval of the Certified Site Plan. The development program must include the following items in the phasing schedule:

    a. Demolition of existing buildings may commence prior to approval of the certified site plan.
    b. Street lamps and sidewalks adjacent to each building must be installed prior to release of any use-and-occupancy permit for the respective building. Street tree planting may wait until the next growing season.
    c. On-site amenities including, but not limited to, recreation amenities and public use space amenities adjacent to each building, must be installed prior to release of any use-and-occupancy permit for the respective building.
    d. Clearing and grading must correspond to the construction phasing to minimize soil erosion and must not occur prior to approval of the Final Forest Conservation Plan, Sediment Control Plan, and M-NCPPC inspection and approval of all applicable environmental protection devices.
    e. The development program must provide for installation of on-site landscaping and lighting.
    f. The development program must provide phasing of dedications, stormwater management, sediment and erosion control, afforestation, and other features, as applicable.

11. Certified Site Plan

    Prior to approval of the certified Site Plan the following revisions must be made and/or information provided subject to staff review and approval:

    a. Include the Final Forest Conservation Plan approval, stormwater management concept approval, development program, inspection schedule, and Resolution approving this Site Plan on the approval or cover sheet.
    b. Remove unnecessary sheets.
    c. Make corrections and clarifications to details, incentive density calculations, recreation facilities, labeling, data tables, and schedules, as required by Staff.
    d. Ensure consistency of all details and layout between architecture, site, landscape, and forest conservation plans.

12. Pedestrian Bridge

    Prior to release of the building permit for the pedestrian bridge that will connect the existing parking garage on Parcel S-S and the multi-family building on Parcel T-T, the Site Plan for Parcel S-S must be amended to include the pedestrian bridge.

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SECTION 1: CONTEXT AND PROPOSAL

SITE DESCRIPTION

Site Vicinity

The subject property (Property) is located on the north side of Research Boulevard approximately 500 feet east of the intersection with Omega Drive within the LSC North District of the Great Seneca Science Corridor (GSSC) Master Plan area. The Property has frontage on both Omega Drive and Research Boulevard, but is not a corner lot, instead forming an "L"-shape around a hotel site. The site is immediately surrounded by and is still a part of the Shady Grove Executive Center office parks. There are multiple commercial office buildings on site, and a hotel adjacent to the Property. To the south, across Research Boulevard, is the Bureau of National Affairs (BNA) site. To the west is the Crown Farm development in the City of Gaithersburg, and Decoverly Hall office and residential development. To the east, across Shady Grove Road is another office park.

The site is located within ½ mile of three different master-planned Corridor Cities Transitway Stations: Crown Farm, Danac, and Hospital. The master-planned LSC Loop Shared-Use Path will run along the western side of Omega Drive.

Vicinity Map

Site Analysis

The Property comprises two recorded parcels, Parcel R-R (Plat No. 20811) and Parcel T-T (Plat No. 22312). The Property comprises approximately 6.92 gross acres, and is currently improved with a small bank and drive thru, private roads, a portion of a parking lot, and landscaped lawns. There is a Category I Easement on the southern portion of the Property near Research Boulevard.

There are no known rare, threatened, or endangered species on site, 100-year floodplains, stream buffers, wetlands, or steep slopes on site. There are no known historic properties or features on site.

Aerial Photo

PROJECT DESCRIPTION

Previous Approvals

Preliminary Plan

The Hanover Shady Grove Executive Center Preliminary Plan was approved in October 1986 to allow for 975,000 square feet of office uses on approximately 42.16 acres. The original approval was revised in November 1997 to allow for 65,688 square feet of hotel uses, which resulted in a reduction of approved office uses to a maximum of 920,371 square feet. The adequate public facilities (APF) validity period was valid until December 14, 2009. Since April 2009, on two separate occasions the County Council passed legislation that extended all valid plans by two years. Therefore, since the original Preliminary Plan qualified as a valid plan the APF approval for development on the Property will remain valid until December 14, 2013.

Site Plan

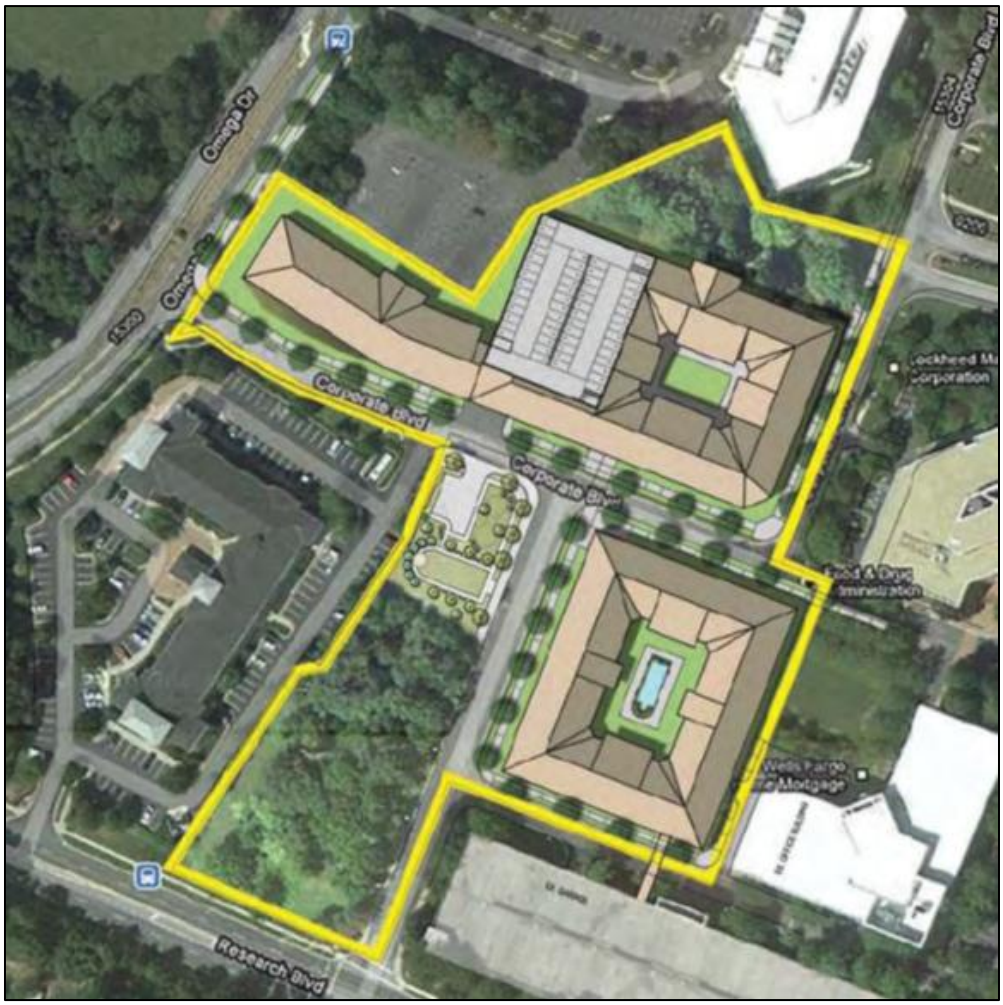
Site Plan 819870110 was approved by the Planning Board in 1987 under the C-2 zone for development of approximately 920,037 square feet of commercial uses in multiple buildings with structured and surface parking. Thus far, approximately 710,000 square feet of office uses in six buildings and an extended-stay hotel have been constructed at the Executive Center. Existing buildings range in heights from 50 to 60 feet. Site Plan 81987011C allocated Parcel R-R with 132,582 square feet of office uses and Parcel T-T with 77,758 square feet of office uses. The Property has APF approval for 210,340 square feet of commercial office use valid until December 14, 2013.

Sketch Plan

In June 2010, the Great Seneca Science Corridor Master Plan (Master Plan) was approved and adopted. The Master Plan's Sectional Map Amendment rezoned the Executive Center CR1.5 C1.5, R1.5, H100. The Planning Board approved Sketch Plan 320120020 on January 26, 2012 subject to binding elements and conditions (Resolution – Attachment A). The Sketch Plan approval was for construction of up to 452,152

square feet of residential uses in two buildings with up to 380 multi-family units on the Property. This approval established several binding elements for the Subject Property:

1. *Maximum density and height;*
   The development is limited to a total density of 452,152 square feet of development for residential uses. The final amount of residential floor area and the final number of dwelling units will be determined at site plan. The development is limited to a maximum height of 70 feet for occupiable space; however, architectural design elements of the development are limited to a maximum of 80 feet.



Illustrative Plan

2. *Approximate location of lots;*
3. *General location and extent of open space, including public use space and private amenity space;*
   The extent of open space features a diverse range of public and private spaces. Key open space features include a 0.21-acre Civic Green, a forest conservation area adjacent to the Civic Green, a park-like area between the northern building and existing offices, private amenity spaces (courtyards in each of the buildings) and the sidewalk system.

   These open spaces are divided among:
   - On-site public use space required by the zone;

- On-site outdoor amenity space required by the zone;
- Open space and vegetated area provided as public benefits for incentive density; and
- Forest conservation area (on the corner of Research Boulevard and the private drive).

The private spaces are focused on interior recreation areas as courtyards in each of the two buildings. The zone requires a minimum of 5,000 square feet of outdoor space for each building. These areas will include such amenities as seating areas, swimming pools, trellises, plantings and several types of lighting.

4. *General location of vehicular access points;*
Vehicular access to the site is from existing roads and parking lots with loading and service areas provided for each building off the internal private streets. No new vehicular access points or new roads are necessary to support the development. Pedestrian and bicycle access is provided at numerous points from sidewalks along all of the streets to individual units and the main lobby entrances. Infrastructure improvements and connections will be made to increase connectivity for pedestrians and cyclists to the nearby transit stops. The pedestrian experience will be enhanced through landscaping along sidewalks, including street trees and hardscape that encourages walking and biking.

5. *Public benefit schedule.*

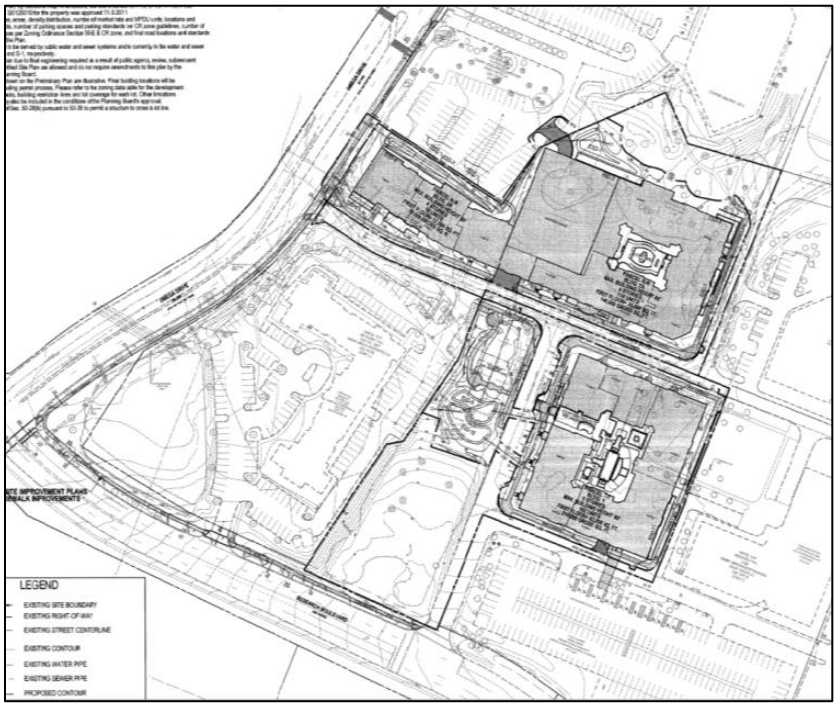
Public Benefit	**Points Requested**
Transit Proximity Category	
¼ - ½ mile from Level 2 CCT Station	20
Connectivity & Mobility Category	
Transit Access Improvement	15
Diversity Category	
Affordable Housing (13.5% MPDUs)	12
Dwelling Unit Mix	5
Enhanced Accessibility for the Disabled	5
Quality Design Category	
Structured Parking	10
Public Open Space	10
Exceptional Design	10
Environmental Category	
BLTs	5
Tree Canopy	10
Vegetated Area	5
Total	**107**

These binding elements, as shown on the sketch plan, are subject to conditions and modification at site plan per Section 59-C-15.43(d). A Detailed Public Benefit Table was included in the Sketch Plan approval for a total of 107 Incentive Density points. The Public Benefits are being amended as part of the proposed Site Plan.

Proposal

Subdivision
The Preliminary Plan will allow for the conversion of previously approved commercial uses to residential uses on the existing platted Parcels, which will be replatted in order to reflect the expansion of the

Category I and Category II Conservation Easements on both Parcels. Of the 210,340 square feet of approved but unbuilt commercial uses, approximately 120,063 square feet will be converted to residential uses. Based on the trip-conversion rate, this will leave approximately 90,278 square feet of commercial uses available on the Property after the conversion. The conversion will allow for a maximum density of 542,430 square feet of development with up to 452,152 square feet of residential uses for up to 366 multi-family units, including a minimum of 13.66% moderately priced dwelling units (MPDUs), and up to 90,278 square feet of office uses (Attachment B). This 90,278 square feet of approved but unbuilt office uses will remain valid until December 14, 2013. The development potential for the Subject Property has been maximized, but in theory, this remaining commercial square footage could be traded to another site through a Preliminary Plan and/or Site Plan Amendment. No master-planned dedications of right-of-way are required for this project, but the Applicant is required to expand an existing Category I Conservation Easement which will be recorded by plat. The Applicant is proposing to construct two multi-family residential buildings with one internal parking garage and one existing garage. The Applicant is requesting to connect one of the buildings to the existing garage with a pedestrian bridge, which will cross a lot line. This requires a waiver of Section 50-20 of the Subdivision Regulations, and will be discussed in further detail below.



Preliminary Plan

Site Plan

Buildings

Two residential buildings are proposed on Parcels R-R and T-T, the two remaining undeveloped sites in the Hanover Shady Grove Executive Center. Building 1 will be constructed on Parcel T-T, directly to the south of proposed Building 2. Building 1 will be five-stories or approximately 55 feet in height with 191 dwelling units, including 30 MDPUs. The second and third floors will be connected by a two-deck pedestrian bridge to the second and third levels of an existing parking garage located on an adjacent platted Parcel in the Executive Center that is under separate ownership. The Applicant has an easement right to use up to 362 spaces in the garage for residential parking (in a shared parking agreement). Office tenants are expected to park on the ground level of the garage located in close proximity to the ground–level entrances of the office building on Parcel S-S.

Illustrative Landscape Plan

Building 2 will be constructed on Parcel R-R and will contain 175 dwelling units, 20 of which will be MPDUs. This building will be four-stories, or 45 feet in height. Building 2 will be partially wrapped around a structured parking garage containing 253 spaces, 31 spaces of which are designated exclusively for use by employees of an adjacent office building. Both buildings will have private courtyard areas with outdoor recreational amenities for residents. A 0.21-acre Civic Green is included as a public open space area for residents and non-residents.

Each building will have internal amenity space and facilities and private landscaped open space. Lobbies will be located near the intersection of Corporate Boulevard and the drive from Research Boulevard. Several at-grade units will have stoops and direct access to the sidewalks along the façade facing the street.

Courtyard Design for a Similar Project by the Applicant

The building elevations take into consideration the adjacent existing uses and structures in the Executive Center. The emphasis is on compatibility, implementation of goals in the GSSC Master Plan and the GSSC Design Guidelines, and addressing public benefit features for an infill development.

1. NORTH ELEVATION

2. WEST ELEVATION

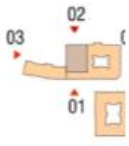
Building 1 Elevations

1. WEST ELEVATION

2. EAST ELEVATION

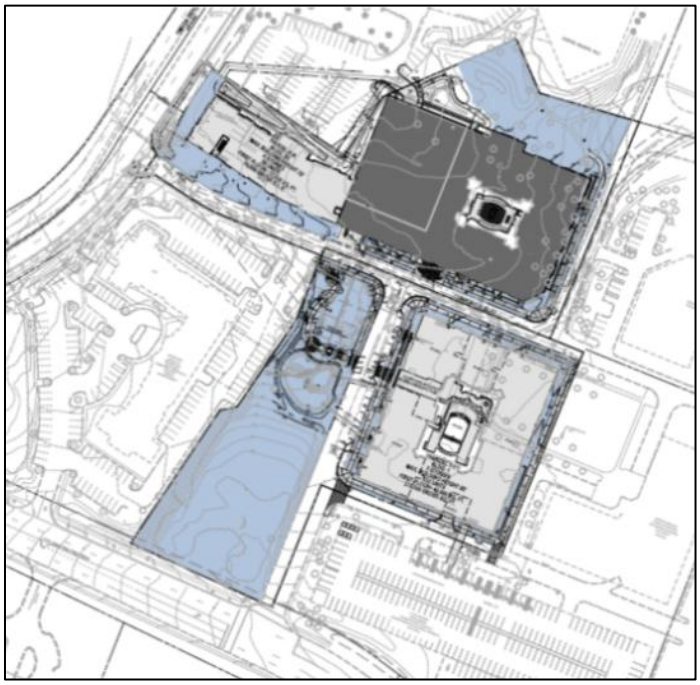
3. NORTH ELEVATION

4. SOUTH ELEVATION



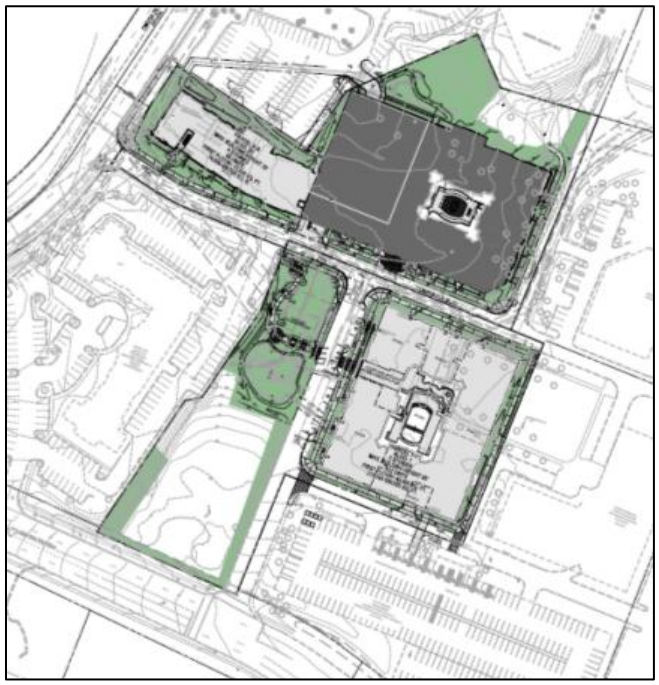
Building 2 Elevations

Open Space & Landscaping



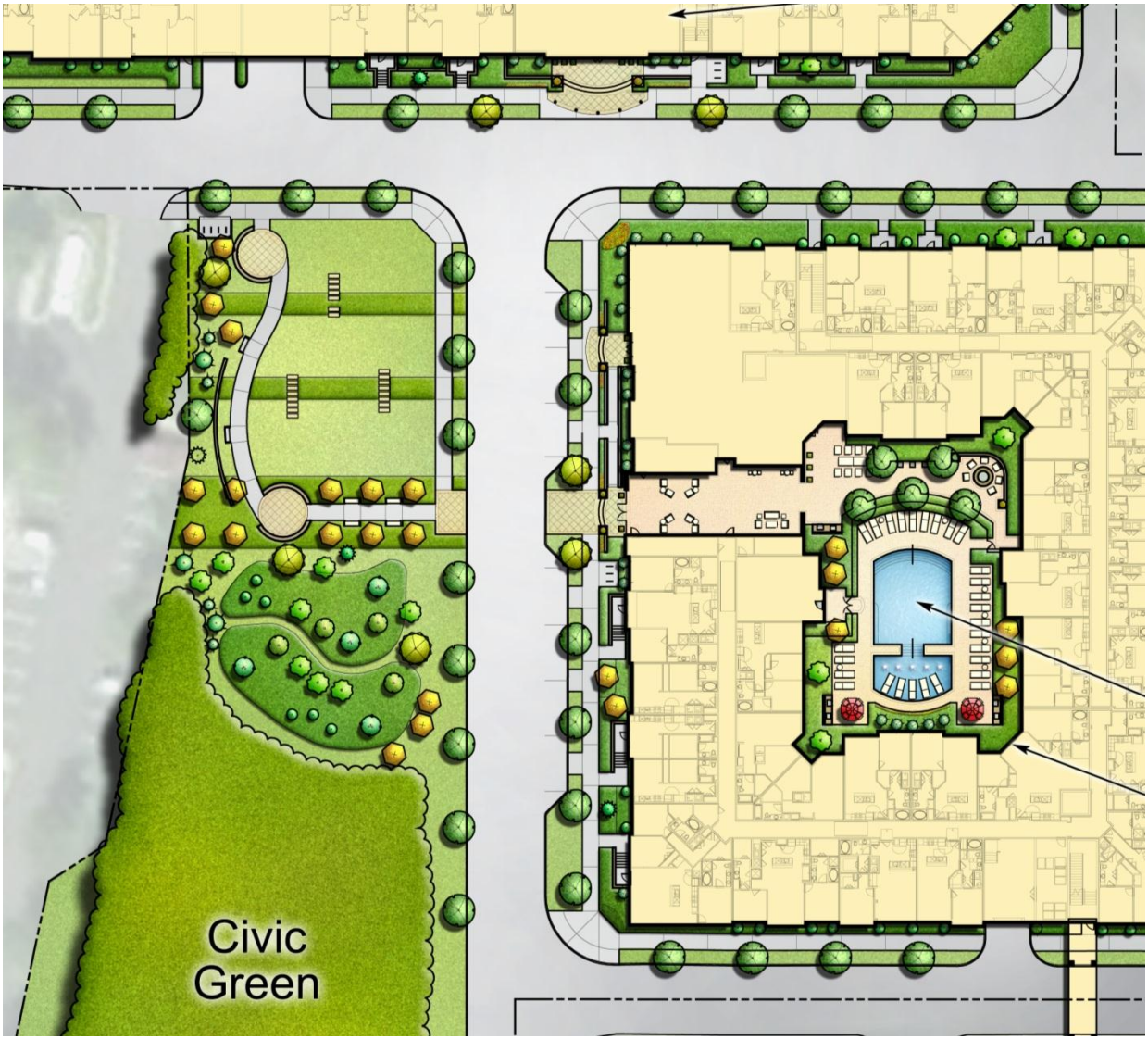
Open Space and Vegetated Area Plan

This exhibit demonstrates how open space is allocated on site. Some of this area will be calculated as "public use space" and some as "public open space" and "vegetated area" for incentive density points; other areas will be preserved within a conservation easement to satisfy part of the forest conservation easements, which has been deducted from the highlighted area in the exhibit below.



Open Space Plan Considered for Various Incentive Density Points

The public open space shown on the sketch plan – on the southwest corner of the internal "T" intersection – has been expanded and the parking has been removed. Lighting will be provided along sidewalks, within open spaces, and at building entrances. Otherwise, the on-site landscaping and open space remains consistent with the sketch plan application.



Park Detail

Circulation

Circulation and parking remain similar to the concept approved with the sketch plan. One important change is the removal of surface parking from the park area, which has been relocated along the interior private driveway from Research Boulevard. There is further discussion of the circulation plan below.

COMMUNITY OUTREACH

The Applicant has complied with all submittal and noticing requirements. The Applicant also presented the Project to the GSSC Implementation Advisory Committee. No comments have been received as of the date of this report.

SECTION 2: PRELIMINARY PLAN ANALYSIS AND FINDINGS

DEVELOPMENT ISSUES

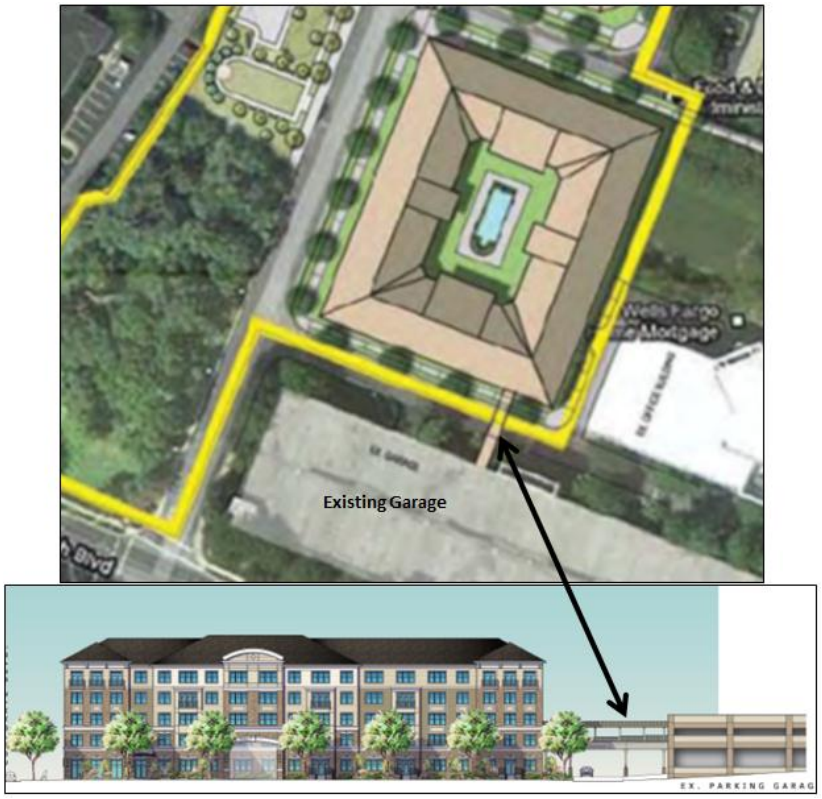
Subdivision Regulations Waiver 50-38(a)(1)

The Applicant is proposing to connect one of the residential buildings to an existing parking garage on a separate lot via a pedestrian bridge. However, Section 50-20(b) states:

> "A building permit must not be approved for the construction of a dwelling or other structure, except a dwelling or structure strictly for agricultural use, which is located on more than one lot, which crosses a lot line, which is located on the unplatted remainder of a resubdivided lot, or which is located on an outlot,…"

In order to provide relief from Section 50-20-(b) of the Subdivision Regulations, Staff recommends a waiver pursuant to Section 50-38 of the Subdivision Regulations to provide relief from 50-20(b) which states:

> "The Board may grant a waiver from the requirements of this Chapter upon a determination that practical difficulties or unusual circumstances exist that prevent full compliance with the requirements from being achieved, and that the waiver is: 1) the minimum necessary to provide relief from the requirements; 2) not inconsistent with the purposes and objectives of the General Plan; and 3) not adverse to the public interest."



Pedestrian Connection to Existing Parking Garage

The waiver request pertains only to Parcel T-T. Staff believes that a practical difficulty exists due to the fact that the parking garage is located on a lot separate from but adjacent to the Subject Property. The Applicant has entered into a shared use arrangement with the owner of the adjoining property, and the Applicant would like to use the existing parking garage for the proposed residential building on Parcel T-T. In fact, the Master Plan calls for reducing parking requirements and using structured and/or shared parking. The parking garage and pedestrian bridge will become limited access as an additional security measure for residents. The proposed pedestrian bridge will be above grade and connect to the second floor of the proposed building and the second floor of the existing parking garage.

Therefore, in order for the proposed residential building to fully utilize the parking spaces available in the existing garage on a separate lot as contemplated in the Master Plan, while providing a secure connection, Staff finds that a practical difficulty exists. Further, Staff finds that the requested waiver is the minimum necessary to provide relief from this requirement; any less would not allow the secure connection to be made. The waiver is not adverse to the objectives of the General Plan and not adverse to the public interest because the connection allows for safe, adequate, and efficient pedestrian circulation for residents and will not impede public vehicular or pedestrian circulation. The plan was distributed to the members of the Development Review Committee and there were no objections to the proposed pedestrian bridge. Therefore, Staff finds that all required findings have been made pursuant to Section 50-38(a)(1) and recommends approval of a waiver of Section 50-20(b) to permit a structure to cross a lot line.

ADEQUATE PUBLIC FACILITIES REVIEW

Vehicular Access Points

Vehicular access points to the proposed apartment buildings and their parking garages are from an internal north-south driveway via Research Boulevard, an east-west driveway via Omega Drive, and the adjacent Shady Grove Executive Center's parking lot via Omega Drive. Private access easements exist between the Subject Property and the existing office park. Additional private access easements will be executed to accommodate the residential development, including an access easement from the adjacent Shady Grove Executive parking area to Building 2's garage.

Vehicular Access and Circulation

On-Site Parking

The proposed 627 on-site parking spaces exceed the 468 spaces required for the proposed mixture of the 366 residential units. Approximately 31 of the 159 extra parking spaces are dedicated to office use located on the adjacent lot and will replace existing surface parking displaced by the proposed residential development.

Transportation Demand Management

The site is located within the boundary of the Greater Shady Grove TMD. Since, the Master Plan does not explicitly differentiate between vehicular trips generated by residents and employees nor limit participation with the TMO for residential and non-residential developments.
The Applicant must participate with the TMO and assist the County in achieving and maintaining the 2010 Great Seneca Science Corridor Master Plan's Stage 2 non-auto driver mode share goal of 18% and the ultimate goal of 30%.

Public Transit Service

Ride On bus service is available from the adjacent and nearby roadways as follows:

- Research Boulevard: Ride On routes 55 and 66;
- Key West Avenue and Shady Grove Road: Ride On route 43; and
- Omega Drive: Ride On route 74.

Master-Planned Roadways and Bikeways

In accordance with the 2010 *Great Seneca Science Corridor Master Plan* and the 2005 *Countywide Bikeways Functional Master Plan*, the master-planned designated roadways and bikeways are as follows:

- Omega Drive is designated as a four-lane arterial, A-261a, with a recommended 100-foot-wide right-of-way, and a local dual bikeway (bike lanes and a shared use path on the west side), LB-1. The City of Gaithersburg has future plans to reconstruct Omega Drive as part of Crown Farm's off-site road improvements. The Omega Drive reconstruction will be an extension of the City's Mandatory Referral No. MR2011801 for Fields Road (that was reviewed administratively in August 2011).
- Research Boulevard is designated as a four-lane industrial road, I-8, with a recommended 80-foot-wide right-of-way and no bikeway.

Bus Rapid Transit and Corridor Cities Transitway

One of the candidate Bus Rapid Transit (BRT) corridors is Route 5, "Gude Drive/Key West Avenue" that would operate transit vehicles along Research Boulevard between Shady Grove Road and Omega Drive would provide a transit connection between the Rockville Metrorail and MARC Stations and the Life Science Center. A BRT station is proposed at the nearby intersection of Shady Grove Road and Research Boulevard.

The Maryland Transit Administration's (MTA) preferred alignment of the Corridor Cities Transitway (CCT) does not operate along the adjacent roadways. The preferred alignment is on Decoverly Drive through the Crown Farm between Diamondback Drive and Fields Road, then Fields Road between Decoverly Drive extended and the on & off I-270 ramps in the northwestern corner of the interchange with Shady Grove Road. The nearest CCT station (DANAC Station) is approximately 3,500 feet to the west on Broschart Road near Key West Avenue.

Pedestrian and Bicycle Facilities

The Applicant will construct 5-foot-wide sidewalks along the Research Boulevard and Omega Drive frontages. Within the site, new or upgraded sidewalk connections are provided along the internal north-south from Research Boulevard and east-west Corporate Boulevard. The internal pedestrian circulation is ADA compliant with handicapped ramps or at-grade sidewalk crossings including across the garage vehicular access points. Pedestrian crosswalks must be provided as required by MCDOT.

Under Section 59-C-15.62 of the County Zoning Ordinance as a development located in the CR zone, the Applicant must provide bicycle parking spaces for each residential building with 20 or more dwelling units. For the two proposed apartment buildings with 175 and 191 units, the required bicycle parking is as follows:

- Publicly accessible bike spaces – 10 spaces per apartment building with the final number and location of these facilities to be determined at the time of certified site plan.
- Private secured bike spaces –67 for Building 1 and 62 for Building 2, with the final number and location to be determined at the time of certified site plan.

Local Area Transportation Review (LATR)

The Property is located on a portion of property approved under Preliminary Plan No. 119861860, Shady Grove Executive Center, and the following site plans:

81987011B – Approved 77,758 square feet of general office space on Parcel R-R.
81987011C – Approved 132,582 square feet of general office space on Parcel T-T.

The prior APF approvals for these two parcels were for a sum of 210,340 square feet of office uses with APF validity through December 14, 2013. The table below shows the net reduction in the vehicular peak-hour trips generated by the proposed change in land use on Parcels R-R & T-T during the weekday morning peak period (6:30 to 9:30 a.m.) and the evening peak period (4:00 to 7:00 p.m.):

	Square Feet or Units	Peak-Hour Trips	
		Morning	Evening
Approved & Unbuilt Office Space	210,340	350	323
Proposed Mid-Rise Apartments	366	150	173
Reduction in Peak-Hour Trips		200	150
Equivalent Square feet of General Office Space To 366 Mid-Rise Apartments		122,353	90,278*

*Use the lower of the two numbers in the last column.

In accordance with the Local Area Transportation Review and Policy Area Mobility Review Guidelines, a traffic study is not required to satisfy the Local Area Transportation Review (LATR) test because the number of total peak-hour trips generated by the proposed apartments is less than the trips generated by the previously-approved and unbuilt office uses.

Policy Area Mobility Review

Under the current *Subdivision Staging Policy*, because the new peak-hour trips generated by the proposed apartments are less than the trips generated by the previously approved and unbuilt office space, mitigation is not required to satisfy the PAMR test.

Other Public Facilities and Services

The proposed development will be served by public water and sewer systems. The application has been reviewed by the Montgomery County Fire and Rescue Service which has determined that the Property has appropriate access for fire and rescue vehicles. Other public facilities and services including police stations, firehouses and health care are currently operating in accordance with the Subdivision Staging Policy and will continue to be sufficient following the construction of the Project. Electric, gas and telecommunications services will also be available and adequate. The Project is located in the Gaithersburg Cluster, which requires a School Facilities Payment at the elementary school level.

Based on the analysis and conditions above, Staff finds that Adequate Public Facilities exist to serve the proposed development.

ENVIRONMENT

Environmental Guidelines

The original boundary of the Forest Conservation Plan (FCP) includes 15.5 acres. A Final FCP (FFCP) Amendment was approved for the Property on November 20, 1997. The approved plan indicated 0.80 acres of existing forest and 0.16 acres of forested wetlands that were buffered with a 25-foot buffer. The FFCP site drains to the Muddy Branch watershed which is designated as Class I Waters by the State of Maryland. The FFCP is not located within a 100-year floodplain or within a Special Protection Area and does not contain rare, threatened, or endangered species.

The FFCP site currently consists of an existing hotel building on a separate lot in the southwest corner of the FFCP site, two undeveloped sites that are currently maintained as lawn and landscaping, and two Category I Conservation easement areas that are forested. Nine trees that are 30 inches or greater diameter at breast height (DBH) and six significant trees that are 25-29 inches DBH are located within the northeastern and southern portions of the site.

Final Forest Conservation Plan

The boundary of the FFCP includes 15.5 acres consisting of an existing hotel building on a separate lot in the southwest corner of the FFCP site, two undeveloped sites that are currently maintained as lawn and landscaping, and two Category I conservation easement areas that are forested. This Property is subject to the Montgomery County Forest Conservation Law (Chapter 22A of the County Code). The second amendment to the Final Forest Conservation Plan ("FFCP") has been submitted for Planning Board approval (Attachment C). The original FFCP was approved as part of the original Site Plan 819870110, and, the first amendment to the FFCP (#82087011A) for this property was approved on November 20, 1997. The first amendment resulted in a planting requirement of 1.9 acres. This planting requirement was to be met by planting 50 landscape trees for 0.8 acres of afforestation credit, the preservation of the critical root zones of two specimen trees for 0.7 acres of afforestation credit, and 0.4 acres of on-site forest planting buffering the existing wetlands onsite and placed in a Category I conservation easement. In addition, the remaining 0.4 acres of retained forest on-site was placed in a Category I conservation easement.

Currently, the approved 1997 FFCP Amendment planting requirements have not been met on-site. As part of this application to amend the approved 1997 FFCP, the Applicant proposes to plant the remaining 17 landscape trees for tree canopy credit that are missing on-site, expand the existing 0.4 acre Category I conservation easement area within the southern portion of the site to include an additional 0.3 acres of Category I conservation easement, and provide supplemental tree and shrub plantings in a large landscape area in the northeastern portion of the site that will be placed in a Category II conservation easement.

Because the planting requirements of the approved 1997 FFCP Amendment were not completed as specified by the plan, Staff is recommending that a financial security agreement be obtained for the planting requirements and invasive management work identified on the new FFCP amendment. This will ensure the Applicant is in compliance with the approved plan.

Forest Conservation Variance

Section 22A-12(b) (3) of Montgomery County Forest Conservation Law provides criteria that identify certain individual trees as high priority for retention and protection. Any impact to these trees, including removal of the subject tree or disturbance within the tree's critical root zone (CRZ) requires a variance. An applicant for a variance must provide certain written information in support of the required findings in accordance with Section 22A-21 of the County Forest Conservation Law. The law requires no impact to trees that: measure 30 inches or greater, DBH; are part of a historic site or designated with a historic structure; are designated as a national, State, or County champion tree; are at least 75 percent of the diameter of the current State champion tree of that species; or trees, shrubs, or plants that are designated as Federal or State rare, threatened, or endangered species.

The Applicant submitted a variance request on June 20, 2012 for the removal of trees as depicted on the attached FFCP. The Applicant proposes to remove 3 trees that are 30 inches and greater, DBH, and are considered high priority for retention under Section 22A-12(b) (3) of the County Forest Conservation Law and to impact another specimen tree that is 42 inches DBH.

Table 1: Variance trees to be impacted or removed.

Tree Number	Species	DBH	CRZ Impact	Status
T-1	*Carya glabra*	52"	100%	Remove
T-4	*Liriodendron tulipifera*	42"	100%	Remove
T-6	*Acer rubrum*	46"	91%	Remove
T-11	*Quercus alba*	42"	11%	Save

Unwarranted Hardship Basis

As per Section 22A-21, a variance may only be granted if the Planning Board finds that leaving the requested trees in an undisturbed state would result in unwarranted hardship. The proposed development is in accordance with both the intent and recommendation of the Great Seneca Science Corridor Master Plan and the CR zone, both of which are intended to create higher density uses. In order to meet the higher density use of this site and to allow infill of commercial and residential development within the two undeveloped parcels that are currently constrained by the existing buildings on-site, removal and impact of variance trees are unavoidable. This area is envisioned to become an urban area with buildings oriented and as close to streets as possible. The internal roads have already been laid out on a grid, and any new buildings should be oriented to the grid. Given the unique shape of this property and the location of existing street grid, saving the trees by configuring a

building around them on this piece of property would make it extremely difficult for the Applicant to achieve the density envisioned by the Master Plan for this site or meet the Master Plan recommendations of creating a more urban place. Therefore, Staff concurs that the Applicant has a sufficient unwarranted hardship to consider a variance request.

Section 22A-21 of the County Forest Conservation Law sets forth the findings that must be made by the Planning Board or Planning Director, as appropriate, in order for a variance to be granted. Staff has made the following determinations in the review of the variance request and the proposed forest conservation plan:

Variance Findings - Staff has made the following determination based on the required findings that granting of the requested variance:

1. Will not confer on the applicant a special privilege that would be denied to other applicants.

Granting the variance will not confer a special privilege on the Applicant as this phased plan was approved by previous preliminary plans in 1986 and 1997. The Applicant is continuing the proposed development by constructing infill of residential development on the two remaining undeveloped parcels. In order to meet the density projected for the CR-zone and as identified in the Great Seneca Science Corridor Master Plan, the intensity of development will require the removal of variance trees on-site. Therefore, it is staff's opinion, that granting the variance will not confer a special privilege to the Applicant.

2. Is not based on conditions or circumstances which are the result of the actions by the applicant.

Staff concurs that the requested variance is based on the constraints of the site, the proposed development density, and the public facilities and amenities, rather than on conditions or circumstances which are the result of actions by the Applicant.

3. Is not based on a condition relating to land or building use, either permitted or non-conforming, on a neighboring property.

Staff concurs that the requested variance is a result of the proposed site design and layout on the Property and not as a result of land or building use on a neighboring property.

4. Will not violate State water quality standards or cause measurable degradation in water quality.

The Montgomery County Department of Permitting Services (DPS) has approved a stormwater management concept, dated July 5, 2012 for the proposed project (Attachment D). The on-site ESD practices proposed by this plan should improve the water quality of runoff generated by this site since the sediment control and stormwater management practices proposed by this plan are more effective in treating runoff than those practices approved by the initial approved preliminary plans. In addition, the new trees proposed as mitigation for the loss of specimen trees will replace the form and function of the existing tree canopy and eventually increase tree canopy; thereby, increasing stormwater uptake and soil infiltration.

Lastly, the specimen trees requested for removal on-site are not located in an environmental buffer or within a Special Protection Area. Therefore, Staff concurs that the project will not violate State water quality standards or cause measurable degradation in water quality.

Mitigation for Trees Subject to the Variance Provisions - Three trees are proposed for removal as a result of the proposed development.

Mitigation should be at a rate that approximates the form and function of the trees removed. Therefore, staff is recommending that replacement occur at a ratio of approximately 1" DBH for every 4" DBH removed, using trees that are a minimum of 3" DBH. This means that for the 140" DBH of trees removed, the required mitigation will be 12 native canopy trees with a minimum size of 3" caliper to be planted on-site. While these trees will not be as large as the trees lost, they will provide some immediate canopy and will help augment the canopy coverage. Because these trees are in mitigation for specimen trees removed, they do not count toward requirements identified in the forest conservation worksheet.

County Arborist's Recommendation on the Variance - In accordance with Montgomery County Code Section 22A-21(c), the Planning Department is required to refer a copy of the variance request to the County Arborist in the Montgomery County Department of Environmental Protection for a recommendation prior to acting on the request. The request was forwarded to the County Arborist on November 7, 2012. On November 19, 2012, the County Arborist issued her recommendations on the variance request and recommended the variance be approved with mitigation (Attachment E).

Variance Recommendation - Staff recommends that the variance be granted.

Stormwater Management

A Stormwater Concept Plan was approved by the Montgomery County Department of Permitting Services (DPS) on July 5, 2012. The plan proposes to meet stormwater management requirements through a variety of Environmental Site Design techniques, including micro-bioretention facilities, planter box micro-bioretention facilities, and bio-swales. The plan also proposes a number of pervious planting areas, retention of existing tree canopy and forest areas, and street tree and landscape plantings.

Conclusion

Based on the analysis above, Staff finds the plan meets the Environmental Guidelines and Forest Conservation Law. Staff recommends that the Planning Board approve the Final Forest Conservation Plan Amendment with the conditions cited in this staff report as part of the Preliminary and Site Plans, respectively. The variance approval is assumed in the Planning Board's approval of the Final Forest Conservation Plan.

MASTER PLAN

General Recommendations

The Property is located within the Life Science Center (LSC) of the GSSC Master Plan area. The LSC includes five districts, and the Property is located within the LSC North District. The specific language on the LSC North District of the Master Plan is included in Attachment F. The Master Plan provides the following general applicable recommendations for the Property:

- Transform the LSC into a dynamic live/work community while ensuring growth opportunities for research, medical, and bioscience interests;

- Create the LSC Loop as the organizing element of the open space plan to connect districts and destinations, incorporate natural features, and provide opportunities for recreation and non-motorized transportation; and
- Create a sustainable community that will attract nationwide interest with design and materials that minimize carbon emissions, maximize energy conservation, and preserve water and air quality.

There is a shortage of housing in the Master Plan area, and with the Subject Property located near a planned CCT station, the significant residential density approved with the Preliminary Plan will add to the housing stock at a strategic and convenient location in the LSC. The proposed pedestrian linkages will tie into the overall LSC pedestrian circulation system.

Two of the six recommendations listed on pages 15-16 of the Master Plan to help implement its vision are applicable to the Subject Property:

- Mixed-use development is emphasized; single purpose or free-standing retail buildings are inconsistent with the Master Plan's vision in any phase of development.
- Structured parking should be hidden from the street; although surface parking is inconsistent with the Master Plan's vision, it is anticipated and acceptable on an interim basis.

The proposed development is entirely residential and will complement the approximately 710,000 square feet of commercial uses that have been constructed over the original preliminary plan area. Two parking garages will support the development. One will be contained within the interior of one of the proposed buildings and hidden from the street as the Master Plan recommends. The other is already constructed on one of the adjoining properties, and there is a shared agreement with the property owners. This garage will serve the other proposed residential building. The existing garage is somewhat screened from the street by existing trees and landscaping, and will be connected to one of the residential buildings by a pedestrian bridge.

<u>Transportation and Circulation</u>
The GSSC Master Plan and Design Guidelines make the following recommendations for parking (p. 28):

> "The Plan recommends a strong pedestrian orientation for future development, reducing the amount of surface parking lots by:
>
> - Reducing parking requirements and using structured and/or shared parking;
> - Relieving smaller properties from self-park requirement."

A new parking garage will be constructed as part of this Application, and an adjacent existing parking garage will provide parking through a shared parking arrangement.

<u>Water Quality</u>
The Master Plan recommends "site design and construction options that minimize imperviousness," including "compact development" and "parking options such as reduced parking requirements and the use of structured parking and/or shared parking facilities." This project proposes both structured parking and shared parking.

The Master Plan also recommends Environmental Site Design approaches as required by State and County regulations. The stormwater concept proposes micro-bioretention, planter boxes, and bio-swales to treat stormwater runoff. The Site Plan also proposes a number of pervious planting areas, retention of existing tree canopy and forest areas, and street tree and landscape plantings.

Climate Protection and Sustainability
The Master Plan makes a number of recommendations to reduce carbon footprint (page 29) and reduce impacts to air quality. The proposed development will be "walkable and served by public transit to make efficient use of land and resources, to reduce vehicle miles traveled and facilitate non-motorized travel" (page 29). The Master Plan specifically recommends that "new buildings meet the minimum efficiency standards of 17.5% below the calculated baseline performance or meet the appropriate ASHRAE advanced energy design guide" (Master Plan page 29). The Preliminary Energy Model submitted by the Applicant demonstrates that the project "performs 17.9% better than ASHRAE 90.1-2007 requirements using the LEED for Homes Mid-Rise Energy Modeling Protocol and ASHRAE Appendix G Performance Rating methodology."

This project will contribute to sustainability by improving the jobs-housing balance in the LSC and provide residential units within walking and bicycling distance of employment. The development is also within a half mile of the planned CCT station at the DANAC property. The project is applying for LEED Certification for both buildings. The LEED checklist provided with the application shows that the project is already close to qualifying for LEED Silver certification. In keeping with the Master Plan recommendations for "a standard for sustainability that reflects the LSC's cutting edge science" Staff recommends that this project attain LEED Silver certification.

Housing
The Master Plan encourages the provision of housing to improve the area's jobs-housing balance. The Master Plan recommends a range of housing options to help meet County housing goals, including MPDUs and workforce housing (page 23). The Preliminary Plan proposes 13.66% MPDUs as part of their CR zone public benefit schedule.

Staging Considerations
According to the Master Plan, converting from non-residential to residential development is exempt from the Master Plan's staging requirement, as long as it does not increase the number of previously approved vehicle trips. As stated on page 77 of the Master Plan:

> "The 3.7 million square feet of development in the pipeline is not subject to the Plan's staging requirements unless a project's Preliminary Plan expires. The owner of a property approved for commercial development may re-subdivide and convert to residential development and still be exempt from staging provided that the change in development will not increase the number of vehicle trips."

The Applicant is proposing to convert the existing 210,340 square feet of commercial uses into 452,152 square feet of residential uses, for 366 multi-family units. All 366 residential units are exempt from the residential staging requirements of the Master Plan because 120,062 square feet of commercial uses is less than the previously approved 210,340 square feet of commercial uses. Furthermore, the 90,278 square feet of the previously approved 210,340 square feet of commercial development will also remain valid.

Site Specific Recommendations

The Master Plan has the following recommendations that are specific to the Property on pages 48 and 49:

- Encourage mixed-use infill for the Shady Grove Executive Center site;
- Rezone Shady Grove Executive Center property to CR Zone – CR1.5 C1.5 R1.5 H100;
- Residential uses are encouraged, as are pedestrian-oriented local retail facilities that are compatible with and provide convenience for residents;
- Public benefits that improve connectivity and mobility or add to the diversity of uses and activity are encouraged; and
- The sidewalk and pedestrian improvements as shown, with final locations to be determined at Site Plan review.

The Applicant is providing residential uses to complement the 710,000 square feet of commercial uses that have been constructed on the original preliminary plan property. The proposed development is residential, which addresses the need for residential units in the area. The public benefits proposed as part of the Site Plan provide improved connectivity and add to the diversity of uses and activity for the surrounding area. The Applicant is providing the pedestrian improvements as required.

Based on the analysis above and conditions of this report, Staff finds the proposed Preliminary Plan is in substantial conformance with the Master Plan.

COMPLIANCE WITH THE ZONING ORDINANCE AND SUBDIVISION REGULATIONS

Staff has reviewed the application for compliance with Chapter 50 of the Montgomery County Code, the Subdivision Regulations. With the improvements proposed, access and public facilities will be adequate to support the proposed lots, density, and use. The proposed lot size, width, shape, and orientation are appropriate for this type of subdivision and meet the Master Plan goals to provide a more urban and walkable community while providing much needed residential development. Further, the lots are designed to meet all other requirements of the Subdivision Regulations, including access, frontage, dedication for public uses, adequacy of public facilities and conformance to Master Plan recommendations. The proposed development meets all dimensional requirements of the CR1.5 C1.5 R1.5 H100 Zone as specified in the Zoning Ordinance and as detailed in Section 3: Site Plan Review of this report. Finally, the application has been reviewed by other applicable County agencies, all of whom have recommended approval of the Preliminary Plan (Attachment G).

SECTION 3: SITE PLAN ANALYSIS AND FINDINGS

DEVELOPMENT STANDARDS

The proposed development is on 301,474 square feet of gross tract area zoned CR1.5 C1.5, R1.5 H100 with 13.66% MPDUs. The Applicant is using the CR Optional Method in this development. The following tables show the application's conformance to the development standards of the zone and the approved Sketch Plan; minimum setbacks are not applicable on this site.

1. Density of Development (maximum square feet per gross tract)			
	Total (CR)	**Non-Residential (C)**	**Residential (R)**
Allowed by the Zone	452,211	452,211	452,211
Approved with Sketch Plan	452,152	N/A	452,152
Proposed	**452,211**	**N/A**	**452,211**

2. Height (maximum feet)	
	CR1.5 C1.5 R1.5 H100
Allowed by the Zone	100
Approved with Sketch Plan	70 for occupiable space
	80 for design elements
Proposed	**Building 1: 70**
	Building 2: 80

3. Public Use Space (minimum % of net lot)	
Required by the Zone	10%
Approved with Sketch Plan	20%
Proposed	**19%**

4. Residential Amenity Space (minimum square feet per market rate unit)			
	Rate	Required	**Proposed**
Indoor Amenity Space	20sf per unit up to 5,000sf	5,000	**7,789** **Provide area for each building with CSP[1]**
Outdoor Amenity Space	20sf per unit up to 5,000sf	5,000	**15,013** **Provide area for each building with CSP**

5. Minimum Bicycle Parking Spaces & Shower/Change Facilities				
	Required		**Proposed**	
Use	Publicly Accessible	Private & Secure	**Public**	**Private**
Building 1- with 191 Units	10	67	**10**	**67**
Building 2 – with 175 units	10	62	**10**	**62**

6. Parking (minimum spaces required)		
	Required	**Proposed**
Per Unit Mix	469	**627**

[1] CSP = certified site plan, must meet minimum.

FINDINGS

1. *The site plan conforms to all non-illustrative elements of a development plan, or diagrammatic plan, and all binding elements of a schematic development plan, certified by the Hearing Examiner under Section 59-D-1.64, or is consistent with an approved project plan for the optional method of development, if required, unless the Planning Board expressly modifies any element of the project plan.*

The site plan is not subject to a development plan, diagrammatic plan, schematic development plan, or project plan. It is, however, subject to five binding elements and seven conditions of Sketch Plan 320120020 in MCPB Resolution No. 12-14, which may be modified at the time of site plan review under Section 59-C-15.43(d):

During site plan review, the Planning Board may approve amendments to the binding elements of an approved sketch plan.

(1) Amendments to the binding elements may be approved, if such amendments are:
   a. Requested by the applicant;
   b. Recommended by the Planning Board staff and agreed to by the applicant; or
   c. Made by the Planning Board, based on a staff recommendation or on its own initiative, if the Board finds that a change in the relevant facts and circumstances since sketch plan approval demonstrates that the binding element either is not consistent with the applicable master or sector plan or does not meet the requirements of the zone.

(2) Notice of proposed amendments to the binding elements must be identified in the site plan application if requested by the applicant or in the final notice of the site plan hearing recommended by Planning Board staff and agreed to by the applicant.

(3) For any amendments to the binding elements, the Planning Board must make the applicable findings under Section 59-C-15.43(c) in addition to the findings necessary to approve a site plan under Section 59-C-D-3.

Public Benefit Change

At the request of the Applicant, the transit access improvements public benefit, originally approved with the Sketch Plan as a binding element, has been removed at the request of the Applicant because of right-of-way constraints and replaced by energy conservation as a public benefit. The Applicant has an energy model that has been implemented at other sites and therefore, adding energy conservation as a fourth consideration in the Energy Category is consistent with their portfolio. With this modification to public benefits, the Project continues to meet the necessary findings under Section 59-C-15.43(c) that support the requested incentive density and the public benefits are consistent with the priorities of the Master Plan.

Staff finds the removal of the transit access improvement consideration and the addition of the energy conservation public benefit does not alter the Sketch Plan findings (Attachment H) under Section 59-C-15.43(c):

- The Project continues to meet the objectives, general requirements, and standards of Division 59-C-15 through compliance with the CR Zone.
- The Project continues to further the recommendations and objectives of the Master Plan and is in general conformance with the recommendations of the GSSC Design Guidelines.
- The buildings and open spaces remain compatible with existing nearby buildings, open spaces, and uses and are, in fact, unchanged by the modification to the binding elements.

- Circulation, parking, and loading for cars, trucks, pedestrians, and bicyclists remain enhanced by the proposed development, despite the removal of the transit access improvement public benefit. While the transit access improvements as originally proposed would have provided additional pavement markings and shelters for pedestrians and cyclists, right-of-way constraints would not have ensured that these improvements could be done adequately and safely.
- The Project continues to provide the necessary public benefits as shown on the density summary table below and includes public benefits that address the general incentive and density considerations required by Section 59-C-15.83.
- The Project may be built in two phases. Either of the phases will require completion of public benefits that are generally proportional to the proposed buildings. Approximately one-half of the open space, affordable housing, structured parking, exceptional design, tree canopy, BLTs, and energy conservation elements are required, whichever building is completed first.

2. *The site plan meets all of the requirements of the zone in which it is located, and where applicable conforms to an urban renewal plan approved under Chapter 56.*

The Application must meet the following requirements of the CR Zone:

- Uses;
- General Requirements;
- Development Standards; and
- Special Regulations for the Optional Method of Development (Public Benefits).

a. Uses

The proposed use – multi-family residential with structured parking – is permitted in the zone.

b. General Requirements

This Site Plan is substantially consistent with the Master Plan and the GSSC Design Guidelines. As part of the LSC North District, the development will:

- Provide in-fill residential development (page 48);
- Provide public benefits that improve connectivity and mobility, improve open spaces and the pedestrian-realm, and add to the diversity of activities, through construction of affordable housing above the minimum required and open space (page 48);
- Provide a finer grid and improve vehicular and pedestrian connections, through improvements to the local sidewalks and around the new buildings;
- Achieve more sustainable development patterns through balanced land use, connectivity improvements, open spaces, enhances stormwater management, and building design (pages 26-30);
- Create public use spaces that allow for active and passive recreation, are visible and usable; have a strong relationship to retail on adjacent properties, amenity space, and the pedestrian network; and are not separated by barriers (design guidelines, page 13);
- Encourage the use of sustainable building practices and site design to reduce energy use and stormwater runoff;
- Provide street trees, lighting, amenities and parallel parking (design guidelines, pages 14 & 44);
- Provide buildings as close to property lines as grades and easements allow with access from units to perimeter sidewalks (design guidelines, pages 22 & 45);
- Provide design excellence with innovative building materials and style (design guidelines, page 27); and

- Provide at least the minimum required number of bicycle parking spaces for residents and visitors.

c. Development Standards
The proposed development will comply with all development standards as shown in the data tables and discussion above.

d. Public Benefits
The proposed development will provide numerous public benefits with proportional incentive density points according to:
- The recommendations, objectives, and priorities of the Master Plan;
- The CR Zone Incentive Density Implementation Guidelines and the GSSC Design Guidelines;
- The size and configuration of the tract;
- The relationship of the Site Plan to adjacent properties;
- The presence or lack of similar public benefits nearby; and
- Enhancements beyond the elements listed in the individual public benefit descriptions or criteria that increase public access to or enjoyment of the benefit.

In accordance with the Zoning Ordinance, Section 59-C-15.82, the Site Plan proposes the following four public benefits categories to satisfy the requirements: Transit Proximity; Diversity of Uses & Activities; Quality of Building and Site Design; and Protection and Enhancement of the Natural Environment.

Transit Proximity
The Project is eligible for 20 points because greater than 75% of the subject site is within ½ mile of a CCT Station, a Level 2 transit facility. The Applicant is requesting the maximum 20 points. Staff recommends granting the 20 points because development near transit facilities encourages greater use of transit, controls sprawl, and reduces vehicle miles traveled, congestion, and carbon emissions.

Affordable Housing
Affordable housing or MPDUs above the minimum number of units required, but not more than 15 percent of all units, entitles the Applicant to 12.0 incentive density points for each 1 percent increase in MPDUs. Any fraction of 1 percent increase in MPDUs entitles the Applicant to an equal fraction of 12.0 points. The Applicant is requesting 13.48 points in the Affordable Housing element.

The Master Plan encourages the provision of housing to improve the area's jobs-housing balance. The Plan recommends a range of housing options to help meet County housing goals, including Moderately Priced Dwelling Units and workforce housing (page 23). The Project proposes 13.66% MPDUs. Staff recommends granting 13.92 incentive density points because the Project is providing more than an additional 1 percent of MPDUs. Proposed points are determined as follows:

Calculation:
46 (required units) + 4 (MPDUs above min) = 50/366 (MPDUs provided/total units) = 0.136
0.1366 * 100 = 13.66% (MPDUs percent provided)
13.66 (percent provided) – 12.5 (min % required) = 1.16 * 12 (points) = 13.92

Dwelling Unit Mix

Up to 10 points for integrating a mix of residential unit types with at least 7.5% efficiency units, 8% 1-bedroom units, 8% 2-bedroom units, and 5% 3-or-more bedroom units. Staff recommends granting 5 points for provision of the dwelling unit mix that meets these criteria, as prescribed by the Incentive Density Guidelines (to achieve the full 10 points, a greater minimum number of each unit type must be provided).

Proposed Unit Mix:

Total Units:	366
Efficiency:	28 (7.5%) minimum
1-Bdrm:	30 (8%) minimum
2-Bdrm:	30 (8%) minimum
3-Bdrm:	19 (5%) minimum

Enhanced Accessibility for the Disabled

Up to 20 points for constructing dwelling units that satisfy American National Standards Institute A117.1 Residential Type A standards or an equivalent County standard. The Applicant is proposing eight units in this element and requests a total of 6.55 incentive density points. Staff recommends granting the requested 6.55 density points based on the following calculations:

Calculation:

Proposed units with enhanced accessibility for the disabled: 8
Total units proposed: 366
8 ÷ 366 = 0.02185792 x 300 = 6.55

Structured Parking

Up to 20 points may be granted for placing parking within an above – or below – grade structure. A formula distinguishing the parking provided within an above-grade structure divided by the total parking provided and multiplying the result by 10 is the approved formula in the Guidelines. Below-grade parking spaces are eligible for double the points (20) because of the greater cost. In this case, most of the parking will be within two above-grade structures (one currently exists on an adjacent site, and the other will be constructed as part of the subject Project). The Applicant is requesting 10 points for the reasons outlined in the Applicant's Supplemental Narrative (Attachment I):

> "The existing conditions of the Shady Grove Executive Center include an under-utilized parking garage dedicated to one office building and a separate surface parking lot (located on a portion of the Hanover site) dedicated to another office building. As part of the design of the Hanover site, the Project (a) will utilize the excess parking in the existing garage, sharing parking with the office workers and connecting the existing garage to one of the Project's residential buildings via a two-level resident sky bridge; and (b) will relocated the existing surface parking into the basement level of a new, to-be-constructed structured parking garage that will serve the second residential building of the Project."

The GSSC Master Plan Urban Design Guidelines make the following recommendations for parking (page 28):

> "The Plan recommends a strong pedestrian orientation for future development, reducing the amount of surface parking lots by:
> - Reducing parking requirements and using structured parking and/or shared parking.
> - Relieving smaller properties from self-park requirement."

Staff finds that sharing existing parking provides a better function of existing facilities through innovative design and the sky bridge connection between the existing garage and the building is an innovative solution. The sum of these considerations all serve to address the design criteria in this consideration. Staff recommends granting 10 points.

Calculation:
A = Above Grade Spaces = 596
B = Below Grade Spaces = 0
T = Proposed Spaces = 627
The Project includes 7 on-site parallel parking spaces
((A/T) * 10) + ((B/T) * 20) = ((592/627) * 10) + ((0/627) * 20)) = 9.5 points

Public Open Space
Up to 20 points may be granted for providing or making a payment for open space in addition to the minimum public use space required. The Applicant proposes 28,203sf of public open space in addition to the minimum 10% public use space required. The Applicant is requesting 10 points and provided information in the Supplemental Narrative. Staff recommends granting 9 points because the Applicant will exceed the minimum requirement.

(P/N)*100
P = public open space = 28,203 square feet
N = net lot area = 301,435 square feet
(28,203/301,435) * 100 = 9 points

Exceptional Design
Up to 10 points can be granted for building or site design whose visual and functional impacts enhance the character of a setting and for development that meets all six of the following criteria:

- *provides innovative solutions in response to the immediate context*

  The Site Plan provides innovative solutions in response to the immediate context and existing development conditions through reuse of existing facilities, reducing to the extent possible the demolition of existing uses and the impact of entirely new construction. This allows the Applicant to deliver a compact and efficient infill site, consistent with the stated goals of the Master Plan.

  The Project provides an innovative solution and provides in-fill development in a mostly-developed office setting. It will also serve to complement recommendations in the Master Plan for the LSC transformation and implement the CR Zone at the site that, as currently developed, is designed for the automobile. The Project represents a transformational piece in the LSC North District: significant multi-family residential housing options and pedestrian-friendly features.

- *creates a sense of place and serves as a landmark*

  The public open spaces, a centrally located Civic Green and enhanced streetscapes, create a strong sense of place that residents and non-residents alike will have access to for enhanced quality of life. Staff anticipates the Civic Green will be a gathering place for the residents and visitors.

- *enhances the public realm in a distinct and original manner*

  The design of the buildings will define the spaces around them and create public spaces rather than stand as isolated buildings. Both buildings will have courtyards that create opportunities for recreational experiences and socializing in general. In addition to the Civic Green, the Project includes preservation of a 0.7-acre forested area adjacent to the Civic Green.

- *introduces new materials, forms, or building methods*

  The Project features high-quality building materials (including stacked stone facades) and unique design solutions intended to activate the streetscape. Several units will have street-level entrances and stoops adjacent to streets and sidewalks. This design feature is intended to generate residential activity at street-level. The Project will provide 8 units that meet ASHTA standards for accessibility to provide quality housing opportunities for an underserved segment of the population. The Project lends itself to sustainability by incorporating an energy efficiency model the developer has used at other sites across the country. The Applicant will obtain LEED certification in an effort to reduce impacts to air quality.

- *uses design solutions to make compact infill development living, working, and shopping environments more pleasurable and desirable*

  The two multi-family residential buildings will be integrated with existing office development through shared infrastructures and pedestrian and vehicular circulation networks. This results in an in-fill development that promotes a live-work-play atmosphere. This Project addresses the Master Plan objective to "Transform the LSC into a dynamic live/work community while ensuring growth opportunities for research, medical, and bioscience interests."

- *integrates low-impact development methods into the overall design of the site and building*

  The Master Plan recommends "site design and construction options that minimize imperviousness," including "compact development" and "parking options such as reduced parking requirements and the use of structured parking and/or shared parking facilities." The Project includes both structured parking and shared parking.

  The Stormwater Concept report for this Site Plan proposes micro-bioretention, planter boxes, retention of existing tree canopy and forest areas, and street tree and landscape plantings.

The Applicant is requesting the maximum 10 points. Considering the sum total of the six criteria as it relates to this Project and because the Applicant has addressed all six criteria in this element, Staff recommends granting the maximum 10 density incentive points.

<u>Building Lot Termination (BLT)</u>
Up to 30 points for the purchase of BLT easements or payment to the Agricultural Land Preservation Fund (ALPF). The first 5 points are mandatory for all developments in the CR zones; up to 25 additional points are allowed as an option. The Applicant is requesting 5 points based on purchase of 0.7536 BLTs. Staff recommends granting the 5 points requested in this element because the minimum has been met.

Calculation
Purchase/payment for BLTs: ((301,435 sf incentive density * 0.05/20,000) = 0.7536 BLTs.

Tree Canopy
Up to 15 points for tree canopy coverage at 15 years of growth of at least 25% of the on-site open space. The Applicant is requesting 10 points for tree canopy. Staff recommends granting 10 points because the minimum of 25% coverage will be provided. The Applicant's Landscape Architect must provide Staff with an exhibit providing the calculations to arrive at the requested 10 points prior to approval of the certified site plan. Tree planting for the site's amended Final Forest Conservation Plan will not be double counted in the incentive density calculations.

Environment – Vegetated Area
Up to 10 points for installation of plantings in a minimum of 12 inches of soil, covering at least 5,000 square feet. This does not include vegetated roofs. Incentive density of 5 points is appropriate for development that meets the requirements of the Zoning Ordinance. This area may not be part of the required public use space or open space used for incentive density. Area within stormwater management easements may not be counted. The Applicant is requesting, and Staff recommends granting, 5 points for meeting the requirements of the Zoning Ordinance.

Environment – Energy Conservation and Generation
Up to 15 points for constructing buildings that exceed the energy-efficiency standards for the building type by 17.5% for new buildings or 10% for existing buildings. The Applicant is eligible to obtain at least 15 points for providing renewable energy generation facilities on-site or within ½ mile of the site for a minimum of 2.5% of the projected energy requirement for the development. Staff recommends granting the requested 15 points subject for exceeding the energy-efficiency standards for the building type by at least 17.5%.

Public Benefit	Maximum Points Permitted	Proposed Points [Sketch Plan]	Criteria	Points Approved & Binding on Applicant
Transit Proximity Category				
Transit Proximity	20	20 [20]	Site within ¼ - ½ mile from Level 2 CCT Station.	20
Diversity of Uses and Activities Category				
Affordable Housing	12	13.48 [12]	Provision of 13.5% MPDUs; 1%over 12.5% = 12	13.92
Dwelling Unit Mix	10	5 [5]	Provision of at least 7.5% efficiency units, 8% 1-bedroom units, 8% 2-bedroom units, & 5% 3-or more bedroom units	5
Enhanced Accessibility for the Disabled (8 units)	20	6.53 [5]	Provision of at least 12 units that meet ANSI A117.1 Residential Type A standards. The points awarded for this public benefit will be revisited at site plan review	6.55
Quality of Building and Site Design Category				
Structured Parking	20	10 [10]	All but 31 of 627 spaces within above grade structure.	10
Public Open Space	20	20 [10]	Density for open space above the zone's requirements is granted on a sliding scale based on the % of the net lot area.	9
Exceptional Design	10	10 [10]	Incentive density of 5 points for development that meets at least 4 of 6 criteria and 10 points for development that meets all 6.	10
Protection & Enhancement of the Natural Environment Category				
BLTs	30	5 [5]	Purchase/payment for 1 BLT per 20,000sf of 5%	5
Tree Canopy	15	15 [10]	Coverage of 25% of on-site open space with tree canopy at 15 years growth.	10
Vegetated Area	5	5 [5]	Installation of plantings in a minimum of 12 inches of soil covering at least 5,000 square feet of previously impervious surfaces.	5
Energy Conservation & Generation	15	Not proposed at Sketch Plan	Project will maintain 75% of the structural system of the existing building.	15
Total Points				**109.47**

Staff finds that the proposed public benefits fulfill the priority recommendations of the Master Plan, meet the criteria of both the Implementation and Design Guidelines, are appropriate for the size and configuration of the tract, and enhance the site's relationship to adjacent properties. The Applicant will provide public benefits from at least 4 categories equal to greater than 100 points, the final numbers to be determined prior to approval of the certified site plan.

3. *The locations of buildings and structures, open spaces, landscaping, recreation facilities, and pedestrian and vehicular circulation systems are adequate, safe, and efficient.*

   a. Landscape and Lighting Plan
   The landscape plan includes a mixture of deciduous, evergreen and ornamental trees (deciduous) for shade and softening the effect of a site where office buildings were constructed as long as two decades ago. The landscape plan will serve to transform the area into a more aesthetically-pleasing, green environment including large and medium shrubs, dwarf shrubs and ground cover.

   The Lighting Plan will include ornamental street/pedestrian light poles with enclosed-Luminaire design light fixtures along the perimeter of the two buildings and the sidewalk system and in the Civic Green; building-mounted wall sconces; bollards, and building-level directional lights. The lighting plan will meet industry standards to provide safe pedestrian and vehicular circulation systems during evening hours.

   b. Pedestrian and Bicycle Facilities
   The Site Plan includes 5-foot wide sidewalks along the Research Boulevard and Omega Drive frontages. Within the site, new or upgraded sidewalk connections are provided along the internal north-south road from Research Boulevard and east-west road. The internal pedestrian circulation is ADA-compliant with handicapped ramps or at-grade sidewalk crossings, including across the garage vehicular access points. Pedestrian crosswalks must be provided as required by MCDOT. As conditioned, the Site Plan meets the requirements of Section 59-C-15.62 for bicycle parking spaces.

   c. Open Spaces
   The Project includes a 9,259-square foot Civic Green centrally located to the site and across from the two residential buildings. The Civic Green includes curved masonry sidewalks, masonry seating and a retaining wall, and 8 bike racks with an overhead shelter. The Civic Green will be easily accessible to residents of both buildings and their guests and non-residents who work in the nearby offices.

   Each residential building will have a private courtyard with outdoor features including a swimming pool (Building 1), sitting and picnic areas, and lounging areas (the latter near the swimming pool). Building 2's courtyard will have a double-sided outdoor fireplace and barbeque grill center with outdoor furniture.

4. *Each structure and use is compatible with other uses and other site plans and with existing and proposed adjacent development.*

   All surrounding, developed properties in the immediate area were C-2 zoned when developed with office buildings in the 1980's and 1990's. Height limitations of three-stories or 42 feet are associated with the C-2 zone. The Project represents infill development for multi-family residential housing that will complement the developed office buildings by providing employees an option of living near their places of employment.

5. *The site plan meets all applicable requirements of Chapter 22A regarding forest conservation, Chapter 19 regarding water resource protection, and any other applicable law.*

   a. Forest Conservation
   The development is subject to the Chapter 22A, Montgomery County Forest Conservation Law. All forest conservation requirements are being met through the approval of Preliminary Plan No. 11986186A. As conditioned, this Site Plan must comply with the conditions of that preliminary plan.

   b. Stormwater Management
   Stormwater Management Concept Plan approval was issued by DPS on June 27, 2012. Environmental-Sensitive Design (ESD) methods will be provided on-site.

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ATTACHMENTS

A. Sketch Plan Resolution
B. Preliminary Plan
C. Final Forest Conservation Plan
D. Stormwater Management Concept approval letter
E. County Arborist's Approval Letter
F. Applicable Master Plan and Design Guideline Sections
G. Agency Approval Letters
H. Energy Conservation Public Benefit Exhibit
I. Applicant's Supplemental Narrative for Incentive Density Calculations

Attachment A

MAY 2 2 2012

MONTGOMERY COUNTY PLANNING BOARD
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

MCPB No. 12-14
Sketch Plan No. 320120020
Project Name: Hanover Shady Grove
Date of Hearing: January 26, 2012

RESOLUTION

WHEREAS, pursuant to Section 59-C-15.42 of the Montgomery County Code the Montgomery County Planning Board ("Planning Board" or "Board") is authorized to review sketch plan applications; and

WHEREAS, on October 24, 2011, Hanover R.S. Limited Partnership ("Applicant"), filed an application for approval of a sketch plan for construction of up to 452,152 square feet in two buildings with up to 380 multi-family units, on 6.92 gross acres of CR1.5 C1.5 R1.5 H100-zoned land, located on Research Boulevard approximately 575 feet east of the intersection of Omega Drive ("Property" or "Subject Property") in the Great Seneca Science Corridor Master Plan ("Master Plan" or "GSSC Master Plan") area; and

WHEREAS, Applicant's sketch plan application was designated Sketch Plan No. 320120020, Hanover Shady Grove (the "Application"); and

WHEREAS, following review and analysis of the Application by Planning Board staff ("Staff") and the staff of other governmental agencies, Staff issued a memorandum to the Planning Board, dated January 13, 2012, setting forth its analysis of, and recommendation for approval of the Application subject to certain binding elements and conditions ("Staff Report"); and

WHEREAS, on January 26, 2012, the Planning Board held a public hearing on the Application (the "Hearing"); and

WHEREAS, at the Hearing, the Planning Board heard testimony and received evidence submitted for the record on the Application; and

WHEREAS, on January 26, 2012, the Planning Board approved the Application subject to certain binding elements and conditions, on the motion of Commissioner Dreyfuss, seconded by Commissioner Presley, with a vote of 4-0; Commissioners

Approved as to
Legal Sufficiency: 5/4/12
M-NCPPC Legal Department

Carrier, Dreyfuss, Wells-Harley, and Presley voting in favor, and Commissioner Anderson being absent.

NOW, THEREFORE, BE IT RESOLVED that, pursuant to the relevant provisions of Montgomery County Code Chapter 59, the Montgomery County Planning Board approved Sketch Plan No. 320120020 for construction of up to 452,152 square feet in two buildings with up to 380 multi-family units on the Property, subject to the following binding elements and conditions:

A. Binding Elements. The following site development elements are binding under Section 59-C-15.43(b)(4):

1. Maximum density and height;
2. Approximate location of lots and public dedications;
3. General location and extent of public use space;
4. General location of vehicular access points; and
5. Public benefit schedule.

All other elements are illustrative.

B. Conditions. This approval is subject to the following conditions:

1. Density
The development is limited to a maximum total of 452,152 square feet of development for residential uses. The final amount of residential floor area and the final number of dwelling units will be determined at site plan.

2. Height
The development is limited to a maximum height of 70 feet for occupiable space; however, architectural design elements of the development are limited to a maximum height of 80 feet.

3. Incentive Density
The development must be constructed with the public benefits listed below, unless modifications are made under Section 59-C-15.43(d); total points must equal at least 100 points and be chosen from at least 4 categories as required by Section 59-C-15.82(a); the requirements of Division 59-C-15 and the Implementation Guidelines must be fulfilled for each public benefit proposed.

   a. Transit proximity
   The Applicant proposes 20 points for proximity to master-planned stations for the Corridor Cities Transitway, Level 2 transit stations.
   b. Connectivity and Mobility

The Planning Board approved 15 points for transit access improvements.

c. Diversity of Uses and Activities
The Planning Board approved 22 points from the Diversity of Uses and Activities category, which is achieved through provision of 13.5% MPDUs (12 points), dwelling unit mix (5 points), and units with enhanced accessibility for the disabled (5 points).

d. Quality Building and Site Design
The Planning Board approved 30 points from the Quality Building and Site Design category, which is achieved through provision of structured parking (10 points), additional public open space (10 points), and exceptional design (10 points).

e. Protection and Enhancement of the Natural Environment
The Applicant proposes 20 points from the Protection and Enhancement of the Natural Environment category, which is achieved through the purchase of Building Lot Terminations (BLTs) (5 points) and provision of tree canopy (10 points) and vegetated area (5 points).

4. Building Lot Terminations (BLTs)
Prior to release of a building permit for each building, the Applicant must provide proof of purchase and/or payment for the required BLTs equal to a pro-rated share of the square footage requested with the building permit.

5. Moderately Priced Dwelling Units (MPDUs)
The proposed development must provide MPDUs in accordance with Chapter 25A and, additionally, any incentive density MPDUs above 12.5% under Condition 3 of this Sketch Plan approval.

6. Transportation
At the time of Preliminary Plan, the Applicant must:
   a. Satisfy the LATR test by submitting a traffic study.
   b. Satisfy the PAMR test by mitigating 30% of the new site-generated peak-hour trips and obtain the necessary advanced approval of the proposed mitigation action from Montgomery County Department of Transportation (MCDOT).
   c. Enter into a Traffic Mitigation Agreement with the Planning Board and MCDOT to participate in the Greater Shady Grove Transportation Management District to assist in achieving its non-auto-driver mode share goals.
   d. Show on the plan the centerlines and/or opposite right-of-way lanes along Research Boulevard and Omega Drive to confirm that the master-planned right-of-way recommendations exist. If not, dedicate the additional rights-of-way.
   e. Provide the necessary cross-access easements.

f. Show on the Preliminary Plan, and provide pedestrian crosswalks, handicapped ramps, and street lighting up to AASHTO standards at all the adjacent intersections and along all the adjacent and internal roadways.
g. Provide required bike spaces.

7. Future Coordination for Preliminary and Site Plan
The following must be addressed when filing a preliminary or site plan:
   a. Pedestrian bridge waiver to cross lot line or lot reconfiguration.
   b. Underground wet and dry utilities.
   c. Fire and Rescue access and facility details.
   d. Streetscape details.
   e. Demonstration of how each public benefit meets the Zoning Ordinance and Incentive Density Implementation Guideline requirements.
   f. Implementation of transportation improvements.
   g. Implementation of stormwater management with Environmental Site Design methods to the maximum extent practicable.
   h. Compliance with forest conservation law.
   i. Consideration of building-to-street interface to maximize activation and safety.
   j. Consideration of ways to ensure public use space will be accessible, inviting, and safe.
   k. Focus on energy efficiency in site design, building orientation, and building design features.
   l. Issues raised by the MCDOT in their letter dated January 10, 2012, as amended.

BE IT FURTHER RESOLVED that, having given full consideration to the recommendations and findings of its Staff as presented at the Hearing and as set forth in the Staff Report, which the Planning Board hereby adopts and incorporates by reference (except as modified herein), and upon consideration of the entire record and all applicable elements of § 59-C-15.42, the Planning Board finds that as conditioned herein the elements of the sketch plan specified in Section 59-C-15.42(c) of the zoning ordinance are appropriate in concept and appropriate for further review at site plan. Specifically, the Planning Board FINDS:

1. *The Sketch Plan meets the objectives, general requirements, and standards of Division 59-C-15.*

   a. The sketch plan meets the objectives of Section 59-C-15.2 quoted below; specifically, the proposed development will:
      - "Implement the policy recommendations of the applicable sector plan" by providing the residential uses, pedestrian circulation routes, open spaces, and public benefits encouraged by the GSSC Master Plan;

- "Target opportunities for redevelopment of single-use areas and surface parking lots with a mix of uses" by adding residential uses and structured parking to an area currently improved with office and hotel buildings;
- "Reduce dependence on the automobile by encouraging development that integrates a combination of housing types, mobility options, commercial services, and public facilities and amenities" by providing additional affordable housing, a mix of multi-family unit types, units with enhanced access for the disabled, increased density within ½ mile of two proposed CCT stations, access to the LSC recreation loop, transit access improvements, and public open space. Retail commercial services are not appropriate to this site due to lack of street visibility and little prospect for the customer volume necessary to make such uses viable;
- "Allow a mix of uses, densities, and building heights appropriate to various contexts to ensure compatible relationships with adjoining neighbors" by building within the envelope established by the CR zone at a scale of development similar to existing and allowed buildings adjacent to the site, which may build up to 72 feet in the O-M zone, 15 stories in the H-M zone, 110 feet in the LSC zone, and 100 feet in the CR zones on surrounding properties;
- "Allow an appropriate balance of employment and housing opportunities" by providing the housing encouraged by the Master Plan in areas dominated by commercial uses and implementing the recommended housing-to-jobs balance; and
- "Provide public benefits that will support and accommodate density above the standard method limit" through the approved public benefits as proposed by the Applicant that meet the requirements of the Zoning Ordinance and standards of the Implementation Guidelines.

b. The Sketch Plan meets the general requirements of Section 59-C-15.6 as follows:
   - Section 15-C-15.61 – Master Plan and Design Guidelines Conformance.
     - The development will create public use spaces that allow for active and passive recreation; are visible and usable; have a strong relationship to adjacent retail, amenity space, and the pedestrian network; and are not separated by barriers (design guidelines, page 13);
     - The development will provide buildings as close to Property lines as grades and easements allow with access from units and retail to perimeter sidewalks (design guidelines, pages 22 & 45);
     - The development will provide design excellence with innovative building materials and style via further development through the site plan process (design guidelines, page 27); and

- The development will place parking within a structure faced with residential and retail uses (design guidelines, pages 18-19). Although the existing garage is not, and cannot be faced with residential or retail uses, because of its proximity to property lines and roads it is more sustainable to make use of the garage rather than remove it and rebuild. The new garage for the northern building, however, is wrapped on two sides by residential uses.

- Section 59-C-15.62 – Bicycle Parking Spaces and Commuter Shower/Change Facility
  - The development will provide at least the minimum required number of bicycle parking spaces for residents and visitors as determined by the final unit count and commercial space approved with the site plan; and
- Section 59-C-15.63 – Parking
  - The development will provide parking spaces between the minimum required and maximum allowed as determined by the final unit count and commercial space approved with the site plan.

c. The Sketch Plan meets the development standards of Section 59-C-15.7 as shown in the Data Table below:

Development Table for the CR1.5 C1.5 R1.5 H100 Zone		
Development Standard	**Required/Allowed**	**Approved**
Max. Density (FAR)		
Total	1.5	1.5
Residential	1.5	Up to 1.5
Commercial	1.5	0
Max. Height (feet)	100	80[1]
Setbacks	n/a	n/a
Min. Public Use Space (% of net lot)	10	20
Min. Residential Amenity Space		
Indoor	5,000sf	5,000sf
Outdoor	5,000sf	5,000sf

[1] The proposed development is limited to a maximum height of 70 feet for occupiable space; however, architectural design elements of the development are allowed to a maximum height of 80 feet

2. *The Sketch Plan furthers the recommendations and objectives of the GSSC Master Plan.*

   The GSSC Master Plan has several specific recommendations satisfied by this project. As part of the Life Science Center North District (LSC North), the development will:
   - Provide mixed-use infill through the provision of residential uses, although no retail is proposed due to the lack of a viable customer base at these internal locations removed from public streets (page 48);
   - Provide public benefits that improve connectivity and mobility, through improvements to pedestrian access to transit services, open space, and the pedestrian-realm and add to the diversity of uses and activities, through construction of affordable housing above the minimum required, a diversity of unit mix, units with enhanced accessibility for the disabled, and open space (page 48); and
   - Achieve more sustainable development patterns through balanced land use, connectivity improvements, open spaces, enhanced stormwater management, and building design (pages 26-30).

3. *The Sketch Plan achieves compatible internal and external relationships between existing and proposed nearby buildings, open space, and uses.*

   The buildings and open spaces are compatible with existing nearby buildings, open spaces, uses; and the similar proposed development to the south of the Subject Property (Mallory Square). This compatibility is achieved through:
   - Similar massing envelopes, although with more articulation and diversity of materials;
   - Modest heights, comparable to other built and allowed development which may build up to 72 feet in the O-M zone, 15 stories in the H-M zone, 110 feet in the LSC zone, and 100 feet in the CR zones on surrounding properties;
   - Creation of defined streetscapes and open spaces that will begin to transform the pedestrian environment and network;
   - Provision of structured parking creating a stronger relationship between buildings, sidewalks, and streets;
   - Addition of a complementary use to the surrounding employment uses; and
   - Strong definition of street walls that will also begin to transform the suburban, auto-oriented framework of land use in the area.

4. *The Sketch Plan provides satisfactory general vehicular, pedestrian, and bicyclist access, circulation, parking, and loading.*

Circulation, parking, and loading for cars, trucks, pedestrians, and bicyclists are all satisfactory within the proposed development. Specifically, this Sketch Plan provides:

- Buildings on an existing street grid for cars, pedestrians, and bicyclists taking advantage of mobility options and dispersing traffic;
- Off-street loading areas for the residents on the internal streets ensuring no conflicts on Omega Drive and Research Boulevard;
- Increased parking for bicycles;
- Improved sidewalks, amenities, and open spaces for pedestrians and bicyclists; and
- Sufficient parking within new and existing structures for residents.

5. *The Sketch Plan includes public benefits that support the requested incentive density.*

The Application provides public benefits that, as quoted from Section 59-C-15.83:

- "Take into consideration the recommendations, objectives, and priorities of the Master Plan" by providing the diversity of housing, general sustainability measures, and connectivity improvements that are encouraged;
- "Meet the standards of the Implementation Guidelines and Design Guidelines for the Master Plan" by providing the proper calculations and criteria for each public benefit and concentrating on the Guidelines' focus on streets, design excellence, and transformation of the suburban development pattern;
- "Are appropriate for the size and configuration of the tract" by taking advantage of the large site and concentrating on open space and environmental benefits;
- "Adequately address the relationship of the project to the adjacent property" by providing open space and new connections in focal spaces and between proposed and existing buildings for maximum effectiveness;
- "Consider the presence or lack of similar public benefits nearby" through provision of open spaces, diverse housing, structured parking, and environmental benefits that are lacking in this area and differ from the recent Mallory Square sketch plan approval; and
- "Provide enhancements beyond the elements listed in the individual public benefit descriptions or criteria that increase public access to or enjoyment of the benefit," which will be developed and assessed during preliminary and site plan reviews.

Detailed Public Benefit Table	
Public Benefit	**Maximum Points Approved**
Transit Proximity Category	
¼ - ½ mile from Level 2 CCT Station	20
Greater than 75% of the subject site is within ½ mile of a CCT Station.	
Connectivity & Mobility Category	
Transit Access Improvement	15
ADA-compliant improvements to the pedestrian network that ensure new connections to transit services. Complete analysis will be required per the Ordinance and Guidelines during site plan review.	
Diversity Category	
Affordable Housing	12
Provision of 13.5% MPDUs; 1% over 12.5% = 12 points.	
Dwelling Unit Mix	5
Provision of at least 7.5% efficiency units, 8% 1-bedroom units, 8% 2-bedroom units, and 5% 3-or-more bedroom units.	
Enhanced Access for the Disabled	5
Provision of at least 12 units that meet ANSI A117.1 Residential Type A standards. The points awarded for this public benefit will be revisited at site plan review due to the fact that the CR zone was amended to allow more points for such units and the Implementation Guidelines have not been revised to reflect the change.	
Quality Design Category	
Structured Parking	10
All but 4 parking spaces within above grade structure, final points established during site plan review.	
Public Open Space	10
Provision of 10% additional open space (above the 10% required).	
Exceptional Design	10
Provision of site and building design that meets the criteria of the Ordinance as further defined by the Guidelines, to be finalized during site plan review.	
Environmental Category	
BLTs	5
Purchase/payment for BLTs: ((301,435sf incentive density*0.05)/20,000) = 0.7536 BLTs	
Tree Canopy	10
Coverage of 25% of on-site open space with tree canopy at 15 years of growth. An analysis at site plan review will determine whether the area under Conservation Easement should count both as on-site open space and whether the tree canopy associated with the Easement should count towards this public benefit. If it is not counted, the public use space, recreation areas, vegetated areas, and streetscape should be covered by a minimum of 25% tree canopy.	
Vegetated Area	5
Installation of plantings in a minimum of 12 inches of soil covering at least 5,000 square feet of previously impervious surfaces.	
Total	**107**

6. *The Sketch Plan establishes a feasible and appropriate provisional phasing plan for all structures, uses, rights-of-way, sidewalks, dedications, public benefits, and future preliminary and site plan applications.*

   The development may be built in two phases. Approximately one-half of the transit access improvements, open space, diverse unit types, affordable housing, enhanced accessibility units, structured parking, design elements, tree canopy, vegetated area, and BLTs are required for whichever building is constructed first. Likewise, any streetscape improvements will be shared equally by any phasing plan. While no particular provisional phasing plan is required at this stage of design, a full development program to establish phasing of the elements required by this Application will be developed and analyzed during preliminary and site plan reviews.

BE IT FURTHER RESOLVED that at the time of site plan, the Planning Board may approve changes to this Sketch Plan under certain circumstances. If the Applicant proposes to change a condition of approval or binding element or agrees to a change proposed by another party, the proposed change must satisfy the requirements for approval of a sketch plan and site plan, including Section 59-C-15, Section 59-D-3.4, and the Master Plan. If Staff proposes to change a condition of approval or binding element, however, the Board may approve the change if necessary to ensure conformance with Section 59-C-15, Section 59-D-3.4, or the Master Plan. In other words, for the Board to approve an Applicant-proposed change of a binding element it must find consistency with applicable standards; for the Board to approve a modification to a Staff-proposed binding element that the Applicant has not agreed to it must find that the proposed change is necessary to meet the site plan approval standards, including conformance with zoning and Master Plan requirements.

Alternatively, based on detailed review of a site plan, the Board may find that any element of the approved Sketch Plan, including a binding element, does not meet the requirements of the zone, Master Plan, or other findings necessary to approve a site plan, and deny the site plan application.

The Board's review of sketch plans is governed by Section 59-C-15.43, which provides that "in approving a sketch plan" the Board must find that certain elements of the plan are "appropriate in concept and appropriate for further detailed review at site plan." Because the Board's approval of a sketch plan is in concept only and subject to further detailed review at site plan, it necessarily follows that the Board may find, based on detailed review of a site plan, that any element of a sketch plan does not meet the requirements of the zone, master plan, or other requirements for site plan approval. The Board does not have the authority at the time of sketch plan to predetermine that any

element of the sketch plan will satisfy all applicable requirements for site plan approval. As a practical matter it would be unwise for it to do so, due to the limited detail contained in a sketch plan and the sketch plan's unlimited validity period. If the Board were unable to require changes to binding elements at the time of site plan to ensure compliance with all code and master plan requirements, the Board might have decided to approve fewer elements of this plan as binding.

Although the Board does not have the authority to provide complete certainty about the conditions of approval or binding elements of a sketch plan, this does not mean that the Board should or will require changes to an approved sketch plan without good reason. To do so would be inefficient and unfair to Applicants and community members whose expectations about the future shape of development will be formed by what the Board approves in a sketch plan; and

BE IT FURTHER RESOLVED that all elements of the plans for Sketch Plan No. 320120020, Hanover Shady Grove, stamped received by M-NCPPC on January 3, 2012 are required except as modified herein; and

BE IT FURTHER RESOLVED that the date of this Resolution is MAY 2 2 2012 (which is the date that this Resolution is mailed to all parties of record); and

BE IT FURTHER RESOLVED that any party authorized by law to take an administrative appeal must initiate such an appeal within thirty days of the date of this Resolution, consistent with the procedural rules for the judicial review of administrative agency decisions in Circuit Court (Rule 7-203, Maryland Rules).

* * * * * * * * * * * * *

CERTIFICATION

This is to certify that the foregoing is a true and correct copy of a resolution adopted by the Montgomery County Planning Board of the Maryland-National Capital Park and Planning Commission on motion of Vice Chair Wells-Harley, seconded by Commissioner Presley, with Chair Carrier, Vice Chair Wells-Harley, and Commissioners Anderson, Dreyfuss, and Presley voting in favor of the motion at its regular meeting held on Thursday, May 17, 2012, in Silver Spring, Maryland.

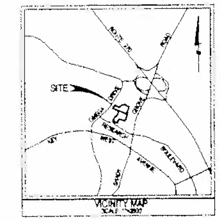
Françoise M. Carrier, Chair
Montgomery County Planning Board

Attachment B

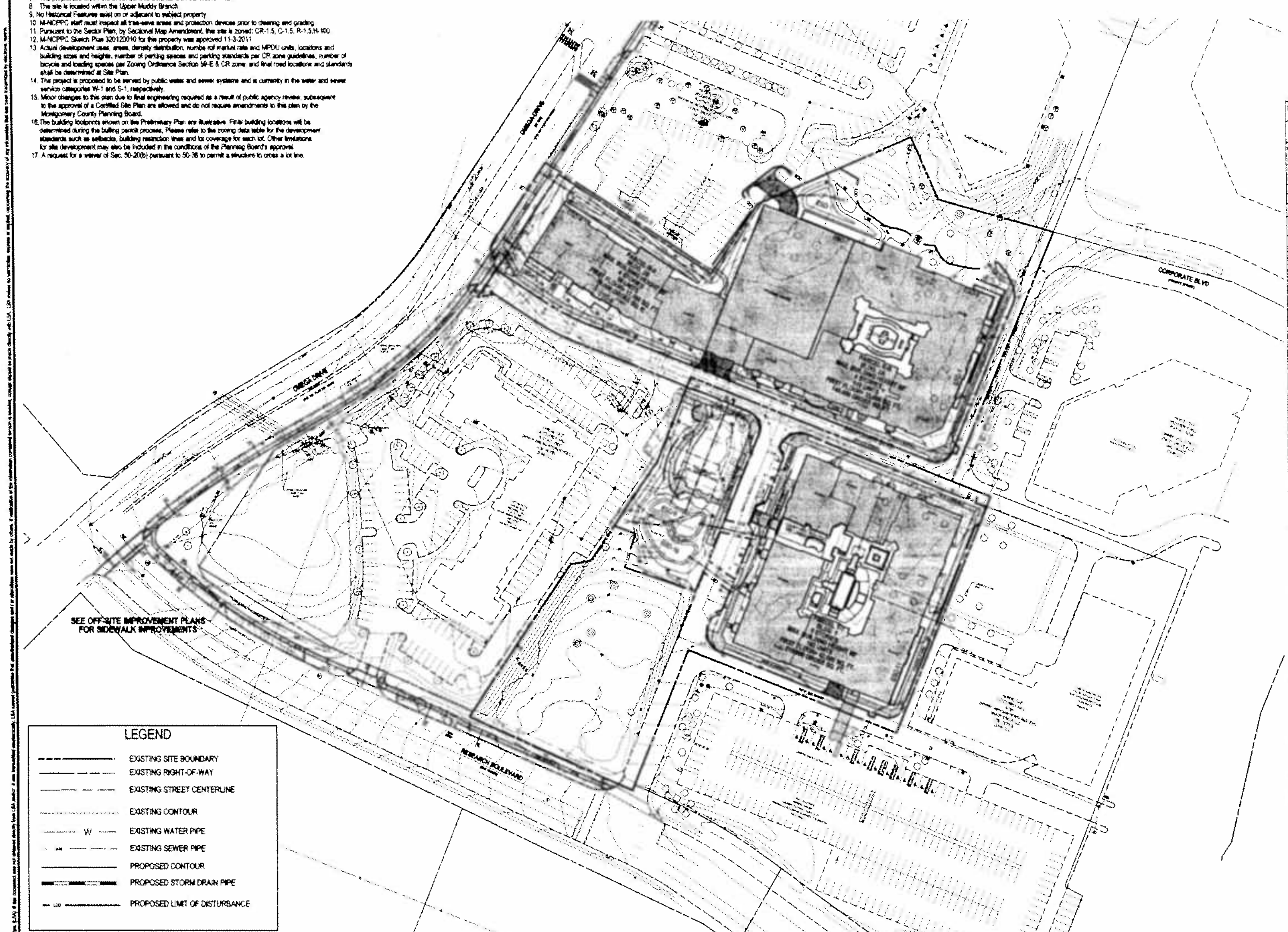
HANOVER SHADY GROVE
PRELIMINARY PLAN NO. 11986186A

GENERAL NOTES

1. Boundary information provided June 2006 by PHRA.
2. Grid coordinates are per Maryland State Plane datum (NAD 83/91).
3. Two-foot contour interval aerial topography provided by PHRA.
4. The subject property is located within Tax Map FN561.
5. Soils information from USDA NRCS, 1995 Soil Survey of Montgomery County, MD.
6. 100-yr Floodplain from FEMA Flood Map Community-Panel Number 24004C0125C.
7. The project lies within the Great Seneca Science Corridor Master Plan.
8. The site is located within the Upper Muddy Branch.
9. No Historical Features exist on or adjacent to subject property.
10. M-NCPPC staff must inspect all tree-save areas and protection devices prior to clearing and grading.
11. Pursuant to the Sector Plan, by Sectional Map Amendment, the site is zoned: CR-1.5, C-1.5, R-1.5, H-100.
12. M-NCPPC Sketch Plan 320120010 for this property was approved 11-3-2011.
13. Actual development uses, areas, density distribution, number of market rate and MPDU units, locations and building sizes and heights, number of parking spaces and parking standards per CR zone guidelines, number of bicycle and loading spaces per Zoning Ordinance Section 59-E & CR zone, and final road locations and standards shall be determined at Site Plan.
14. The project is proposed to be served by public water and sewer systems and is currently in the water and sewer service categories W-1 and S-1, respectively.
15. Minor changes to this plan due to final engineering required as a result of public agency review, subsequent to the approval of a Certified Site Plan are allowed and do not require amendments to this plan by the Montgomery County Planning Board.
16. The building footprints shown on the Preliminary Plan are illustrative. Final building locations will be determined during the building permit process. Please refer to the zoning data table for the development standards such as setbacks, building restriction lines and lot coverage for each lot. Other limitations for site development may also be included in the conditions of the Planning Board's approval.
17. A request for a waiver of Sec. 50-20(b) pursuant to 50-38 to permit a structure to cross a lot line.



SCALE 1" = 50'



Development Data Table for CR 1.5 Zone (C 1.5, R 1.5, H 100') – Optional Method with 13.6% MPDU

	REQUIRED/PERMITTED	PROPOSED FOR APPROVAL
Gross Tract Area (For Density Purposes)		
Parcel R-R (N145)	144,712 sf (3.32 ac)	
Parcel T-T (N234)	156,762 sf (3.60 ac)	
Sub-Total	301,474 sf (6.92 ac)	
Add Prior Dedications	0	
Total Gross Tract Area	301,474 sf (6.92 ac)	
Maximum Density (Sec. 59-C-15.414(b))		
Residential (1.5 FAR Max)	452,211 sf (10.38 ac)	452,211 sf (10.38 ac) 367 du (317 mkt & 50 MPDU)
Minimum Public Use Space (% of Net Lot Area):		
Public Use Space (20%)	60,296sf (1.38 ac)	73,133 sf (1.67 ac)
Residential Amenity Space		
Indoor Space (community room, fitness room with 1 kitchen or bathroom)	5,000 sf	7,800 sf
Passive or Outdoor recreation space	5,300 sf	16,150 sf
Maximum Building Height (in feet) (Sec. 59-C-8.235):	100 ft	80 ft
Dwelling Units: Building 1		
Studio	7.5% min. (28 units)	15
Studio - MPDU	NA	16
One Bedroom	8.0% min. (30 units)	93
One Bedroom - MPDU	NA	7
Two Bedroom	8.0% min. (30 units)	48
Two Bedroom - MPDU	NA	5
Three Bedroom	5% min. (19 units)	14
Three Bedroom - MPDU	NA	0
Total Dwelling Units Building 1	NA	192
Dwelling Units: Building 2		
Studio	7.5% min. (28 units)	0
Studio - MPDU	NA	6
One Bedroom	8.0% min. (30 units)	79
One Bedroom - MPDU	NA	20
Two Bedroom	8.0% min. (30 units)	60
Two Bedroom - MPDU	NA	5
Three Bedroom	5% min. (19 units)	8
Three Bedroom-MPDU	NA	0
Total Dwelling Units Building 2	NA	175
Total MPDUs (13.6% required)	50	50
Total Market Rate	NA	317
Total Dwelling Units Provided:	NA	367
Parking: Building 1		
Studio (15 du @ 1.25 sp/du)	19	
Studio - MPDU (15 du @ 0.625 sp/du)	10	
One Bedroom (86 du @ 1.25 sp/du)	117	
One Bedroom - MPDU (15 du @ 0.625 sp/du)	5	
Two Bedroom (48 du @ 1.50 sp/du)	72	
Two Bedroom - MPDU (0.75 sp/du)	NA	
Three Bedroom 14 du @ (2 sp/du)	28	
Three Bedroom - MPDU (1.00 sp/du)	NA	
Sub-Total Car Parking Spaces: Building 1	251	376*
Bicycle Parking- Publicly Accessible (192 du @ 0.1 sp/du) - Maximum 10 per building	10	10
Bicycle Parking- Private Secure (192 du @ 0.35 sp/du) - Maximum 100 per building	68	68
Parking: Building 2		
Studio (1.25 sp/du)	NA	
Studio - MPDU (0.625 sp/du)	NA	
One Bedroom (87 du @ [illegible] sp/du)	99	
One Bedroom - [illegible] 0.625 [illegible]	13	
Two Bedroom (66 du @ 1.[illegible] sp/du)	90	
Two Bedroom - MPDU (0.75 sp/du)	6	
Three Bedroom (8 du @ 2 sp/du)	16	
Three Bedroom - MPDU (1.00 sp/du)	NA	
Sub-Total Car Parking Spaces: Building 2	224	257**
Bicycle Parking- Publicly Accessible (175 du @ 0.1 sp/du) - Maximum 10 per building	10	10
Bicycle Parking- Private Secure (175 du @ 0.35 sp/du) - Maximum 100 per building	62	62
Total Parking Spaces: Buildings 1 & 2	475	633

* Includes [illegible] spaces and [illegible] parking spaces allotted to proposed Building 1 located within existing off-site garage

** Includes 31 spaces dedicated for office use on adjacent lot (not included in project), for replacement of surface parking

LEGEND

- EXISTING SITE BOUNDARY
- EXISTING RIGHT-OF-WAY
- EXISTING STREET CENTERLINE
- EXISTING CONTOUR
- EXISTING WATER PIPE
- EXISTING SEWER PIPE
- PROPOSED CONTOUR
- PROPOSED STORM DRAIN PIPE
- PROPOSED LIMIT OF DISTURBANCE

PROPERTY OWNER & CONSULTING TEAM

LANDSCAPE ARCHITECT
[illegible] LANDSCAPE ARCHITECTS
5847 SAN FELIPE, SUITE 3600
HOUSTON, TX 77057
PHONE: [illegible]
CONTACT: CHRIS LE BLANC

ARCHITECT
LESSARD ARCHITECTURAL GROUP
[illegible]
VIENNA, VA 22182
PHONE: [illegible]
CONTACT: STEVE [illegible]

CIVIL ENGINEER
LOIEDERMAN SOLTESZ ASSOCIATES, INC.
2 RESEARCH PLACE, SUITE 100
ROCKVILLE, MD 20850
PHONE: (301) 948-2750
CONTACT: WILLIAM F.C. REED

LANDUSE ATTORNEY
LINOWES & BLOCHER
7200 WISCONSIN AVENUE, 9TH FLOOR
BETHESDA, MD 20814
PHONE: (301) 961-5134
CONTACT: SCOTT WALLACE

ENGINEER'S CERTIFICATE

CERTIFIED PRELIMINARY PLAN
The foregoing conditions and this plan drawing accurately reflect the Planning Board's approval of this Preliminary Plan.
NAME ______ DATE ______

MISS UTILITY NOTE

APPLICANT
HANOVER R.S. LIMITED PARTNERSHIP
5847 SAN FELIPE
SUITE 3600
HOUSTON, TX 77057
(713) 267-2166
CONTACT NAME: ADAM HARRIN

Loiederman Soltesz Associates, Inc.
ROCKVILLE OFFICE
2 Research Place, Suite 100
Rockville, MD 20850
t. 301.948.2750 f. 301.948.9067
www.LSAssociates.net

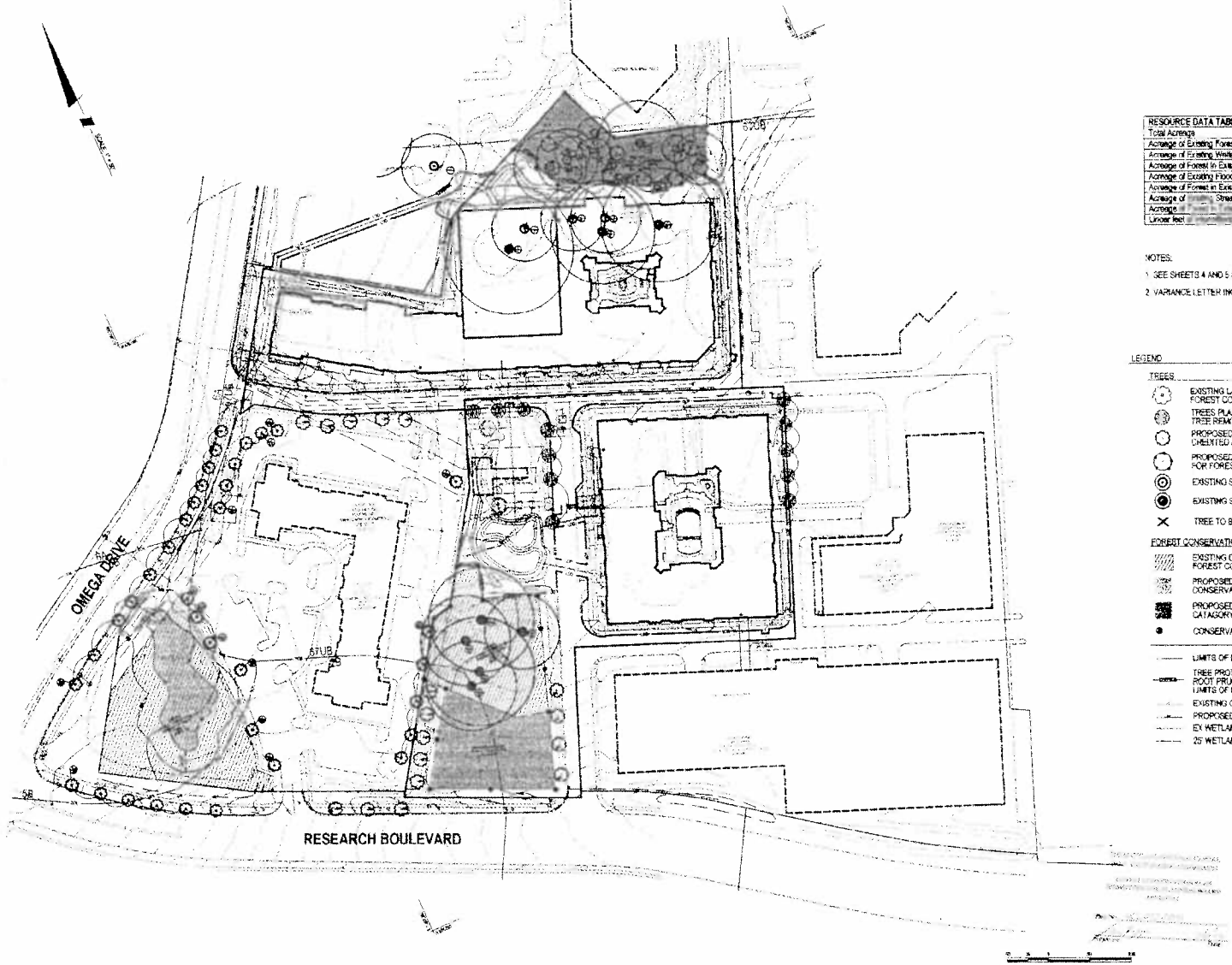
PRELIMINARY PLAN AMENDMENT
11986186A

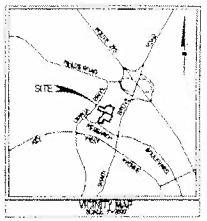
HANOVER SHADY GROVE
MONTGOMERY COUNTY, MARYLAND
9TH ELECTION DISTRICT, MONTGOMERY COUNTY, MARYLAND

DATE: APRIL 2012
SHEET 1 OF 1

6-11-12

HANOVER SHADY GROVE - FINAL FOREST CONSERVATION PLAN
AMENDMENT TO APPROVED FFCP 81987011A





RESOURCE DATA TABLE	SIZE
Total Acreage	15.5 acres
Acreage of Existing Forest	0.00 acres
Acreage of Existing Wetlands	0.16 acres (7290sf)
Acreage of Forest in Existing Wetlands	0.16 acres
Acreage of Existing Floodplain	0.00 acres
Acreage of Forest in Existing Floodplain	0.00 acres
Acreage of Stream Buffers	0.00 acres
Acreage of Buffers	0.00 acres
Linear feet	0.00 lf

NOTES:

1. SEE SHEETS 4 AND 5 FOR WORKSHEET, NOTES, AND DETAILS.
2. VARIANCE LETTER INCLUDED.

LEGEND

TREES

- EXISTING LANDSCAPE TREE FOREST CONSERVATION CREDIT
- TREES PLANTED FOR MITIGATION OF VARIANCE TREE REMOVAL (SEE SHEET 5 OF 5)
- PROPOSED LANDSCAPE TREE CREDITED AT 100% PLAN VALUE
- PROPOSED LANDSCAPE TREE FOR FOREST CONSERVATION
- EXISTING SIGNIFICANT TREE 24"-29.9" DBH WITH CRZ
- EXISTING SIGNIFICANT TREE 30" +DBH WITH CRZ
- TREE TO BE REMOVED

FOREST CONSERVATION AREAS

- EXISTING CATEGORY I FOREST CONSERVATION EASEMENT AREA
- PROPOSED ACRE CATEGORY I CONSERVATION AREA
- PROPOSED CRZ PRESERVATION AREA - CATAGORY II CONSERVATION EASEMENT AREA
- CONSERVATION AREA SIGNAGE

- LIMITS OF DISTURBANCE
- TREE PROTECTION FENCE (TPF) ROOT PRUNE LINE (RP) LIMITS OF DISTURBANCE (LOD)
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EX WETLAND
- 25' WETLAND BUFFER

DEVELOPER'S CERTIFICATE

I/We hereby certify that all clearing, grading, construction, afforestation and reforestation will be done according to the approved Forest Conservation Plan No. 81987011A including Approved Conditions, Development Program, and Certified Site Plan.

Developer's Name: _____ (PRINT)

Address: _____

Phone: _____

Signature: _____

COVER SHEET

AMENDMENT TO APPROVED FFCP 81987011A
FINAL FOREST CONSERVATION PLAN

HANOVER SHADY GROVE

MONTGOMERY COUNTY, MARYLAND

5TH ELECTION DISTRICT, MONTGOMERY COUNTY, MARYLAND

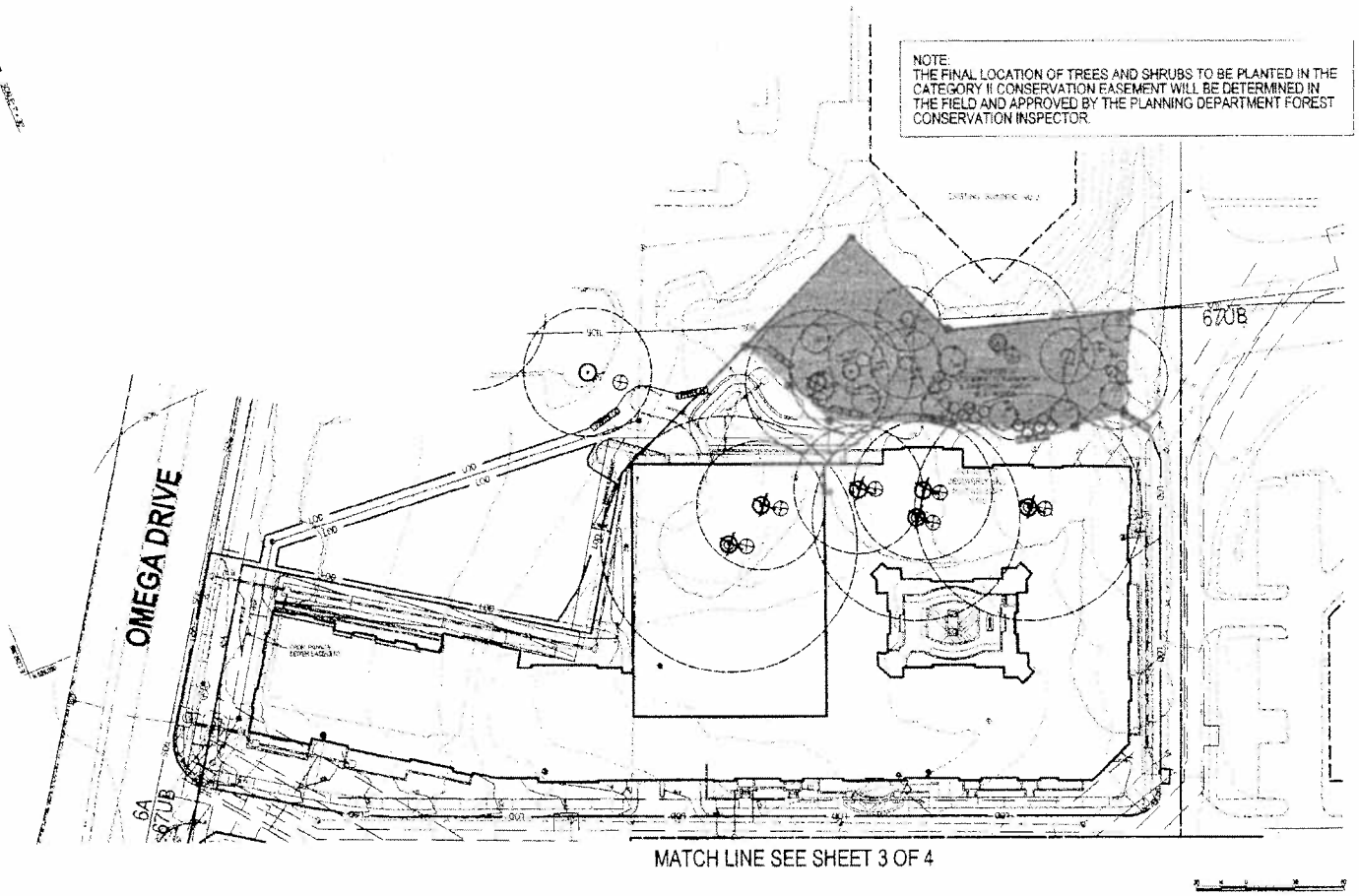
ROCKVILLE OFFICE
2 Research Place, Suite 100
Rockville, MD 20850
T. 301.948.2750 F. 301.948.9067

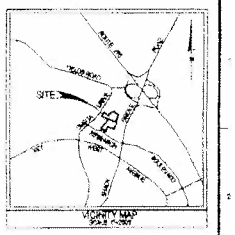
MISS UTILITY NOTE

OWNER/DEVELOPER/APPLICANT

PAGE 1 of 5

Attachment C





LEGEND

TREES

- EXISTING LANDSCAPE TREE FOREST CONSERVATION CREDIT
- TREES PLANTED FOR MITIGATION OF VARIANCE TREE REMOVAL (SEE SHEET 5 OF 5)
- PROPOSED LANDSCAPE TREE CREDITED AT 1997 PLAN VALUE
- PROPOSED LANDSCAPE TREE FOR FOREST CONSERVATION
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- EXISTING SIGNIFICANT TREE 30"+DBH WITH CRZ
- TREE TO BE REMOVED

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- 25' WETLAND BUFFER

NOTE:

1. SEE SHEETS 4 AND 5 FOR WORKSHEET, NOTES & DETAILS
2. VARIANCE LETTER INCLUDED

ROCKVILLE OFFICE
2 Research Place, Suite 100
Rockville, MD 20850
t 301.948.2750 f 301.948.9067

MISS UTILITY NOTE

OWNER/DEVELOPER/APPLICANT

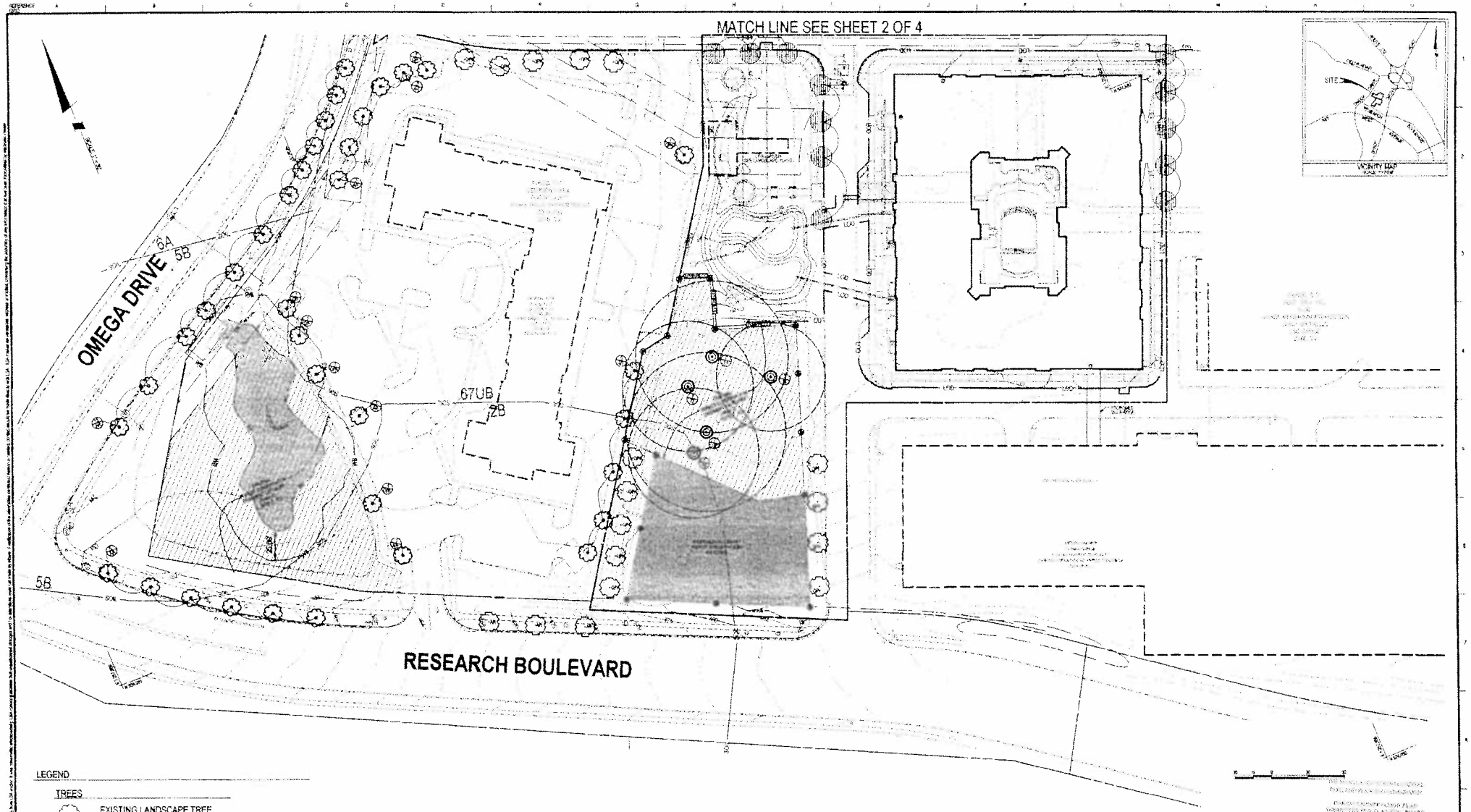
FINAL FOREST CONSERVATION PLAN

AMENDMENT TO APPROVED FFCP 81987011A
FINAL FOREST CONSERVATION PLAN

HANOVER SHADY GROVE

MONTGOMERY COUNTY, MARYLAND

SHEET 2 OF 5



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FINAL FOREST CONSERVATION PLAN

AMENDMENT TO APPROVED FFCP 81987011A
FINAL FOREST CONSERVATION PLAN

HANOVER SHADY GROVE

MONTGOMERY COUNTY, MARYLAND

ROCKVILLE OFFICE
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Rockville, MD 20850
t 301.948.2750 f 301.948.9067

MISS UTILITY NOTE

OWNER/DEVELOPER/APPLICANT

Sheet 3 of 5

GENERAL CONDITIONS

I. SOILS
A. Site landscape contractor shall provide all materials, labor and equipment to completely all landscape work as shown on the plans, plant list, and specifications.

II. STANDARDS
A. All plant material will conform to the current version of the American Standard for Nursery Stock published by the American Nursery & Landscape Association (ANLA), and conform in general to representative species.
B. The plant material shall be selected from nurseries that have been inspected by state or federal agriculture. Any certificates of inspection must be presented to either a representative upon delivery of materials.

III. SUBSTITUTIONS
A. If a plant is found not to be available or acceptable, the landscape contractor is to notify the owner before proceeding.
B. The owner or representative is then required to accept a reasonable alternate as to ensure the landscape contractor is not penalized.
C. If a substitute is selected, a credit for of the same size, nature and quality as the original plant.
D. Substitutions must be approved by MNCPPC.

IV. UTILITIES
A. The landscape contractor shall notify state, companies prior to construction and visit "Miss Utility" at (800) 257-777 to ensure exact utility areas.
B. If there is a conflict with the utilities and the planting the landscape contractor shall notify the owner immediately. Any cost of relocating required by the contractors' failure to notify shall be borne by the contractor.

V. WORKMANSHIP
A. Upon completion, all debris and waste material resulting from planting operations shall be removed from the property and the area.

VI. PLANT MATERIALS
A. Shrubs and Ornamental (B&B)
1. Balled and burlapped plants shall be dug with firm natural balls of earth.
2. Root balls shall be in accordance with ANSI specifications.
B. Plants shall not be planted prior to delivery to the site.
C. All trees to be single stem. Trees shall be free of knots and diseases. Trees shall be inspected by grading crews. Should grading crews have no set, ranger greater than 4% will remain rejected of the tree for standing stock. NURSERY inspection may waive any standing stock not meeting the above standards.

VII. MATERIALS
D. Hardwood Mulches
Hardwood containing Mycorrhizal fungi
E. Lime / Fertilizer
Apply 50 lbs/M as small as 1.5 calcitic and mixed with 100 pounds/M material as Lime and 5/1 fertilizer.
F. Top Soil
1. It shall be soil that is evenly loam and uniform in color and composition.
2. It shall be free of stones, lumps, plants and other debris over 1.5"
3. It must not contain toxic substances harmful to plant growth.
4. Top soil shall have a ph range of 5.0 to 7.0 and the organic matter of all be a minimum percent of 4.0%.
G. Organic Matter
Organic matter used in Type "B" of soil may consist of either material approved by the landscape architect or owner.
H. Mulch
Mulch shall include, tree of bark, stump, and other debris, composed to material guaranteed and used by all MCPPC

VIII. INSPECTION
I. Plants not meeting stated measurements or damaged in handling or transportation may be rejected by the owner / owner's representative, or MNCPPC Inspector.

IX. PERMITTING
A. The landscape contractor is to secure all required submittals to all MCPPC

X. MAINTENANCE/GUARANTEE
K. A detailing and destruction schedule, maintenance plan and monitoring agreement are to be developed by the applicant and approved by MCPPC prior to planting. The owner should inspection the landscape (grades, tree and plant survival rates), and maintenance script includes watering, health pruning, insect, disease, wildlife, treatment, and mulch replacement as required. The applicant is responsible for the maintenance of the plants. Contact the MNCPPC Inspector at (301) 495-4571 for site assessment after initial planting and at the end of the 2 years maintenance period.

PLANTING PROCEDURE FOR TREES

I. PREPARING THE TREE PIT
A. The tree pit shall be 2-3 times the size of the root ball at any top or 2-3 inches the width of the container, diameter.
B. The width of the tree pit shall be dug so that they are scarified.
C. The tree pit shall be deep enough to allow the root collar of the tree to be level with existing grade. Any loose soil at the bottom of the pit shall be compact by hand or with the bottom of the container.
D. Refer to detail on this sheet for proper planting techniques.

II. BACKFILLING A TREE PIT
A. Cut rope or twine on ball of tree and pull burlap back to the edge of the root ball. Remove all wires and twine. Remove burlap 3/4 of the way down the root ball.
B. Backfill tree pit with a soil mixture stated in the specifications.
C. Mix soil amendments in mixture either prior to lifting pit or as pit is being filled.
D. Ensure plant remains straight during backfilling.
E. The root crown of all trees shall be level with existing grade. The flared base of the trunk shall always remain above the surface and the roots should be accepted after ball. Backfill base of tree pit halfway with soil mixture and tamp as pit is being filled.
F. Finish backfilling stage of tree pit and tamp firmly.
G. Form a 4" saucer berm slightly grade and outside the outer rim of the tree pit.
H. Mulch top of root ball and saucer within 48 hours to a minimum depth of 2" and not to exceed 3".
I. Water thoroughly the interior of the tree saucer until it is filled, even if it is raining. Provide enough water to saturate soils down of the root ball.
J. Prune out any dead, conflicting or broken branches.
K. Remove all tags, labels, wire, etc. from the tree.

SOIL TESTING

A. Contractor to perform soil test as per accepted methods by the local agricultural extension service.
B. Samples to be tested by recreational lab.
C. Contractor will be responsible for notifying owner of any problems or deficits determined by the test results.
D. Plant failure based on soil deficits or problems due to failure of contractor to samples will be replaced at the cost of the contractor after corrections have been done.

SEEDING

I. TEMPORARY SEEDING
Vegetation – Annual Rye Grass shall be used to provide immediate cover on disturbed areas once final grade is established. See mixes, rye/rates and over times for annual rye and permanent cover establishment shall follow planting below rates on top sheet. Perennial Fescue Blue(sod) 1) is NOT to be used in any recreational area or within any stream buffers.

Sequence of Events for Property Owners Required to Comply With Forest Conservation and/or Tree-Save Plans

Pre-Construction:
1. At least one pre-construction meeting is required after the limits of disturbance have been staked and flagged, but before any clearing or grading begins. The property owner should contact the Montgomery County Planning Department inspector and/or homeowner to verify the limits of disturbance and discuss tree preservation and tree save measures. This is known as a preconstruction, construction conference, TSA pre-field walkover or Meeting. All those who have a part in the tree protection measures, forest conservation inspector, and Department of Permitting Services (DPS) sediment control inspector should attend the pre-construction meeting.

2. No cleaning or grubbing shall begin before silt fence including tree protection fence have been implemented. Approved plans maybe can may venture, but are not limited to:
a. Stone crushing
b. Chain, tub/brush or crushing
c. Weeding
d. Fertilizing
e. Vertical mulching
f. Root aeration (holes)

Measures not specified on the forest conservation plan may be required as determined by the forest conservation inspector in coordination with the arborist.
3. A Maryland licensed tree expert or an international society of arboriculture certified arborist must perform all stress reduction measures.
Documentation of stress reduction measures must be either observed by the forest conservation inspector or sent to the inspector at 8787 Georgia Avenue, Silver Spring, MD 20910. The forest conservation inspector will determine the exact method to approve the stress reductions measures during the pre-construction meeting.

4. Temporary tree protection devices shall be installed per the Forest Conservation Plan/Tree Save Plan and, prior to any construction activities. Tree protection fencing must be placed by the limits of disturbance prior to the pre-construction meeting. Only hand equipment within root protection areas is permitted, unless the soil is dry enough that the equipment will be supported without compaction damage to the soil or disturbing ground cover plants. Heavy equipment is not allowed to weakness or tree area.
Temporary tree protect devices may include:
a. Chain link fence (four feet high)

b. Super silt fence with wire strung between support poles (minimum 4 feet high with high visibility flagging.
c. 14 gauge 2 inch x 4 inch welded wire fencing supported by steel T bar posts (minimum 4 feet high) with high visibility flagging.

5. Temporary protection devices shall be maintained and repaired by the contractor for the duration of construction project, and must not be altered without prior approval from the forest conservation inspector. No equipment, trucks, materials, or debris may be stored within the tree protection fences areas during the entire construction project. No vehicular or equipment access to the fenced area will be permitted. Tree protection shall not be removed without prior approval of forest conservation inspector.

6. If root retention area signs shall be installed as required by the forest conservation inspector, or as shown on the approved plan.

7. Long-term protection devices will be installed per the Forest Conservation Plan/ tree save Plan and attempt details. Installation will occur at the appropriate time during the construction project. Refer to the plan drawing for long-term protection devices shown on the plan.

During Construction:
8. Periodic inspections by the forest conservation inspector will occur during the construction project. Corrections and repairs to all tree protection devices are determined by the forest conservation inspector must be made within the timeframe established by the inspector.

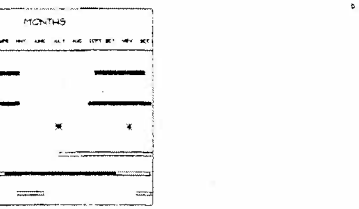
Post-Construction:
9. After construction is completed, an inspection shall be requested. Corrective measures may include:
a. Removal and replacement of dead and dying trees
b. Pruning of dead or declining limbs
c. Tree aeration
d. Fertilization
e. Watering
f. Insect repair
g. Clean up of excessive areas

10. After inspection and completion of corrective measures have been undertaken, all temporary protection devices shall be removed from the site. Removal of tree protection devices shall not occur until the inspector and the sediment control inspector have been contacted and the sediment control inspector has authorized the removal. Permission to remove protection devices will be granted only after the Department of Permitting Services and the forest conservation inspector. No additional grading, recutting, or paving may take place after the tree protection fencing is removed.

INSPECTIONS
All field inspections must be requested by the applicant. Inspections must be conducted as follows:

Tree Save Plans and Forest Conservation Plans without Planting Requirements:
1. After the limits of disturbance have been staked and flagged, but before any clearing or grading begins.
2. After necessary stress reduction measures have been completed and preventive measures have been installed, but before any clearing and grading begin.
3. After completion of all construction activities, but before removal of tree protection fencing, to determine the level of compliance with the provisions of the forest conservation.

Additional Requirements for Plans with Planting Requirements:
4. Before the start of any required reforestation and afforestation planting.
5. After the required reforestation and afforestation planting has been completed to verify that the planting is acceptable and prior to the start of the maintenance period.
6. At the end of the maintenance period to determine the level of compliance with the provisions of the planting plan, and if appropriate, release of the performance bond.



KEY

NOTE

SUPPRESSION AND CONTROL OF INVASIVE, EXOTIC SPECIES AND VEGETATION

1. Suppression efforts shall include the initial removal or treatment of the target species and the maintenance required to control re-growth. Implementation and choices of treatment and method shall be such that neither the invasive species nor the method of control adversely affects the establishment and survival of native species.

2. A minimum of two applications or treatments shall occur within during each one-year period of the Forest Improvement and Protection Agreement (FIPA).

3. Suppression areas are described in the FFCP document.

4. Procedure:

a. Target vegetation within the suppression area (s) shall be clearly flagged with surveyor's ribbon or otherwise identified in a clear and recognized manner. Flagging or other area identifying target vegetation shall be done so as to prevent removal of desirable (native) species along with the target species.

b. Suppression and control of the target species can be by mechanical or chemical methods or a combination of both. Mechanical controls include mowing or chopping at or near the ground level and removal of the plant by digging, pulling, or bulldozing. Mowing or chopping will likely result in re-growth from the stump or root sprouts. Therefore, this chosen response also treating the canopying among another root sprouts. The removal of the remaining stump by some means of excavation will diminish the sprouting. This also requires sediment control measures, which is the responsibility of the contractor. Holes created by the removal of roots are to be filled with topsoil.

c. Brush, root rake, and debris resulting from the use of mechanical controls shall be removed from the site and properly disposed.

d. As been grouped areas resulting from mechanical control methods are to be immediately stabilized. Disturbed areas with inclusive light shall be treated per the appropriate plan specifications. Densely shaded areas shall be stabilized with 2" of shredded hardwood mulch or wood chips. The use of motor equipment within root-enclosed landscape areas is prohibited, unless the soil is dry enough that the equipment will be supported without compaction damage to the soil or desirable ground cover plants. Heavy equipment is not allowed in wetlands or streams.

e. Chemical control is by herbicide application to the target species. The use of herbicides shall be in strict accordance with state and Federal regulations and include but are not limited to:

1. The use and application of all herbicides shall be in strict accordance with the labels on the herbicide's container and/or the instructions accompanying the herbicide.
2. Herbicides shall in or near wetlands or streams shall be clearly labeled as to indicate that the herbicide is for use near bodies of water.
3. All herbicide applications shall be conducted during the appropriate time of year and under environmentally reasonable conditions with consideration to weather elements (i.e. wind and temperature) and in accordance with the label.
4. Individuals who are qualified and licensed to possess applicators will conduct all herbicide applications.
5. Herbicides are to be applied in a manner that only suppresses.

f. Point spots of stems treated with herbicides are to remain in place to stabilize the soil.

5. The contractor and pesticide/herbicide applicator shall choose the appropriate control measures to match both local conditions and available skilled labor so as to minimize impacts to the environment. The contractor shall consult the latest edition of Best Management Practices for Control of Non-Native Invasives, published by Montgomery County Park Planning and Stewardship Division, Natural Resources Stewardship Section.

5. Species Specific Removal Recommendations:

a. Arborvitae, asiatica (Tree-of-Heaven) - TREE

Helpful Hints: A fast-growing tree that forms dense stands. Similar in appearance to sumacs or black walnuts, the leaflets have smooth edges with a teeth near the base. When crushed they emit the odor of rancid peanut butter.

Mechanical: Hand pulling or cutting of small trees is NOT RECOMMENDED due to vigorous re-sprouting.

Chemical: Herbicide treatments are the most effective approach with this invasive. Always be prepared to spray new stump sprouts or root suckers that emerge after the top of the tree is killed.

Cut Surface (Stump and Stump)
- Can be effective for larger trees if basal bark treatment access here. Use a triclopyr salt (e.g., Garlon 3A), either full-strength or diluted 1:1 in water, mixed with blue marker dye. Use care, as the Garlon 3A labels want to LANOLIN.
- Make cuts with a sharp hatchet, spacing these 1 to 2 inches apart. Immediately apply herbicide with a spray bottle using a fine stream. Do not cut a continuous girdle with this tree.

Basal Bark Treatment
- Excellent method for all sizes, especially smaller trees.
- Use triclopyr ester @ 20% (e.g., Garlon 4 in oil carrier—follow label instructions.)
- Ready-to-use triclopyr products such as Pathfinder II are also effective and highly recommended.

Foliar Spray (Review ecotoxicology sections; contact NRS before restricting any foliar spray project)
- Use this method only on re-growth before applicator's shoulder height.
- Use triclopyr salt @ 2% (e.g., Garlon 3A). Always use the lowest concentration that proves effective.
- Add approved blue marker dye.

b. Ampelopsis brevipedunculata (Porcelainberry) - VINE

Helpful Hints: A non-native grape vine that kills trees by producing heavy, smothering masses of stems and leaves. Unlike wild as grape vines, which should not be removed, this plant produces multicolored fruits. Its less common variety fruits that appear upright in flat clusters. Native grape vine fruits hang down in long clusters.

Mechanical: Seedling or mow vines in open, accessible areas. Power hedge trimmers, power saws, handsaws, loppers, and brand pruners can also be used.
- Climbing vines on trees can be cut to kill the upper portions of the vine tie —cutting a notches.
- Cut the vine at ground level and as high as you can reach. Portions of vines that were rooted will sprouts vines and must later be treated with herbicide, pulled out, or cut repeatedly until no re-growth occurs.

Chemical: Triclopyr products such as Garlon are most effective with this plant.

Cut Stem Treatment
- Use triclopyr salt @ 25% (e.g., Garlon 3A in water) OR triclopyr ester @ 20% (e.g., Garlon 4 in oil carrier—follow label instructions)
- Ready-to-use triclopyr products such as Pathfinder II are also effective and highly recommended.
- Take care if using triclopyr is all near water.

Basal Bark Treatment
- Use triclopyr ester @ 20% (e.g., Garlon 4 in oil carrier—follow label instructions)
- Ready-to-use triclopyr products such as Pathfinder II are also effective and highly recommended.
- Application can be made in winter as long as stems are not wet or snow-covered and temperatures will be above freezing during the remote of the day.

Foliar Spray (Review ecotoxicology sections; contact NRS before restricting any foliar spray project)
- DO NOT USE this method to foliage on climbing vines unless they are below applicator's shoulder height.
- Effective for the season's (i.e., re-growing form of the plant.
- Use triclopyr salt @ 2% (e.g., Garlon 3A in water) with a non-ionic surfactant at 0.5%. Always use the lowest concentration that proves effective.
- Add approved blue marker dye.

a. Rhamnus cathartica (Common buckthorn) - VINE

Helpful Hints: An evergreen climbing vine that attaches to tree trunks and branches with small, sticky root like structures. It can also form dense patches on the ground and thrive in canopy areas as well as in the sun. Leaves are usually Narrow-lobed with a heart-shaped base, and are fuzz, green, with a waxy—almost leathery—feel. It lacks any smoothening and can add tremendous extra weight to trees, making them susceptible to blow over during storms.

Mechanical: Climbing vines on trees can be cut near the base and several inches higher up to kill the upper portions of the vine. Portions of vines that were rooted will sprouts vines and must later be treated with herbicide, pulled out, or cut repeatedly until no re-growth occurs.

Chemical: If triclopyr must be applied to vines it does on the stems.
- Spray English ivy carefully so that other vegetation is not killed.
- Triclopyr products below 40 deg sea F, and broadcast applications of herbicides through plant leaves.
- Fall and winter applications will minimize herbicide impact on desirable plant species.

Cut Stem Treatment
- Use triclopyr salt @ 25% (e.g., Garlon 3A in water). Ready-to-use triclopyr products such as Pathfinder II are also effective and highly recommended.
- Accessible vine-growing plants should be cut and herbicide immediately applied in cut stems with a spray bottle or backpack sprayer.
- For climbing vines, cut a section from the vine (i.e., cut a window) and treat the exposed portion with herbicide. This spray protects of the area will eventually die.
- Expect ivy's persistence's mission before up treatments likely.

Basal Bark Treatment
- On climbing stems, use triclopyr ester @ 20% (e.g., Garlon 4 in oil carrier—follow label instructions), or a ready-to-use triclopyr product such as Pathfinder II.
- Be aware of the possibility that the herbicide will be absorbed into the bark tree unless it is applied generally ready to the ivy plant.
- If possible, carefully pull stem away from the base of the tree tree before applying herbicide.

Foliar Spray (Review ecotoxicology sections; contact NRS before restricting any foliar spray project)
- Non-triclopyr salt (e.g., Garlon 3A in water) @ 3% (high concentrations required due to plant's waxy leaf cuticle). Add a 0.5% non-ionic surfactant.
- This approach is most effective if low-growing plants are cut, allowed to re-grow, and the herbicide is applied to the new foliage (herbicide more easily penetrates the leaf cuticle of new growth).
- Use approved blue marker dye.

b. Lonicera japonica (Japanese honeysuckle) - VINE

Helpful Hints: A perennial vine—usually evergreen to semi-evergreen in mild climates—that climbs by twisting around trees and shrubs and small trees, in sunny edge areas, its sprawling growth can climb 15-20 feet. Leaves are oblong or oval and occur in pairs along the stem. Stems are leaves often have fine, soft hairs. The tube-shaped flowers occur from April through the summer. They are white or pink and turn yellow with age. Small black fruits occur in the fall.

Mechanical: Brush-hog Japanese honeysuckle in accessible areas and treat re-sprouting foliage with herbicide. Mowing or cutting with power or hand tools, without follow up herbicide treatment, is effective only if repeated often.

Chemical: Glyphosate (e.g., Roundup) is the most effective herbicide for this plant.

Cut Stem Treatment
- Use glyphosate @ 25% (e. g., Roundup Pro) on cut surfaces any time of the year.
- Temperatures below 40 degrees F will impede absorption of herbicides through plant tissues.

Foliar Spray (Review ecotoxicology sections; contact NRS before restricting any foliar spray project)
- Use glyphosate @ 3% (e.g., Roundup Pro, or Rodeo with a 0.5% surfactant if rinse water). Always use the lowest concentration that proves effective.
- Japanese honeysuckle may vary green long after other plants have lost their summer. Treatment during mild fall or winter weather will minimize herbicide impact on desirable plant species.
- Add approved blue marker dye.

a. Ligustrum sinse (Privet) - SHRUB

Helpful Hints: Privet is a widely used landscaping shrub that has naturalized in parks. As well-loved homeowners. There are several species. Unlike bush honeysuckle, they may be evergreen or deciduous. Privet can grow to 15 feet. Have oval or elliptical opposite leaves, and white flowers that cluster at the end of stems. Fruits are clusters of blue-black berries that appear in late summer or early fall.

Mechanical: Seedlings and small stumps may be pulled. Larger plants can be cut repeatedly to control resprouts, but are better controlled with cut-stem or foliar chemical treatment.

Chemical: Herbicides containing either triclopyr or glyphosate are effective.

Cut Stem Treatment
- Cut all stems close to soil level and apply herbicide to the entire top of all cut stems.
- Use a water-soluble triclopyr product (e.g., Garlon 3A) or a glyphosate products (e.g., Rodeo) at a 25% solution (13 oz. of herbicide per one-gallon mix).
- A ready-to-use triclopyr product such as Pathfinder II is also effective, and highly recommended.
- A subsequent foliar application may be required to control new seedlings and resprouts.

Foliar Spray
- For seedlings and resprouts less than 5 feet tall, a foliar spray should be effective.
- Thoroughly wet all leaves with a water soluble triclopyr product (e.g., Garlon 3A) or a glyphosate product (e.g., Roundup) @ 3%.
- For Garlon 3A, or similar product, also add 0.5% nonionic surfactant.

b. Lonicera spp. (Exotic bush honeysuckles) - SHRUB

Helpful Hints: Long years as a landscaped plant, bush honeysuckles have escaped and now form thickets along stream banks, in edge areas, and in open or shaded woods. Stems have straight vertical foliage and are hollow. Leaves open green and oval and begin to show new growth in very early spring. They put out large clusters of red berries from late summer to early fall, depending on species.

Mechanical: Pulling seedlings or small plants can be useful for light infestations.
- In shaded woodlands, where the plants are somewhat less resilient, repeated cutting is the greatest during the growing season may result a high mortality.
- Cutting must be repeated at least once during the year to prevent rejuvenation of stems that are denser than the original.

Chemical: Both glyphosate and triclopyr products are effective for this plant. Where possible, initiate control prior to seed dispersal (late summer to early fall).

Cut Stem Treatment
- Cut all stems to ground level and spray glyphosate @ 25% (e.g., Rodeo Pro).
- Many of Resources staff members have had success with the ready-to-use triclopyr product, Pathfinder II.

Foliar Spray
- Since bush honeysuckles have shiny single or clustered oval at stems, and can be easily treated using the cut stem method, NRS does not recommended foliar applications.

c. Rosa multiflora (Multiflora rose) - SHRUB

Helpful Hints: The sun-nail-is rose can form very large stands in open areas and along forest or trail edges. It is a thorny perennial shrub with arching stems and compound leaves divided into 5-11 sharply toothed leaflets. The plant can sometimes behave like a climbing vine, scrambling up trees thickets, fences or other structures to heights of 20-30 feet. Clusters of showy, fragrant white to pink flowers begin to appear in late spring. Small, bright red fruits—known as rose hips—develop during the summer and remain on the plant through the winter.

Mechanical: Cutting requires frequent, repeated mowing or mowing, or cutting with power tools or hand tools.
- Cut three times a year over a period of two to four years.
- Cutting with power or hand tools may be preferable to brush mogging in areas in high-quality natural areas to minimize disturbance.

Chemical: Apply glyphosate or triclopyr to freshly cut stumps or foliar as growth.

Cut Stump Treatment
- Use glyphosate @ 25% (e.g., Roundup Pro) or triclopyr @ 25% (e.g., Garlon 3A is water). Ready-to-use triclopyr products such as Pathfinder II are also effective, and highly recommended.
- This method is most effective if done late in the growing season or while plant is dormant.

Foliar Spray (Review ecotoxicology sections; contact NRS before restricting any foliar spray project)
- Early as growth or low growing plants can be effectively treated with foliar spray using a glyphosate or triclopyr products @ 2% (follow label instructions).
- Add approved blue marker dye.

ADDITIONAL NOTES

1. Specimen trees to be removed have an accompanying variance as part of this plan package.
2. 3 specimen trees totaling 140 DBH were removed and replaced at a rate of 25%, requiring 35 inches DBH be planted on-site using twelve 3" caliper trees (See "Trees Planted for Mitigation of Variance Tree Removal")
3. Replacement trees also shown on Landscape Plan. No incentive density credit taken for those twelve trees

DEVELOPER'S CERTIFICATE
The undersigned agrees to execute all the features of the Site Plan Approval No. 820150190, including Approval Conditions, Development Program, and Certified Site Plan.
Developer's Name: _____ (Please Print)
Address: _____
Phone: _____
Signature: _____

1	REVISIONS PER MNCPPC COMMENTS (SITE PLAN REVIEW)	PDH	APRIL 2013
2	FOR HISTORIC RESOURCE ADDENDUM	AM / PME	NOV 2012
3		AM	OCT 2012
4		AM	APRIL 2012
5		BY	DATE

DATE: APRIL 2012 | LAST REVISION / PLOT: 11:19PM | DRAWING: 1 OF 1

MISS UTILITY NOTE

OWNER/DEVELOPER/APPLICANT
HANOVER R & I LIMITED PARTNERSHIP
SAM SAM ROUPE
JEAN, 3RD
HOUSTON, TX 77042
(713) 267-3700
CONTACT NAME: ADAM HARWIN

LOT/OUT	1,2
PARCEL	OR
PREV. PLAT WAIVER	
ZONING	
SITE DATA	
NO. OF LOTS/PARCELS	
OPEN SPACE	

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DETAILS & NOTES

AMENDMENT TO APPROVED FFCP 81987011A
FINAL FOREST CONSERVATION PLAN

HANOVER SHADY GROVE
MONTGOMERY COUNTY, MARYLAND

6TH ELECTION DISTRICT, MONTGOMERY COUNTY, MARYLAND

SHEET 4 OF 5

FOREST CONSERVATION CREDIT SUMMARY

Credit for Individual Trees

Code	Quantity	Botanical Name	Common Name	Planting Stock Size	% Value Change Per Tree - 30"	Credit - SF
Credit for Parcel 852 Landscape Trees and 1997 Plan Standard:						
LarPen	74	Pinkney Trees - see plan		Veg	100	7,400
AC	1	Acer rubrum		Red Maple	100	2,827
CPA	1	Quercus palustris 'Highrise'		Highrise White Oak	100	2,827
QP	1	Quercus phellos		1" Cal B&B	100	3,848
					Total Credit	34,900

Credit for Tree Cover I

Credit for 1997 Reforestation Plantings

Parcel AA	Shade Trees Per 2012 Plan Details			Total Credit	17,450

Credit for Tree Category I Removed (Afforestation)

Parcel 11	Shade Trees Per 2012 Plan Details		Total Credit	13,500

Credit for Tree Category II Removed

Parcel AA	2012 Category II Removed			2,250

Plan Plantings for Variance over Parcel II Easement - Per 2012 Plan Credit

Code	Quantity	Botanical Name	Common Name	Planting Stock Size
TSM	1	Tilia cordata	Littleleaf Linden	2.5" Cal B&B
AC	1	Acer rubrum	Red Maple	2.5" Cal B&B
QR	1	Quercus rubra	Red Oak	2.5" Cal B&B
CFA	1	Cornus florida 'Rubra'	Cherokee Chief Dogwood	6ft Clumps
JS	1	Juniperus scopulorum	Skyrocket Juniper	6ft Clumps
AG	1	Abies grandis	Whitewood Willamette	6ft Clumps

				Total Area	14.00 SF
				GRAND TOTAL	82,087 1.9 Acres

FOREST CONSERVATION WORKSHEET

NET TRACT AREA:

A.	Total tract area	13.50
B.	Land dedication acres (parks, county facility, etc.)	0.00
C.	Land retention acres (forest to remain, no planting credit)	0.00
D.	Area to remain in commercial agricultural production	0.00
E.	Other deductions (specify)	0.00
F.	Net Tract Area	13.50

LAND USE CATEGORY (from Trees Technical Manual) (input the number "1" under the appropriate land use, or 0 for all other land uses)

ARA	MDR	IDA	HDR	MPD	CIA
0	0	0	0	0	1

G.	Afforestation Threshold	15% x F =	2.03
H.	Conservation Threshold	15% x F =	2.03

EXISTING FOREST COVER:

I.	Existing forest cover	0.00
J.	Area of forest above afforestation threshold	0.00
K.	Area of forest above conservation threshold	0.00

BREAK EVEN POINT:

L.	Forest retention above threshold with no mitigation	0.00
M.	Clearing permitted without mitigation	0.00

PROPOSED FOREST CLEARING:

N.	Total area of forest to be cleared	0.00
O.	Total area of forest to be retained	0.00

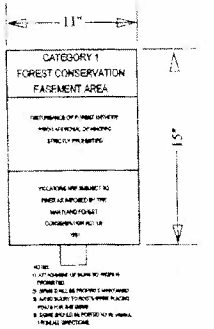
PLANTING REQUIREMENTS:

P.	Afforestation by planting above conservation threshold	0.00
Q.	Reforestation of the existing stand above threshold	0.00
R.	Credit for retention above conservation threshold	0.00
S.	Total reforestation required	0.00
T.	Total afforestation required	0.00
U.	Credit for landscaping (may not exceed 20% of "S")	0.00
V.	Total reforestation and afforestation required	0.00

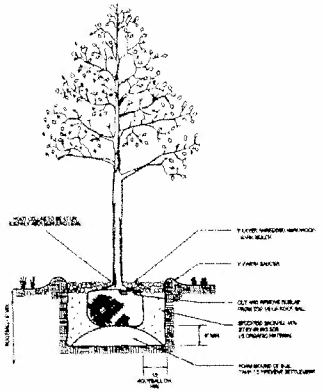
FINAL FOREST CONSERVATION SUMMARY

i.	Acreage of tract		13.50 ac.
ii.	Acreage of tract remain in agricultural use		0.00 ac.
iii.	Acreage of tract and utility ROWs which will not be improved as part of the development application		2.00 ac.
iv.	Acreage of stream valley buffer		0.00 ac.
v.	Acreage of tract existing forest		4.80 ac.
vi.	Acreage of total forest retained		0.00 ac.
vii.	Acreage of total forest cleared		4.80 ac.
viii.	Land use category: CIA Zone		CIA
	Forest Afforestation threshold		15% (2.03 ac.)
	Forest Conservation threshold		15% (2.03 ac.)
ix.	Acreage of forest within wetlands	Retained	0.00 ac.
		Cleared	0.00 ac.
		Planted	0.00 ac.
x.	Acreage of forest within 100-year floodplain	Retained	0.00 ac.
		Cleared	0.00 ac.
		Planted	0.00 ac.
xi.	Acreage of forest within stream buffer	Retained	0.00 ac.
		Cleared	0.00 ac.
		Planted	0.00 ac.
xii.	Acreage of forest within priority areas	Retained	0.00 ac.
		Cleared	0.00 ac.
		Planted	0.00 ac.
xiii.	Linear feet of Stream buffer		3000 ft
	Average width of Stream buffer		300 ft

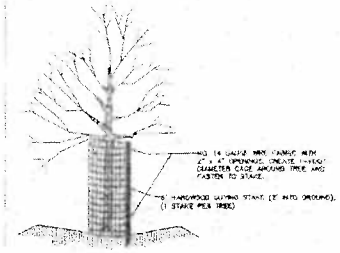
CONSERVATION AREA SIGN



TREE PLANTING DETAIL

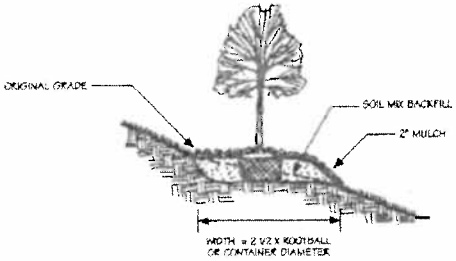


DEER PROTECTION DETAIL

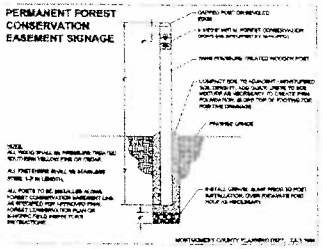


NOTES:
1. HEIGHT OF CAGE SHALL BE 4-FEET (MIN.)
2. CAGE SHALL BE FASTENED TO STAKE WITH TWO (MIN.) 11-GAUGE RELEASABLE CABLE TIES (ONE AT TOP AND ONE 6" (MIN.) ABOVE THE GROUND).
3. DO NOT DAMAGE TREE DURING INSTALLATION.
4. SUBSTITUTIONS MUST BE APPROVED BY FOREST ECOLOGIST.
5. CAGES TO BE REMOVED AT DIRECTION OF FOREST ECOLOGIST.

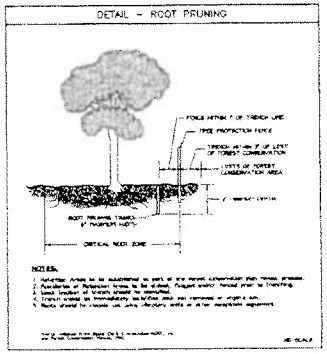
TREE PLANTING ON A SLOPE



SIGN INSTALLATION DETAIL



ROOT PRUNING DETAIL

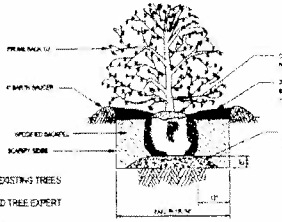


NOTES:

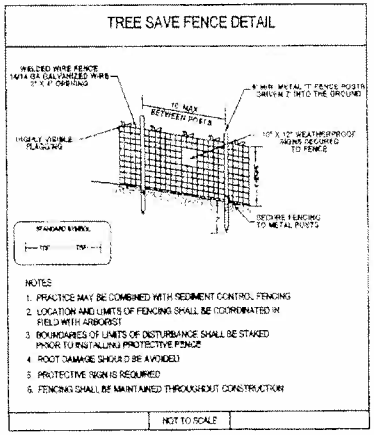
SUPPLEMENTAL ROOT PRUNING REQUIREMENTS FOR PLANTING TREES WITHIN CRZ ZONE OF EXISTING TREES

1. PRUNE LOWER LIMBS IF REQUIRED, AS DIRECTED BY ISA CERTIFIED ARBORIST OR LICENSED TREE EXPERT
2. REMOVE TURFGRASS, WEEDS, OR EXISTING PLANTS MANUALLY OR CHEMICALLY.
3. DO NOT CHANGE GRADE BY ADDING SOIL ON TOP OF ROOTS.
4. CAREFULLY DIG HOLES FOR THE INDIVIDUAL NEW PLANTS BETWEEN VISIBLE TREE ROOTS.
5. INCISE ALL ROOTS WITH A SHARP CLEAN CUT, ESPECIALLY THOSE 2" OR GREATER.
6. ROOT PRUNE NO CLOSER TO THE TRUNK THAN A DISTANCE EQUAL TO 3 TIMES THE TRUNK DIAMETER.
7. PREPARE PLANTING HOLE PER DETAIL SHOWN THIS PAGE

SHRUB PLANTING DETAIL



TREE SAVE FENCE DETAIL



NOTES:
1. PRACTICE MAY BE COMBINED WITH SEDIMENT CONTROL FENCING
2. LOCATION AND LIMITS OF FENCING SHALL BE COORDINATED IN FIELD WITH ARBORIST
3. BOUNDARIES OF LIMITS OF DISTURBANCE SHALL BE STAKED PRIOR TO INSTALLING PROTECTIVE FENCE
4. ROOT DAMAGE SHOULD BE AVOIDED
5. PROTECTIVE SIGN IS REQUIRED
6. FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION

NOT TO SCALE

NEW AFFORESTATION AREA PLANT LIST (PARCEL TT)

TREE SPECIES (1" caliper / Cal.)		
BOTANICAL NAME	COMMON NAME	QUANTITY
Acer rubrum	Red Maple	14
Liriodendron tulipifera	Tulip Poplar	15
Quercus alba	White Oak	5
Quercus rubra	Red Oak	5
Quercus palustris	Pin Oak	4
TOTAL TREES PLANTED PER ACRE		44

Trees Planted for Mitigation of Variance Tree Removal - See landscape plan for additional information.

Code	Quantity	Botanical Name	Common Name	Planting Stock Size	Location
AC	5	Acer rubrum 'October Glory'	October Glory Maple	3" Cal. B&B	Around Pond
QPh		Quercus phellos 'Hightower'	Hightower White Oak	3" Cal. B&B	Street Tree Planting
Total	12				

Surplus Forest Tree Cover Plantings (1997 plan Parcel AR)

Code	Quantity	Botanical Name	Common Name	Planting Stock Size	Credit
AR	1	Acer rubrum	Red Maple	2.5" Cal B&B	1.0 Credit
QPh	1	Quercus phellos 'Highrise'	Highrise White Oak	2.5" Cal B&B	1.0 Credit
QP	1	Quercus phellos	Pin Oak	2.5" Cal B&B	1.0 Credit
Total	12				3.0 Credit

DETAILS & NOTES

AMENDMENT TO APPROVED FFCP 81987011A
FINAL FOREST CONSERVATION PLAN
HANOVER SHADY GROVE
MONTGOMERY COUNTY, MARYLAND

Loiederman Soltesz Associates, INC
ROCKVILLE OFFICE
2 Research Place, Suite 100
Rockville, MD 20850
t. 301.948.2750 f. 301.948.9067

MISS UTILITY NOTE

OWNER/DEVELOPER/APPLICANT

HANOVER M.G. LIMITED PARTNERSHIP
5847 SAN FELIPE
SUITE 3300
HOUSTON, TX 77057
713-781-2110
CONTACT NAME: ADMINISTRATOR

SHEET 5 OF 5

Attachment D

DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett
County Executive

Diane R. Schwartz Jones
Director

July 5, 2012

Mr. William K.C. Reed
Loiederman Soltesz Associates, Inc.
2 Research Place, Suite 100
Rockville, MD 20850

Re: Stormwater Management ***CONCEPT*** Request
for Hanover Shady Grove
Preliminary Plan #: Pending
SM File #: 242697
Tract Size/Zone: 6.92 acres / CR
Total Concept Area: 6.92 acres
Lots/Block: NA
Parcel(s): Decoverly Hall R-R and T-T
Watershed: Muddy Branch

Dear Mr. Reed:

Based on a review by the Department of Permitting Services Review Staff, the stormwater management concept for the above mentioned site is **acceptable**. The stormwater management concept proposes to meet required stormwater management goals via construction of Micro Bioretention facilities.

The following **items** will need to be addressed **during** the detailed sediment control/stormwater management plan stage:

1. Prior to permanent vegetative stabilization, all disturbed areas must be topsoiled per the latest Montgomery County Standards and Specifications for Topsoiling.

2. A detailed review of the stormwater management computations will occur at the time of detailed plan review.

3. An engineered sediment control plan must be submitted for this development.

4. Specific geotechnical recommendations for location of the proposed stormwater management practices in fill soils must be submitted with the initial detailed plan review submittal for Sediment Control / Stormwater management review.

5. Landscaping shown on the approved Landscape Plan as part of the approved Site Plan are for illustrative purpose only and may be changed at the time of detailed plan review of the Sediment Control/Storm Water Management plans by the Mont. Co. Department of Permitting Services, Water Resources Section.

6. All of the stormwater management practices must be located within stormwater management easements.

This list may not be all-inclusive and may change based on available information at the time.

Payment of a stormwater management contribution in accordance with Section 2 of the Stormwater Management Regulation 4-90 **is not required.**

This letter must appear on the sediment control/stormwater management plan at its initial submittal. The concept approval is based on all stormwater management structures being located outside of the Public Utility Easement, the Public Improvement Easement, and the Public Right of Way unless specifically approved on the concept plan. Any divergence from the information provided to this office; or additional information received during the development process; or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended stormwater management requirements. If there are subsequent additions or modifications to the development, a separate concept request shall be required.

If you have any questions regarding these actions, please feel free to contact Mark Etheridge at 240-777-6338.

Sincerely,

Richard R. Brush, Manager
Water Resources Section
Division of Land Development Services

RRB: tla mce

cc: C. Conlon
SM File # 242697

ESD Acres:	6.92
STRUCTURAL Acres:	na
WAIVED Acres:	na

Attachment E

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Isiah Leggett
County Executive

Robert G. Hoyt
Director

November 19, 2012

Françoise Carrier, Chair
Montgomery County Planning Board
Maryland National Capital Park & Planning Commission
8787 Georgia Avenue
Silver Spring, Maryland 20910

RE: Hanover Shady Grove - Revised, DAIC 820120190, sketch plan accepted on 10/24/2011

Dear Ms. Carrier:

The County Attorney's Office has advised that Montgomery County Code Section 22A-12(b)(3) applies to any application required under Chapter 22A submitted after October 1, 2009. Accordingly, given that the application for the above referenced request was submitted after that date and must comply with Chapter 22A, and the Montgomery County Planning Department ("Planning Department") has completed all review required under applicable law, I am providing the following recommendation pertaining to this request for a variance.

Section 22A-21(d) of the Forest Conservation Law states that a variance must not be granted if granting the request:

1. Will confer on the applicant a special privilege that would be denied to other applicants;
2. Is based on conditions or circumstances which are the result of the actions by the applicant;
3. Arises from a condition relating to land or building use, either permitted or nonconforming, on a neighboring property; or
4. Will violate State water quality standards or cause measurable degradation in water quality.

Applying the above conditions to the plan submitted by the applicant, I make the following findings as the result of my review:

1. The granting of a variance in this case would not confer a special privilege on this applicant that would be denied other applicants as long as the same criteria are applied in each case. Therefore, the variance can be granted under this criterion.

2. Based on a discussion on March 19, 2010 between representatives of the County, the Planning Department, and the Maryland Department of Natural Resources Forest Service, the disturbance of trees, or other vegetation, as a result of development activity is not, in and of itself, is not interpreted as a condition or circumstance that is the result of the actions by the applicant. Therefore, the variance can be granted under this criterion, as long as appropriate mitigation is provided for the resources disturbed.

3. The disturbance of trees, or other vegetation, by the applicant does not arise from a condition relating to land or building use, either permitted or nonconforming, on a neighboring property. Therefore, the variance can be granted under this criterion.

4. The disturbance of trees, or other vegetation, by the applicant will not result in a violation of State water quality standards or cause measurable degradation in water quality. Therefore, the variance can be granted under this criterion.

Therefore, I recommend a finding by the Planning Board that this applicant qualifies for a variance conditioned upon the applicant mitigating for the loss of resources due to removal or disturbance to trees, and other vegetation, subject to the law based on the limits of disturbance (LOD) recommended during the review by the Planning Department. In the case of removal, the entire area of the critical root zone (CRZ) should be included in mitigation calculations regardless of the location of the CRZ (i.e., even that portion of the CRZ located on an adjacent property). When trees are disturbed, any area within the CRZ where the roots are severed, compacted, etc., such that the roots are not functioning as they were before the disturbance must be mitigated. Exceptions should not be allowed for trees in poor or hazardous condition because the loss of CRZ eliminates the future potential of the area to support a tree or provide stormwater management. Tree protection techniques implemented according to industry standards, such as trimming branches or installing temporary mulch mats to limit soil compaction during construction without permanently reducing the critical root zone, are acceptable mitigation to limit disturbance. Techniques such as root pruning should be used to improve survival rates of impacted trees but they should not be considered mitigation for the permanent loss of critical root zone. I recommend requiring mitigation based on the number of square feet of the critical root zone lost or disturbed. The mitigation can be met using any currently acceptable method under Chapter 22A of the Montgomery County Code.

In the event that revisions to the LOD are approved by the Planning Department, the mitigation requirements outlined above should apply to the removal or disturbance to the CRZ of all trees subject to the law as a result of the revised LOD.

If you have any questions, please do not hesitate to contact me directly.

Sincerely,

Laura Miller
County Arborist

cc: Robert Hoyt, Director
Walter Wilson, Associate County Attorney
Mark Pfefferle, Chief

plan summary

The *Great Seneca Science Corridor (GSSC) Master Plan* envisions a vibrant Life Sciences Center (LSC) where the foundation of health care, biotechnology, and academia combine to create a dynamic and sustainable science and medical hub. Knowledge will drive its agenda, attracting international scientists, business leaders, physicians, and professors who will contribute ideas and insights for the future. Labs, classrooms, research centers, and universities will encourage and foster cutting-edge discoveries. The LSC should evolve into a place where the physical form—buildings, open spaces, and amenities—is as inspiring as the discoveries occurring inside.

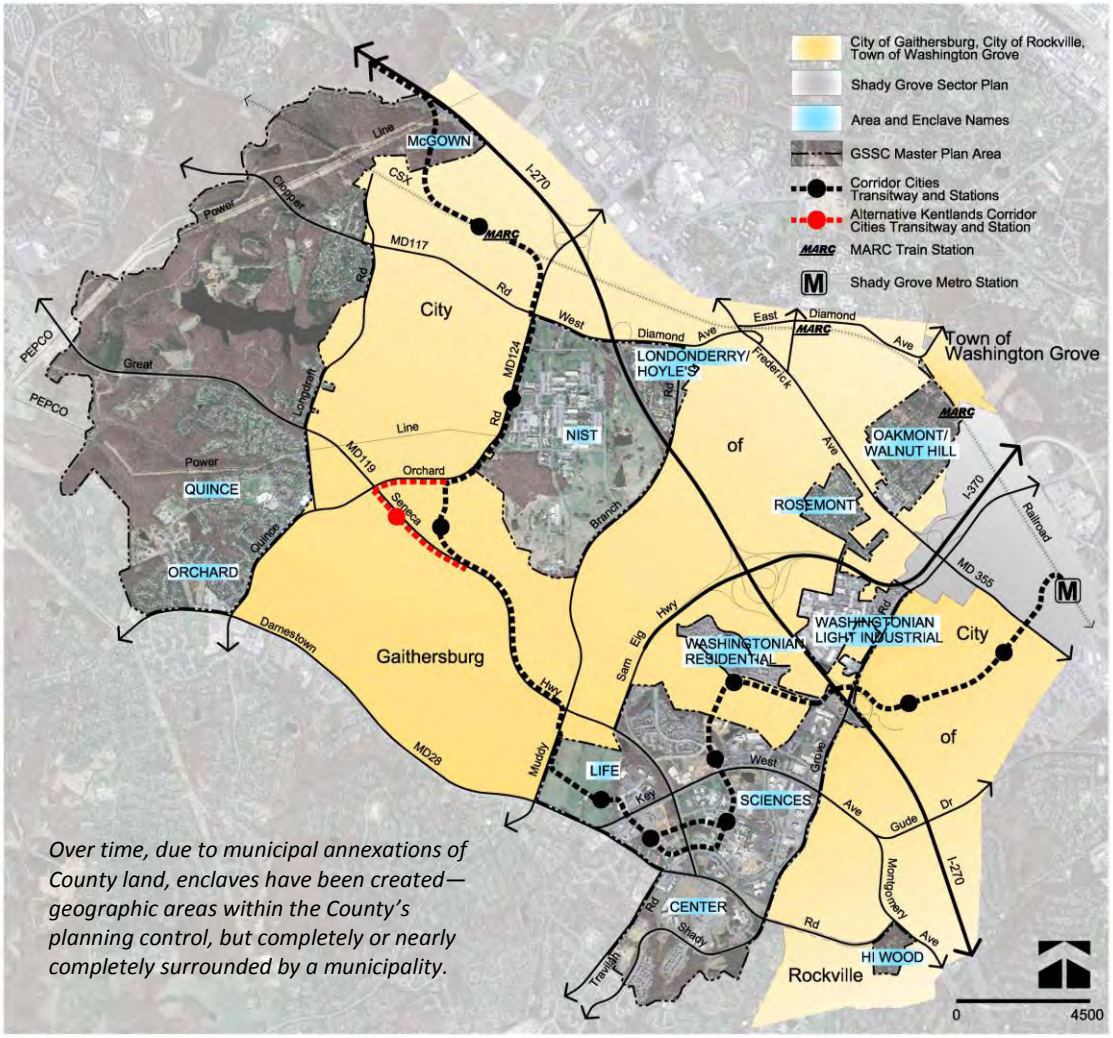
This Plan's vision will develop over 25 to 35 years. During that time, the local and national economy will experience three or four business cycles. These economic cycles make it imperative to periodically check the Plan's progress and recommendations. Regardless of the pace of growth, it is essential to establish a vision and provide a blueprint for the future that will enable the LSC to evolve over time.

While this Plan is about providing opportunities for future world-leading scientific research, it is also concerned with protecting residential neighborhoods and investments made by businesses and institutions in the area. Growth and change in the LSC must occur in a way that does not overburden the surrounding communities. This Plan's explicit staging recommendations are essential to preserving the quality of life that residents enjoy. Infrastructure—particularly transit—must be provided before significant amounts of development can be built. Staging development ensures that growth will be managed and timed with the delivery of the infrastructure necessary to support it.

Key Recommendations

- Transform the LSC into a dynamic live/work community while ensuring growth opportunities for research, medical, and bioscience interests.
- Align the Corridor Cities Transitway (CCT) through the LSC and provide four transit stations that will be the focal point of new development in the LSC North, Central, West, and Belward districts.
- Concentrate density, building height, and civic green spaces at the CCT stations. Provide appropriate transitions to adjacent neighborhoods and to the historic Belward Farm.
- Create a grid pattern of new streets that improve local circulation and connectivity among the LSC districts, promote alternatives to car use, and enhance access to the future transit stations.

map 1 Great Seneca Science Corridor Master Plan



- Create the LSC Loop as the organizing element of the open space plan to connect districts and destinations, incorporate natural features, and provide opportunities for recreation and non-motorized transportation.

- Replace the Public Safety Training Academy (PSTA) in the LSC West District with a new residential community that includes supporting retail, open spaces, and community facilities.

- Maintain the established residential neighborhoods throughout the GSSC Master Plan area.

- Create a sustainable community that will attract nationwide interest with design and materials that minimize carbon emissions, maximize energy conservation, and preserve water and air quality.

- Ensure that development in the Piney Branch Special Protection Area uses the best available stormwater management treatment techniques to protect the watershed's headwaters.

- Meet the recreation needs of the GSSC area by identifying and acquiring a site for a new local public park in the Quince Orchard area and requiring the dedication of parkland for new parks and open spaces in the LSC Districts.

- Support the County's Agricultural Reserve with zoning that requires acquisition of Building Lot Termination (BLT) easements to achieve maximum densities.

Forty-five years ago, the County identified the I-270 Corridor as a place for higher densities in a series of Corridor Cities supported by a comprehensive transportation network. Since then, jobs and business opportunities have attracted skilled workers and business investment that have in turn enabled local government to provide quality schools, amenities, and services.

The GSSC Master Plan area covers 4,360 acres in the heart of the I-270 Corridor. It includes the Life Sciences Center, the western Quince Orchard neighborhoods and enclave areas such as the National Institute of Standards and Technology (NIST) and Rosemont, which are completely or nearly completely surrounded by a municipality. The City of Gaithersburg occupies 10 square miles in the center of the Plan area. The City of Rockville borders the Plan area on the east and the Town of Washington Grove is located to the northeast. The incorporated municipalities have their own planning and zoning authority and are not part of the County's master plans.

The Life Sciences Center has played a significant role in establishing the Corridor as a globally known center for science and technology-driven industry, home to biotechnology companies, higher education facilities, and a quality medical center. This Plan provides a blueprint for the future that will transform the LSC into a vibrant place served by transit and enhanced by activating uses, open spaces, and amenities.

Planning Framework

The Plan's recommendations are consistent with State and County planning policies.

- The 1964 General Plan identifies the I-270 Corridor (which includes the LSC) for concentrated, high-density development supported by a comprehensive transportation system including a major highway network, rail lines, and centers called Corridor Cities.

- The 1992 Economic Growth, Resources Protection and Planning Act requires local plans to protect sensitive environmental resources.

- The 1993 *General Plan Refinement* supported the Corridor Cities concept but acknowledged that it had not yet fully evolved.

- The 1997 Priority Funding Areas Act directs State spending to support smart growth, typically to existing communities and places where local governments want investment to support future growth. The entire Master Plan area is within a Priority Funding area and is eligible for State funding.

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.

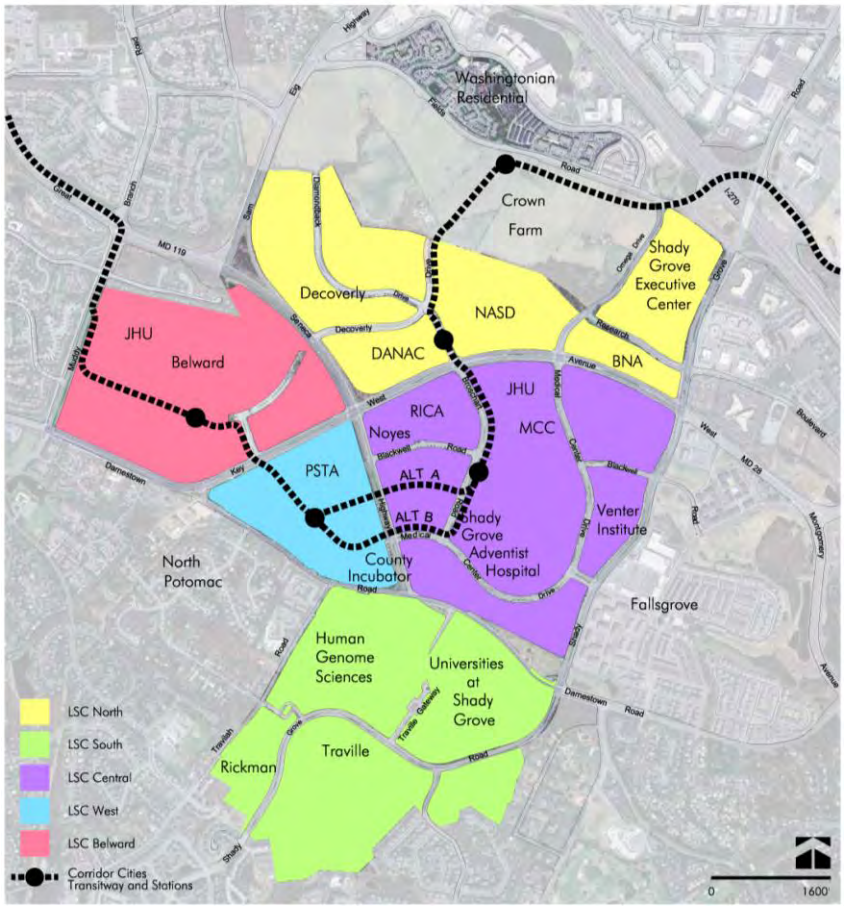
The LSC of the future will be served by a fully integrated transit system that links mid-County activity centers via the Corridor Cities Transitway (CCT). Access to high quality transit is increasingly important to businesses trying to attract knowledge-based, creative class workers. The LSC will continue 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

Housing

This Plan's primary goal is to create a world class life sciences center. A range of housing options and amenities is needed to support this development and help achieve County housing goals, including Moderately Priced Dwelling Units and workforce housing. The transportation infrastructure proposed in this Plan will link the LSC districts in a sustainable development pattern where people can walk, bike, or use transit to reach their destinations.

One of the County's fundamental planning tools is the jobs-housing balance—the ratio of jobs to housing units in an area. Creating a balance provides the opportunity for people to live near work, which can reduce traffic congestion. While a balanced jobs-housing ratio does not guarantee that the housing will be occupied by those who work nearby, opportunities to live near work should be provided.

To date, the LSC has developed as a single-purpose, single-use employment center. Housing has not been a permitted use so the jobs-housing ratio within this area is not balanced. Because the LSC's focus has been on economic development and jobs, not housing, achieving the optimal jobs-housing balance within this small geographic area is unrealistic. However, over a broader area, the appropriate ratio can be achieved.

The 1990 Plan proposed new residential neighborhoods on large tracts of land near the LSC, including new neighborhoods at the King Farm, the Crown Farm, and the Thomas Farm (Fallsgrove). King Farm and Fallsgrove were annexed into the City of Rockville and are nearly built-out. The Crown Farm was annexed into the City of Gaithersburg, which approved a mixed-use community with 2,250 dwelling units that is not yet under construction. Existing housing that is near the LSC and within the Plan boundaries totals 3,262 dwelling units (of which 230 are senior units) at the Decoverly and Traville communities and the Washingtonian cluster north of Crown Farm.

This Plan recommends a new residential community on the current site of the County's Public Safety Training Academy (PSTA), LSC West. Housing development on this site could yield 2,000 new dwelling units. In addition, the Plan recommends that housing be allowed as a secondary use in the LSC Central District, which, along with several other sites in the greater LSC, could yield 3,750 new dwelling units. In LSC Central, the Plan allows 30 percent of the density to be used for housing. If all LSC Central property owners utilized this option, the total dwelling units in the district could be 2,225. This maximum theoretical amount will not be achieved in LSC Central due to the existing built environment and the business objectives of the property owners.

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:
    - solar power
    - wind power
    - 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

LSC North and Washingtonian Cluster: Residential and Office

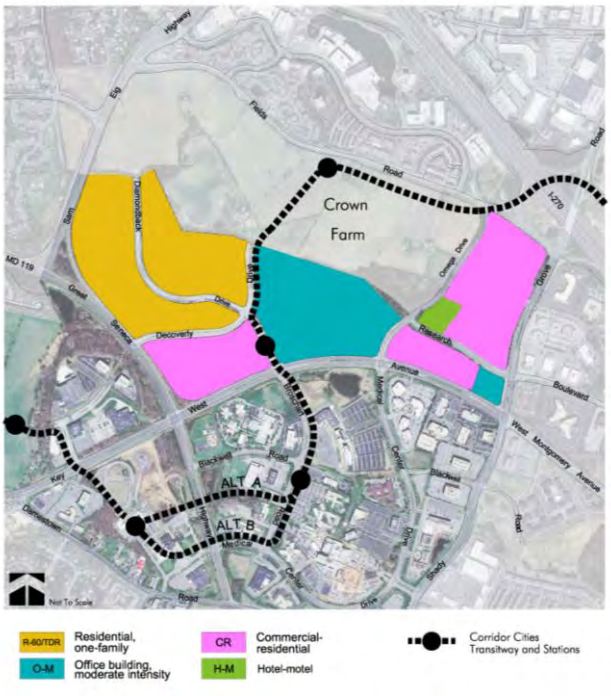
The 195-acre LSC North District is developed with several office parks, including DANAC, the National Association of Securities Dealers, Shady Grove Executive Center, and the Bureau of National Affairs. These properties are zoned I-3, O-M, and C-2. LSC North also includes the residential communities of Decoverly, with 1,144 townhouse and multifamily units along Diamondback Drive west of Decoverly Drive. The Washingtonian residential area is part of this Master Plan, but is geographically separated from the Life Sciences Center by the Crown Farm, which is in the City of Gaithersburg. The Washingtonian cluster is a housing resource for those who work in the LSC. As such, for purposes of staging, this area is included in the total amount of existing and approved dwelling units (3,300).

The LSC North CCT station is located on the east side of the DANAC property as part of the CCT alignment through the LSC. The Plan recommends that the DANAC property be rezoned from the I-3 Zone to a CR Zone. Rezoning DANAC to a mixed use zone with higher density will take better advantage of this transit station location. The DANAC parcel on the southeast corner of Key West Avenue and Diamondback Drive (the 6.93-acre Lot 7) is largely undeveloped and is adjacent to the proposed CCT station on the east side of the property. The recommended Zone for this parcel (Lot 7) is: CR 2: C 1.5, R 1.5, H 150. The remainder of the DANAC property should be zoned CR 1.0: C 0.5, R 1.0, H 80. Building height along Decoverly Drive adjacent to the residential community to the north is limited to 50 feet within 100 feet of the Decoverly Drive right-of-way (not including the 50-foot transit right-of-way).

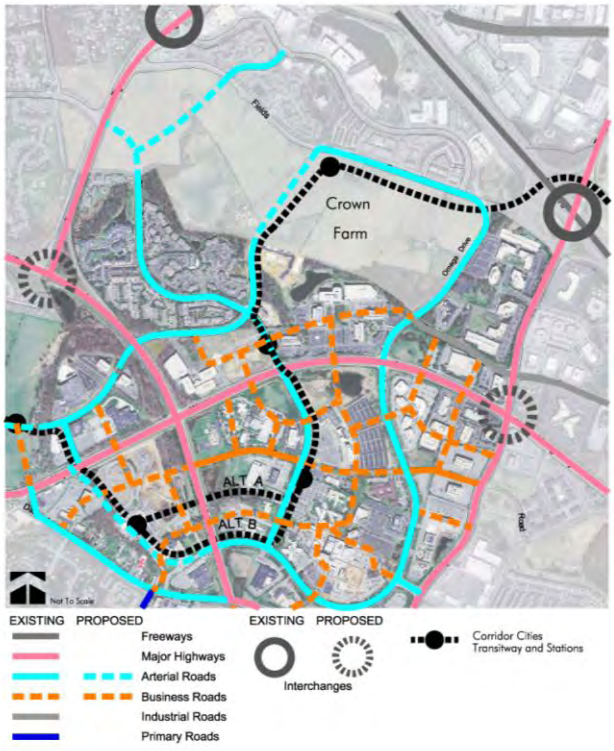
The Plan does not recommend any zoning change to the National Association of Securities Dealers site. The Plan encourages mixed-use infill for the Shady Grove Executive Center and Bureau of National Affairs sites and recommends CR 1.5: C 1.5, R 1.5, H 100. Residential uses are encouraged, as are pedestrian-oriented local retail facilities that are compatible with and provide convenience for residents. Public benefits that improve connectivity and mobility or add to the diversity of uses and activity are encouraged. These should include the LSC Loop along Omega Drive as well as pedestrian connections to CCT stations at DANAC and Crown Farm.

map 22 LSC North: Urban Form

map 23 LSC North: Proposed Zoning



map 24 LSC North: Mobility



Recommendations

- Extend Decoverly Drive north from its current terminus, into and through the Crown Farm to Fields Road.
- Extend Diamondback Road north from its current terminus into and through the Crown Farm to Fields Road.
- Rezone DANAC from the I-3 Zone to the CR Zone.
- Rezone the Shady Grove Executive Center property from the C-2 and O-M zones to the CR Zone.
- Rezone the Bureau of National Affairs property from the O-M Zone to the CR Zone.
- Provide for the LSC Loop, to be accompanied with the CCT from Fields Road to Diamondback Drive, and then along Decoverly Drive and across Great Seneca to the Belward site.
- Widen Key West Avenue (MD 28) to eight lanes divided.
- Construct interchanges at Great Seneca Highway (MD 119) and Sam Eig Highway and at Key West Avenue (MD 28) at Shady Grove Road.

essentially shift from the category of approved, pipeline development to the category of additional new development, while the total in the stage would remain unchanged.

In Stage 1, the Plan provides for the current 10.7 million commercial square feet (existing development and the approved pipeline), plus an additional increment of 400,000 square feet. Health care services are exempt from the requirements of Stage 1. Development above 11.1 million commercial square feet cannot proceed until all the prerequisites for Stage 2 have been met, including full funding of the CCT from the Shady Grove Metro Station to Metropolitan Grove within the first six years of the County's CIP or the State CTP.

Stage 1

Stage 1 allows an additional 400,000 square feet of commercial (nonresidential) development and 2,500 additional dwelling units. Existing and approved development totals 10.7 million square feet and Stage 1 allows 400,000 additional square feet for a total of up to 11.1 million square feet. Health care services are exempt from the requirements of Stage 1. Stage 1 allows 2,500 additional residential dwelling units.

7,000,000 existing development
3,700,000 approved development
400,000 additional new development
11,100,000 Total Stage 1 commercial development

3,300 existing and approved dwelling units
2,500 additional new dwelling units
5,800 Total Stage 1 residential dwelling units

Stage 2

Stage 2 allows a total of 13.4 million square feet of commercial development and 7,300 dwelling units, of which up to 11.1 million square feet of commercial development and 5,300 dwelling units may have been built in Stage 1. After all the prerequisites required before Stage 2 have been met, development above 11.1 million can proceed, including an additional 2.3 million square feet of additional commercial development, up to a total of 13.4 million square feet. Stage 2 allows 2,000 additional residential dwelling units.

11,100,000 Stage 1 development
2,300,000 Stage 2 additional new development
13,400,000 Total Stage 2 commercial development

5,800 Stage 1 dwelling units
2,000 Stage 2 additional dwelling units
7,800 Total Stage 2 residential dwelling units

Stage 3

Stage 3 allows a total of 15.7 million square feet of commercial development and 9,000 dwelling units, of which 13.4 million square feet of commercial development and 7,300 dwelling units may have been built in Stages 1 and 2. After all the prerequisites required before Stage 3 have been met, development above 13.4 million square feet can proceed, including an additional 2.3 million square feet of new development, up to a total of 15.7 million square feet. Stage 3 allows 1,200 additional residential dwelling units.

13,400,000 Stage 2 development
2,300,000 Stage 3 additional new development
15,700,000 Total Stage 3 commercial development

TP CCT Transit Plazas

CCT Transit Plazas are designated for each of the four stations in the Plan area and should:

- be 1/4 to 1/2 acre in size
- be integrated with the station platform
- balance green area and hard surfaces
- maximize sunlight exposure
- provide bicycle storage
- use special lighting to create ambiance and a unique setting
- use site design features such as low walls and steps for informal seating

Public Use Space

Small public open spaces will be created under the Zoning Code requirements for open space. They should:

- allow active or passive recreation
- be visible and usable
- have a strong relationship to adjacent architecture and open space networks
- avoid creating barriers between buildings and public streets

Outdoor public use spaces from several projects can be combined to create a larger public use areas.

LP Linear Parks

Linear parks are green spaces that serve one of two purposes:

- buffer areas between new development and neighboring communities or busy roadways
- create urban green space running the length of one or more blocks.

Guidance and design considerations for specific linear parks are discussed in the district sections.

SV Stream Valley Buffers

The existing forest and wetland areas, including the Muddy Branch and Great Seneca stream valleys, Great Seneca Creek State Park, and connected lands should be preserved and enhanced for recreation and enjoyment of the natural environment.

- Minimize the impact of new development on stream valleys
- Minimize impervious surfaces by using pervious paths or raised boardwalks
- Restore and enhance natural settings, native plant species, and indigenous ecosystems

Streets

Road Code

Chapter 49 of the Montgomery County Code, the Road Code, codifies street classification standards, including rights-of-way and paving widths. The Road Code emphasizes context sensitive street design to create a network of "complete streets" for automobiles, transit, cyclists, and pedestrians for an area such as the Great Seneca Science Corridor Master Plan area.

All applicants must comply with the Road Code. Applicants pursuing streetscape designs inconsistent with the Road Code must apply for a waiver.

Utilities

Utilities should be accommodated underneath sidewalks and streets within the right-of-way limits, and be coordinated by MCDOT and utility companies.

Streetscape

Closely-spaced street trees will be included along all streets. Sidewalks should be at least 15 feet from curb to building.

Intersections

The Great Seneca Science Corridor Master Plan identifies the possibility for grade separated intersections, including urban diamonds at:

- Great Seneca Highway and Muddy Branch Road
- Shady Grove Road and Key West Avenue.

Improvements of other intersections should include:

- Special crosswalk paving
- Raised and planted medians
- Pedestrian priority signal timing.

B2-B12
Business District Streets

Master Plan
Min. R.O.W.: 70 ft
Lanes: 2

Guidelines
Parking: Both Sides
Trees: 30-35' o.c.
Sidewalk: Minimum 15'
Setback: None
Median: None

Comments
The proposed Business District Streets show the general location of streets, not actual alignments. Specific alignments, parking and streetscape will be determined during regulatory review.

Medical Center Drive
Arterial Street (A-261)

Master Plan
Min. R.O.W.: 100 - 150 ft
Lanes: 4 - 6

Guidelines
Parking: Off-peak
Trees: 30-35' o.c.
Sidewalk: 20' wide
Setback: None
Median: Planted with turn lanes

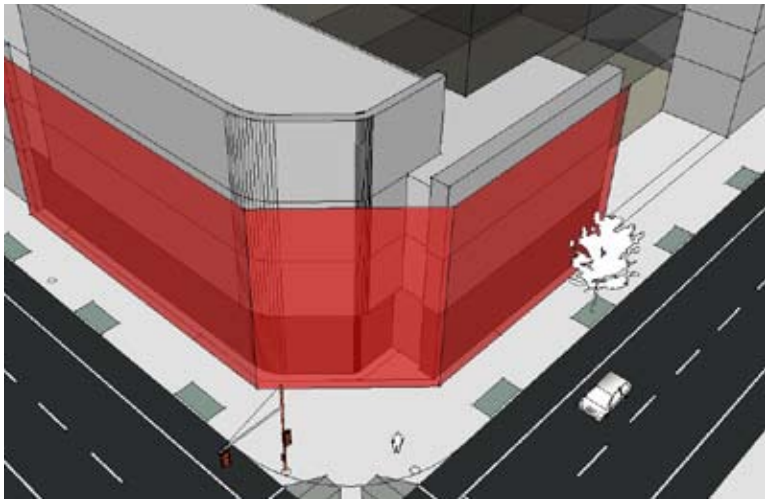
Street-Defining Buildings

Streets should be defined by consistent street walls. Building podiums should meet build-to lines on both sides of the street where indicated on district maps.

The Ellington
Washington, DC
Torti Gallas and Partners

Street Walls

Breaks along street walls with block frontages 200 feet or longer are appropriate. Breaks should occur away from block corners, and should be infrequent on retail streets.



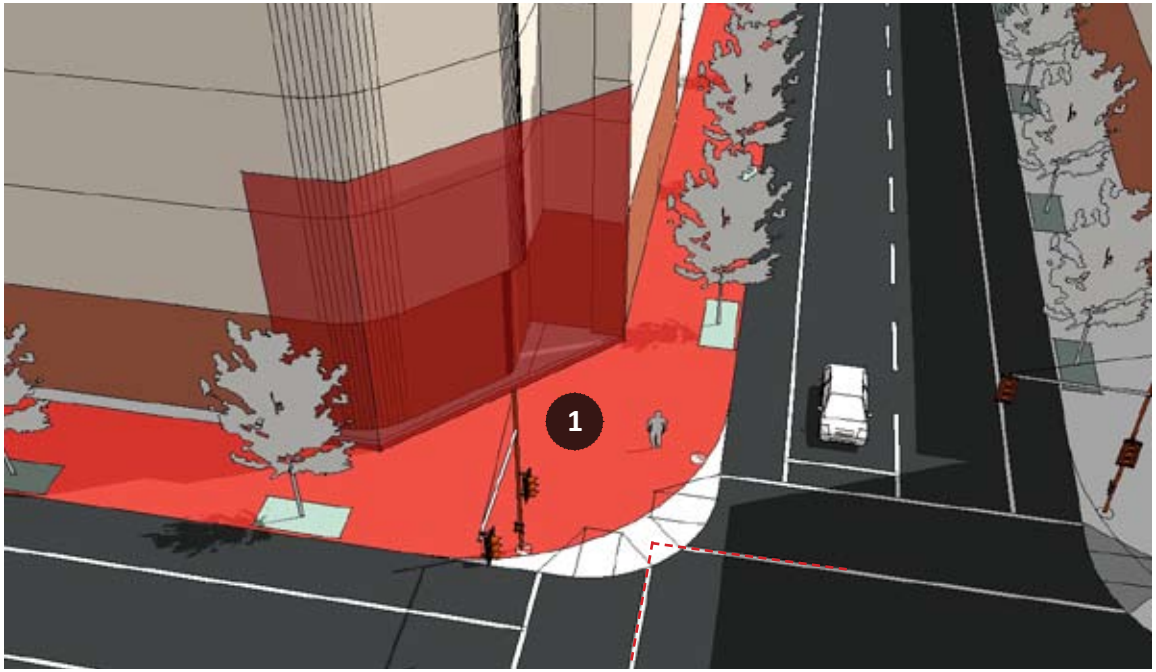
Street wall

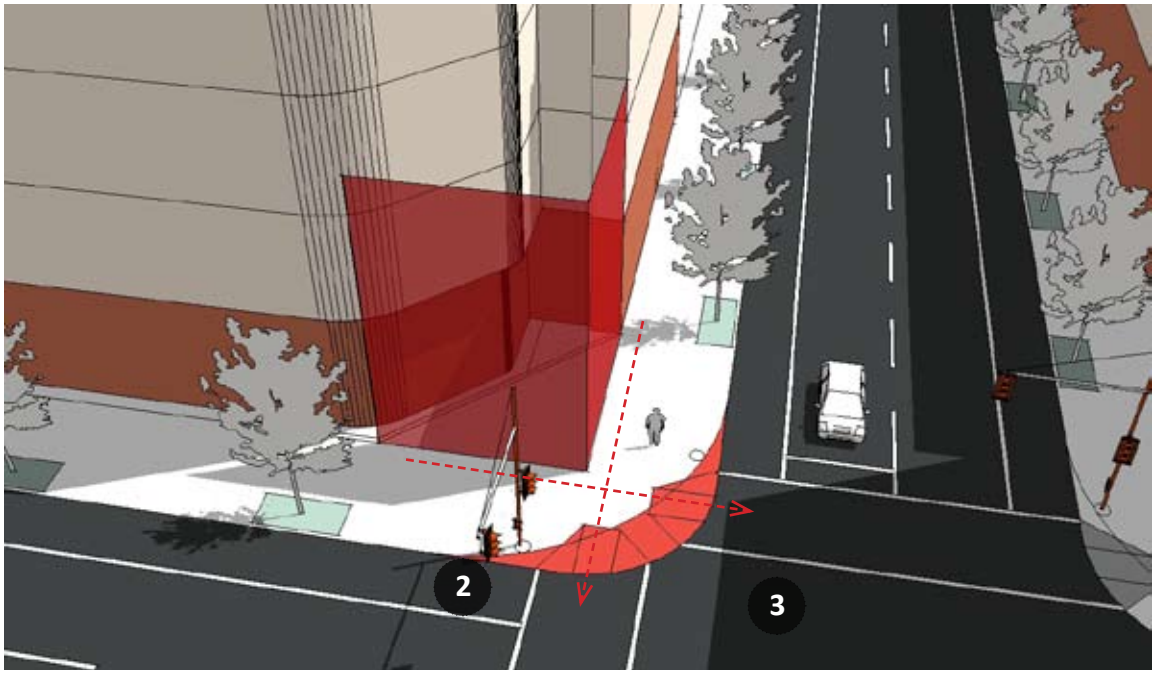
40 Mercer
New York, NY
Jean Nouvel Ateliers

Memorial Sloan-Kettering Cancer Center
New York, NY
Granary Associates

Podiums

Podium heights should range between two and five stories, as indicated on street sections.





Urban Corners

Urban street corners should be designed to increase pedestrian safety and to accommodate public safety and other service vehicles.

1. Road Code - Highlighted area indicates sidewalks and required corner truncation per MCDOT standards at the intersection of two hypothetical streets. A corner radius of 30 ft is shown. This standard requires a handicapped ramp oriented toward the center of the intersection.

2. Design Guidelines - Corner radii should be tighter than suburban standards (15 feet shown), and should include a double ramp at the corner. The truncation requirement should be waived for most urban streets. Ramps should align with path of pedestran travel and street crossings.

3. Vehicle turning radius - The effective turning radius, not the curb radius, should be 30 feet in the recommended configuration.

Focus Elements

Right:
The Beauregard
Washington, D.C.
Sorg & Associates

Far Right:
Flatiron Building
New York, NY
Daniel Burnham

Below:
156 West Superior
Chicago, IL
Miller Hull Partnership

Facade Articulation

Facades should be articulated to promote pedestrian activity, enhance the overall urban environment, and create a diversity of architectural styles.

- Incorporate the most public and active building space on the ground floor to activate the street.
- Create retail frontages that are as transparent as possible. Avoid long stretches of blank walls.
- Design building entrances to be in the street frontage.
- Provide vertical articulation along street walls to reduce their visual length.
- Use materials, finishes, and architectural features that refine building facades by creating visual interest and texture.
- For residential buildings, consider using balconies to provide variation in facade depths.

Design Excellence

A diverse range of building styles will improve quality and attract growth. Whether contemporary or traditional, flexible structures and innovative building materials will advance the cause of better design. Architectural excellence would support the vision for world class research and development in the Life Sciences Center.

Above:
Islington Towers
London, UK
Benson & Forsyth

Left:
1111 E. Pike Mixed-Use
Seattle, WA
Olson Kundig Architects

Far Left:
Biomedical Research Building
University of Michigan
Ann Arbor, MI
Polshek Partnership

Parking

Great Seneca Science Corridor Master Plan
The Plan recommends a strong pedestrian orientation for future development, reducing the amount of surface parking lots by:

- reducing parking requirements and using structured and/or shared parking
- relieving smaller properties from self-park requirement
- establishing a 30 percent non-auto driver mode share goal for LSC employees.

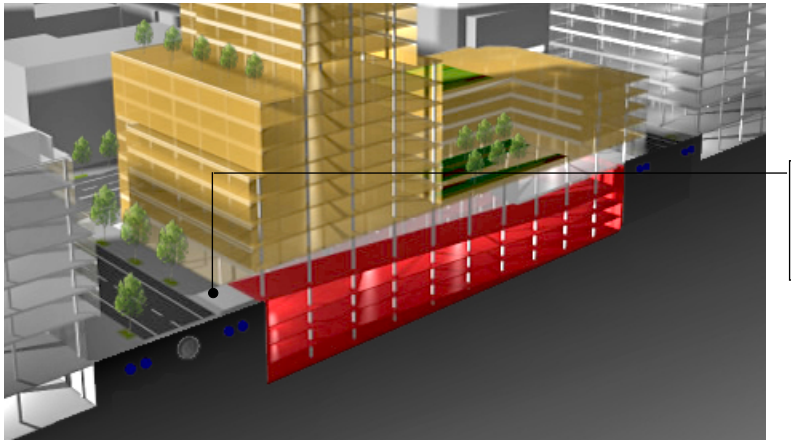
Public garage sites will be defined at Preliminary Plan for publicly owned properties in the LSC Central and LSC West districts.

Zoning Ordinance
Parking requirements in the Great Seneca Science Corridor Master Plan area are set by the Montgomery County Zoning Ordinance. **For a list of uses, see Section 59-E of the Zoning Ordinance.**

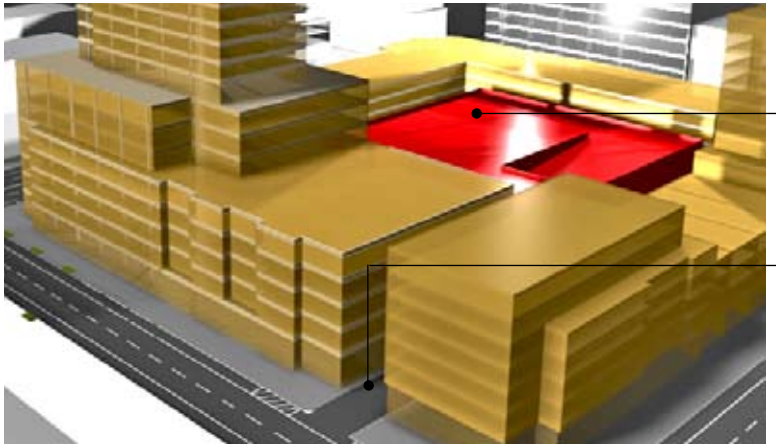
The Commercial Residential (CR) Zones have specific parking requirements, **see Section 59-C-15**, and provide incentives for constructing below-grade parking facilities.

St. Mary's Square Garage and Park
San Francisco, CA

Using the site's slopped topography, St. Mary's Garage is built into the side of a hill and covered with a public park. The park is heavily vegetated to mitigate runoff and reduce the garage's visual impact on the street.

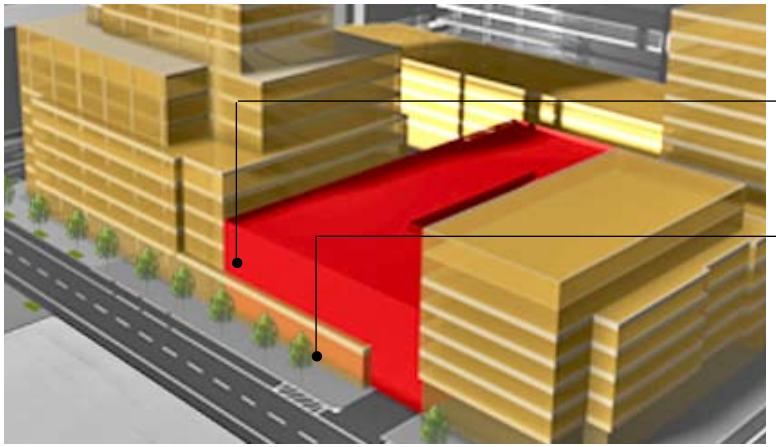


Narrow Entrance
minimize width of entrance and egress lanes



Wrapped Parking Deck
place garage centrally within the block

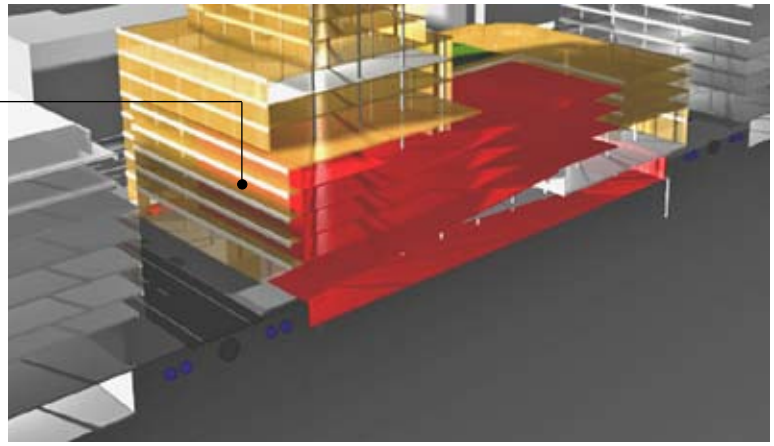
Access off Alley
consolidate access points with adjacent properties

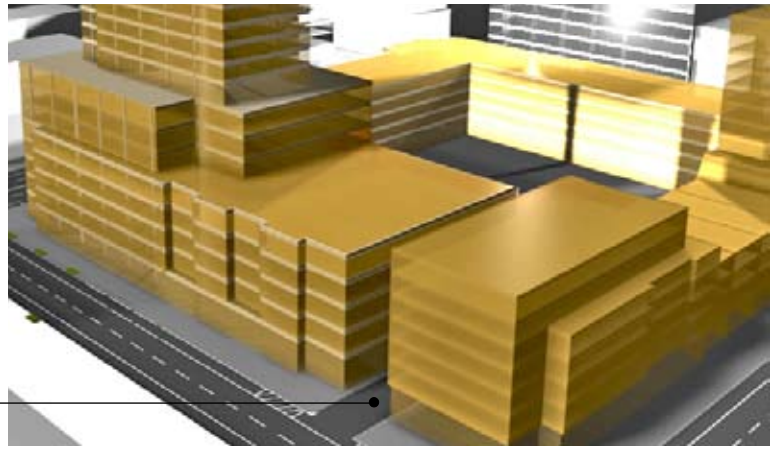


Minimize Street Exposure
reduce the amount of garage facade facing the street

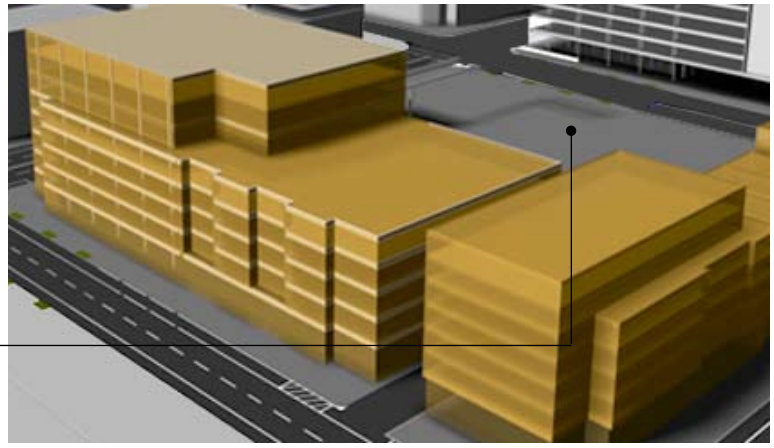
Ground Floor Frontage
activate ground floor with retail or other uses

Integrated Building Facade
garage and building are indistinguishable





Access off Side Street
provide side street access to minimize traffic impact



Parking Behind Building
internalize parking structures where possible

The Contemporaine creates an integrated aesthetic by applying the same materiality and design sensibility to both the podium parking structure and residential units. The ground floor of the building is activated by retail on the primary street while the garage is accessed from an alley in back.

The Contemporaine
Chicago, IL
Perkins + Will

Parking Best Practices

Underground and Structured Parking
Parking should minimize its impact on the pedestrian environment and public realm.

- Locate entrances and exits along service alleys or business district streets.
- Minimize impact on building's architectural character. When building above structured parking, building and garage facades should be compatible in order to enhance overall architectural quality. Consider enhancements such as artwork, murals, interactive features, or vegetative screens.
- Minimize the width of driveways and height of garage entrances. Ensure adequate access clearances are being provided at all times for public safety vehicles.
- Combine loading dock and garage access, if feasible.

Surface Parking
When surface parking cannot be avoided, locate parking on the back or side of the building, with the building fronting the primary streets and sidewalks. Surface parking should not be visible from primary streets.

- Cover surface with a low-albedo pervious surface to reduce heat island warming. Provide tree canopy and permeable areas to treat stormwater.

Far Left:
University of Toronto Biosciences Lab
Toronto, ON
Foster + Partners

Middle:
Calit2, UC San Diego
La Jolla, CA

Left:
Harvard Graduate Housing
Cambridge, MA
Richard Burck Associates

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 Decoverly 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 Eig Highway and at Key West Avenue at Shady Grove Road

General

- Proposed R.O.W.
- Proposed Mass Transit
- Proposed Transit Stop
- Planning Area Outside District
- Planning Area Boundary

Building Height

- 150 ft Max.
- 80 ft Max.
- 42 - 60 ft Max. (*)

(*) Max. Heights within these areas shall be as follows:

1. 50 ft Max. within 100 ft distance from R.O.W.
2. As permitted by R60/TDR zone.
3. As permitted by O-M zone.
4. As permitted by O-M/C-2/H-M/PD zones. Refer to Master Plan for zone extents.

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

General

- Proposed R.O.W.
- Planning Area Outside District
- Planning Area Boundary

Building Height

- 50 - 110 ft Max. (*)

(*) Max. Heights within these areas shall be as follows:

1. As permitted by C-4 zone.
2. As permitted by R&D zone.
3. As permitted by MXN/LSC zones. Refer to Master Plan for zone extents.

Streets

Metro Light Rail
Phoenix, AZ

- Create safe, context-sensitive crossing at Great Seneca Highway and Darnestown Road and at Key West Avenue and Broschart Drive.
- Crossings should use special pavement, as well as other methods to alert drivers to the intersection.
- If grade-separated interchanges are necessary, minimize the total crossing distance and create pedestrian and bicycle friendly crossings to the extent possible.

Buildings

The Terry Thomas
Seattle, WA
Weber + Thompson

- In **LSC North**, street-oriented buildings should continue the urban fabric from Crown Farm
  - establish primary street wall along Broschart Drive and Decoverly Drive.
  - locate tallest building heights along Shady Grove Road and Key West Avenue.
- In **LSC South**, street-oriented buildings connect to LSC Central and West by focusing height at Darnestown Road crossings.
  - Continue street wall along Travilah Gateway Boulevard.

Open Space

South Boston Maritime Park
Boston, MA
Machado Silvetti Architects

Woodley Gardens Park
Rockville, MD

- Create the Traville Local Park as a large community oriented park with athletic fields and connections to trails in the stream valley parks.
- Enhance stream valley buffers with native planting and reforestation
- Use trees to provide shading for field spectators and create a sense of enclosure around athletic fields.

Attachment G

DEPARTMENT OF TRANSPORTATION

Isiah Leggett
County Executive

Arthur Holmes, Jr.
Director

November 9, 2012

Ms. Lori Shirley, Planner/Coordinator
Area 2 Planning Division
The Maryland-National Capital
Park & Planning Commission
8787 Georgia Avenue
Silver Spring, Maryland 20910-3760

RE: Preliminary Plan Amendment
No. 1-1986186A 8-20120190
Hanover Shady Grove

Dear Ms. Shirley:

We have completed our review of the preliminary plan dated June 11, 2012. This plan was reviewed by the Development Review Committee at its meeting on July 23, 2012. We recommend approval of the plan subject to the following comments:

All Planning Board Opinions relating to this plan or any subsequent revision, project plans or site plans should be submitted to the Department of Permitting Services in the package for record plats, storm drain, grading or paving plans, or application for access permit. Include this letter and all other correspondence from this department.

1. Delineate the proposed locations for B-9 and B-10. Coordinate plans with the Mallory Square development. Also show proposed access points as part of the Crown Farm development.

2. Dedicate right-of-way along Omega Dr (arterial road) in accordance with the master plan with consideration of bike facilities (LB-1 includes a shared use path along the west side of Omega Dr as well as shared lanes). Show right-of-way lines along both sides of public streets to confirm right-of-way.

3. Grant necessary slope and drainage easements. Slope easements are to be determined by study or set at the building restriction line.

4. Do not show any marked crosswalks on the preliminary plan.

Division of Traffic Engineering and Operations
100 Edison Park Drive, 4th Floor • Gaithersburg, Maryland 20878
Main Office 240-777-2190 • TTY 240-777-6013 • FAX 240-777-2080
trafficops@montgomerycountymd.gov

5. Submit amended storm drain study, with computations, for review and approval by the Department of Permitting Services prior to record plat submission. Analyze the capacity of the existing downstream public storm drain system and the impact of the post-development ten (10) year storm runoff on same. Inlet efficiency and spread computations are to be included in the impact analysis.

6. Private common driveways and private streets shall be determined through the subdivision process as part of the Planning Board's approval of a preliminary plan. The composition, typical section, horizontal alignment, profile, and drainage characteristics of private common driveways and private streets, beyond the public right-of-way, shall be approved by the Planning Board during their review of the preliminary plan.

7. In accordance with Section 49-33(e) of the Montgomery County Code, sidewalks are required to serve the proposed development. Sidewalks are to be provided on both sides of the public streets unless the applicant is able to obtain a waiver from the appropriate government agency.

8. Curb radii for intersection type driveways should be sufficient to accommodate the turning movements of the largest vehicle expected to frequent the site.

9. The applicant needs to submit a truck circulation plan for review by the M-NCPPC and MCDPS. This plan should delineate the proposed movements on-site between the anticipated access locations, the proposed truck loading spaces, and the proposed dumpsters. The truck circulation pattern and loading position should be designed for counter-clockwise entry and for a left-side backing maneuver. Passenger vehicle travel ways should be separated from the expected truck patterns and storage areas. The applicant may also need to provide documentation of their proposed delivery schedules.

10. The owner will be required to submit a recorded covenant for the operation and maintenance of private streets, storm drain systems, and/or open space areas prior to MCDPS approval of the record plat. The deed reference for this document is to be provided on the record plat.

11. Relocation of utilities along existing roads to accommodate any required roadway modifications shall be the responsibility of the applicant.

12. If the proposed development will alter any existing street lights, signing, and/or pavement markings, please contact Mr. Dan Sanayi of our Traffic Engineering Design and Operations Section at (240) 777-2190 for proper executing procedures. All costs associated with such relocations shall be the responsibility of the applicant.

13. If the proposed development will alter or impact any existing County maintained transportation system management component (i.e., traffic signals, signal poles, handboxes, surveillance cameras, etc.) or communication component (i.e., traffic signal interconnect, fiber optic lines, etc.), please contact Mr. Bruce Mangum of our Transportation Systems Engineering Team at (240) 777-2190 for proper executing procedures. All costs associated with such relocations shall be the responsibility of the applicant.

14. Trees in the County rights of way – spacing and species to be in accordance with the applicable MCDOT standards. Tree planning within the public right of way must be coordinated with Brett Linkletter, Chief of the Division of Highway Services, Tree Maintenance Section at (240) 777-7651.

15. Prior to approval of the record plat by MCDPS, the applicant will need to enter into a Traffic Mitigation Agreement with the Planning Board and this Department. Within MCDOT, the applicant should coordinate with Ms. Sandra Brecher, Chief of the Division of Transit Services/Commuter Services Section. Ms. Brecher may be contacted at 240-777-5800.

    The Traffic Mitigation Agreement will include measures to be taken to achieve the required trip reduction and will include a security instrument (letter of credit or performance bond) to guarantee achievement of trip reduction goals. The Agreement will include but not be limited to the following provisions:

    A. Participation in the Greater Shady Grove Transportation Management District.
    B. Provide carpool / vanpool parking.
    C. Electric Car Charging - Provide at least 2 electric car charging stations on-site.
    D. Car Sharing Parking - Provide at least 2 car sharing vehicle parking spaces in highly visible, preferentially-located spots in on-street locations or in accessible location within parking garage(s).
    E. Bike Sharing - provide space in the project for a bikesharing docking station to enable this form of transportation to be used by residents, employees and visitors. The location of the docking station will be selected by the Applicant with approval of MCDOT, based upon the requirements of the bikesharing system. The location must be a highly-visible, convenient and well-lit portion of the Project, possibly in the area designated for Public Use Space. If zoning regulations or other provisions adopted prior to building permit so provide, or if the development has a trip reduction requirement under PAMR: provide payment of capital costs of the bikesharing station and 12 years of operating costs. Applicant shall take other actions in concert with MCDOT to promote use of bikesharing among residents and visitors at the Project.
    F. Design building frontages or lobbies to provide for two-way visibility for transit vehicles, taxis, and shuttles.

16. Participate in the Life Sciences Center projects Road Club for off-site intersection modifications.

17. As noted in #11 of the sketch plan comments, consider incorporating the following into the design:

    A. Displays. Incorporate display space into residential lobbies and other areas of high pedestrian activity and opportunity for information on each level of parking facilities. Displays will contain materials explaining transportation options in the Greater Shady Grove area and the region.
    B. Provide opportunity and connections for electronic (LCD) display screens and Real Time Transit Information Signs in lobbies, elevators, and parking facilities. This will enable outreach to residents, employees and visitors, etc.
    C. Provide a concierge/reception desk with an area where transit information and pass sales can be transacted – e.g., obtaining transit information, loading of SmarTrip cards.
    D. On-site parking: provide the minimum number of parking spaces to encourage use of alternative forms of transportation.

18. Truck loading space requirements to be determined in accordance with the Executive Branch's "Off-Street Loading Space" policy. On the site plan, delineate the location and dimensions of the proposed truck loading and/or dumpster spaces.

19. Permit and bond will be required as a prerequisite to DPS approval of the record plat. The permit will include, but not necessarily be limited to, the following improvements:

    A. Street grading, paving, curbs and gutters, sidewalks and handicap ramps, storm drainage and appurtenances, and street trees along Research Blvd and Omega Dr as applicable.

       *** NOTE: the Public Utilities Easement is to be graded on a side slope not to exceed 4:1.**

    B. Enclosed storm drainage and/or engineered channel (in accordance with the MCDOT Storm Drain Design Criteria) within the County rights-of-way and all drainage easements.

    C. Permanent monuments and property line markers, as required by Section 50-24(e) of the Subdivision Regulations.

D. Erosion and sediment control measures as required by Section 50-35(j) and on-site stormwater management where applicable shall be provided by the Developer (at no cost to the County) at such locations deemed necessary by the Department of Permitting Services (DPS) and will comply with their specifications. Erosion and sediment control measures are to be built prior to construction of streets, houses and/or site grading and are to remain in operation (including maintenance) as long as deemed necessary by the DPS.

E. Developer shall provide street lights in accordance with the specifications, requirements, and standards prescribed by the MCDOT Division of Traffic Engineering and Operations.

Thank you for the opportunity to review this preliminary plan amendment. If you have any questions or comments regarding this letter, please contact Mr. Andrew Bossi, our Development Review Area Engineer for this project at andrew.bossi@montgomerycountymd.gov or (240) 777-2197.

Sincerely,

Andrew Bossi for Gregory M. Leck, Manager
Development Review Team

m:\correspondence\fy13\traffic\active\11986186a, hanover shady grove, prelim plan ltr.doc

CC: Adam Harbin, 5847 San Felipe, #3600, Houston, TX 77057
John Wilkinson, Shady Grove Investors
3 Bethesda Metro Center, #610, Bethesda, MD 20814
Scott Wallace, Linowes & Blocher, 7200 Wisconsin Ave, 8th Fl, Bethesda, MD 20814
K.C. Reed, Loiederman Soltesz, 2 Research Pl, #100, Rockville, MD 20850
Josh Sloan; M-NCPPC Area 2
Edward Axler; M-NCPPC Area 2
Preliminary Plan folder
Preliminary Plan letters notebook

cc-e: Leo Galanko; MCDPS WRM
Atiq Panjshiri; MCDPS RWPR
Sandra Brecher; MCDOT DTS
Brett Linkletter; MCDOT DHS
Dan Sanayi; MCDOT DTEO
Bruce Mangum; MCDOT DTEO
William Haynes; MCDOT DTEO
Andrew Bossi; MCDOT DTEO

Attachment H

Shady Grove
Preliminary Energy Model

Rockville, MD

LEED for Homes Mid-Rise Energy & Atmosphere
Credit 1.3 Submittal

NOT FOR LEED SUBMISSION

Prepared for

Hanover R.S. Limited Partnership

Prepared by

Jordan & Skala Engineers, Inc.
Dallas, TX

09/04/12

Table of Contents

G1.2 Performance Rating. This performance rating method requires conformance with the following provisions:
All requirements of Sections 5.4, 6.4, 7.4, 8.4, 9.4, and 10.4 are met. These sections contain the mandatory provisions of the standard and are prerequisites for this rating method. The improved performance of the proposed building design is calculation accordance with provisions of this appendix using the following formula:

Percentage improvement =
100 x (Baseline building performance
– Proposed building performance) / Baseline building performance

Notes:

1. Both the proposed building performance and the baseline building performance shall include all end-use load components, such as receptacle and process loads.
2. Neither the proposed building performance nor the baseline building performance are predictions of actual energy consumption or costs for the proposed design after construction. Actual experience will differ from these calculations due to variations such as occupancy, building operation and maintenance, weather, energy use not covered by this procedure, changes in energy rates between design of the building and occupancy, and the precision of the calculation tool.

Summary

The new construction Shady Grove multifamily project performs 17.9% better than ASHRAE 90.1-2007 requirements using the LEED for Homes Mid-Rise Energy Modeling Protocol and ASHRAE Appendix G Performance Rating methodology.

Project Narrative

Building Description

Shady Grove is located in Rockville, TX and consists of a four and a five story multifamily apartment building with 366 living units. Brick veneer, and stucco cover the building exterior and wooden beams and 2x6 exterior frame walls comprise the structural components. A low-sloped light colored roof covers the apartments, corridors, and amenity space. The total conditioned floor area is 399,232 square feet. The glazing area is approximately 31% of the total wall area. The five (5) level garage is naturally ventilated.

	Proposed U-values based on ASHRAE 90.1-2007 Appendix A	Baseline Based on 90.1-2007 Table 5.5-4
Wall	Wood framed walls, 16" o.c. with R-19 insulation U-0.067 Table A3.4	Steel Framed R-13+7.5ci, U-0.064
Floors	ASHRAE 90.1-2007 Appendix A Table A5.2, Mass with R-10.4 c.i., U-0.074	Steel-Joist with R-30, U-0.038
Roof	Attic & Other Insulation R-38, U-0.027 ASHRAE 90.1-2007 Appendix A Table A2.4 Reflectivity = 0.45	R-20 continuous insulation entirely above, U-0.048 Reflectivity = 0.3
Window U	U-0.30 (NFRC Rating)	U-0.40
Window SHGC	SHGC-0.40 (NFRC Rating)	SHGC-0.40

HVAC Systems

Space heating for the living units is provided by 7.7 HSPF split system heat pumps, with supplemental electric resistance heat. Cooling in the living units is provided through 13 SEER split system heat pump direct expansion units, located in closets. The air-cooled condensing units are located on the roof.

Space heating for the amenity areas is provided by 8.1 HSPF split system heat pumps with supplemental electric resistance heat. Cooling in the amenity areas is provided through 14 SEER split system heat pump direct expansion units. The air-cooled heat pump condensing units are located on the roof, and the air handlers are located in closets.

The corridors are cooled via 12 EER packaged rooftop units with 80% efficient natural gas hot water boiler to provide space heating.

All room temperature set points in both the design and proposed cases are 78°F DB in the summer and 72°F DB in the winter. Thermostat control in both the baseline and proposed models are proportional control and has a throttling range of 1.5°F DB in both heating and cooling mode. The thermostats used in the building are 7-day programmable thermostats.

Energy Model Software and General Inputs

Both the baseline model and proposed energy model were modeled using *Carrier HAP* version 4.61 software. *Carrier HAP* is an approved program meeting the requirements set forth by ASHRAE 140 for energy modeling to determine annual energy consumption.

Electric rates used in the energy model are from the Department of Energy's Energy Information Administration state average for Maryland in 2010. Energy cost in both the baseline and proposed models are calculated using an electric rate of $0.1432/kWh.

Gas rates used in the energy model are from the Department of Energy's Energy Information Administration state average for Maryland in 2010. Energy cost in both the baseline and proposed models are calculated using a gas rate of $12.44/MCF.

The climate data used for the energy model was USA_DC_WASHINGTON_TMY1.HW1.

Building Energy Efficiencies Measures

Lighting

The lighting input in the residential apartment areas was set to 1.1 W/ft^2 and operates 2.34 hours per day, based on the Energy Star Energy Simulation Guidelines for Multifamily Buildings, in both the design and baseline models to account for any unregulated lighting the occupants may use after the building is occupied. The energy model does not take credit for lighting in the residential areas. The amenity space lighting was set to 0.7 W/SF, based on the whole building method in ASHRAE 90.1-2007, Table 9.5.1.

The baseline garage is modeled at 0.3 W/SF. The proposed garage is designed at 0.13 W/SF based on linear fluorescents. These lights are on 24-hours per day to maintain light levels.

Additional Insulation

The R-value for the walls is R-19 in wood frame, compared to R-13 +7.5ci for steel frame allowed by ASHRAE 90.1-2007 Table 5.5-4 for residential buildings.

The R-value for the roof is R-38 attic insulation, compared to R-20ci entirely above deck allowed by ASHRAE 90.1-2007 for insulation entirely above deck.

Higher Performance Glazing

The NFRC U-value for the glazing is 0.30, compared to 0.40 allowed by ASHRAE 90.1-2007.

The Solar Heat Gain Coefficient is 0.40, matching 0.40 allowed by ASHRAE 90.1-2007.

Apartment Unit Mechanical Systems

The apartment units are cooled by 13 SEER heat pump direct expansion systems. Refer to M1.1.0 for the equipment capacities. The baseline model HVAC system for residential buildings is a PTHP with an efficiency rating that uses the equation 12.3-(0.213xCap/1000) EER, with a minimum of 9.1 EER.

The heating for the living units is heat pump heating with an 7.7 HSPF and supplemental electric resistance heat with a thermal efficiency of 1.0 COP. The baseline model HVAC system for residential buildings is PTHP with an efficiency rating that uses the equation 3.2-(0.026*Cap/1000), with a minimum of 2.81 COP.

The supply fans in the baseline and proposed operate during occupied mode and cycle during unoccupied mode with the heating and cooling loads.

A high sidewall or ceiling transfer grille provides a free air path into the mechanical closet. Supply air is ducted and distributed through ceiling diffusers to the space.

Common Area Mechanical Systems

The variation in system types for the baseline systems is based on G3.1.1 exception 'a'. The amenity areas do not qualify as residential spaces and there PSZ-HP. The corridors spaces do qualify as residential spaces however, since a different heating source is used in the proposed the baseline for the corridors is a PTAC rather than a PTHP.

The amenity areas are cooled via 14.0 SEER heat pump direct expansion split systems. The baseline for these areas HVAC systems are 13.0 SEER or 11.0 EER PSZ-HP systems based on the size of the equipment.

The heating for the amenity areas is heat pump heating with an 8.1 HSPF and supplemental electric resistance heat with a thermal efficiency of 1.0 COP. The baseline for these areas HVAC systems are heated at an efficiency of 7.7 HSPF or 3.3 COP based upon the size of the system.

The corridors are cooled via 12.0 EER roof top units and heated with natural gas systems with an 80% efficiency. The baseline corridors are cooled by a 9.30 EER packaged terminal air conditioner and heated with natural gas boiler system with 80% efficiency.

The fan in both the baseline and proposed are set to run continuously during occupied hours to supply the minimum outside air required for ventilation purposes. The fan cycles during unoccupied hours to meet the heating and cooling requirements.

For split systems, the return is ducted to the air handler from a return grille and outside air is ducted into the return air mixing box. For the RTUs, the return air is ducted from return grilles and outside air is brought in directly through the RTU. Supply air is ducted and distributed through ceiling diffusers to the space.

Apartment Unit Water Heaters

Water is heated for each apartment by an electric resistance water heater located in each apartment. Single bedroom apartments have a 40-gallon, 4.5 kW, water heater with an efficiency factor of 0.92. The two and three bedroom and apartments have a 50-gallon, 6.0 kW water heater with an efficiency factor of 0.91. The baseline for the water heater efficiency factor in ASHRAE 90.1-2007 is given by an equation rating to the volume, 0.93-0.00132*V. For each water heater the minimum efficiency used is 0.86 EF for the 50-gallon heaters and 0.88 EF for the 40-gallon heaters.

Description of Difference Between ASHRAE 90.1-2007 Baseline Building and Proposed Design

Below is a table showing the breakdown of schedules, equipment, and efficiencies.

Energy Star Appliances

The appliances eligible for an Energy Star Rating including the Refrigerator, Dishwasher and Clothes Washer are Energy Star appliances. Using the Energy Star Multifamily High Rise Program Simulation Guidelines version 1.0 dated March 2011 the following annual energy consumption was used in the energy model.

Appliance	Baseline (Non-Energy Star) Energy Consumption per apartment unit	Proposed (Energy Star) Energy Consumption per apartment unit
Refrigerator	529 kWh/year	423 kWh/year
Dishwasher	206 kWh/year	164 kWh/year
Clothes Washer	81 kWh/year	57 kWh/year
Cooking (Electric Stove/Range) (Energy Star Rating is not available)	604 kWh/year	604 kWh/year
Clothes Dryer (Energy Star Rating is not available)	1 Bedroom: 557 kWh/year 2 Bedroom: 696 kWh/year 3 Bedroom: 835 kWh/year	1 Bedroom: 557 kWh/year 2 Bedroom: 696 kWh/year 3 Bedroom: 835 kWh/year

Detailed Comparison of Design and Baseline Cases

Table 1: Description of Proposed Energy Cost and Base Building Cost

Building Element	**Building Design** (Proposed Energy Cost) U-values based on ASHRAE 90.1-2007 Appendix A Values	**Baseline Building** ASHRAE 90.1-2007 Appendix G Performance Rating Performance (Base Building Cost)
Climate Zone		
	4A	4A
Building Envelope		
Wall Construction	2x6 Wood Stud Exterior Walls with R-19 batt insulation. U-value: 0.067 ASHRAE 90.1-2007 Appendix A Table A3.4	2x4 Exterior Steel Stud walls with R-13 batt insulation+7.5 ci based on Table 5.5-4 Metal Building, Walls, Above Grade. U-value: 0.064
Windows	Aluminum Frame Operable Windows U-Value = 0.30, SHGC = 0.40 Based on Manufacturer's Cutsheet	Fixed windows U-Value = 0.40, SHGCall=0.40 based on Table 5.5-4 for Residential
Roof	Attic & Other Insulation R-38, U-value: 0.027 ASHRAE 90.1-2007 Appendix A Table A2.4 Reflectivity = 0.45	R-20 continuous insulation entirely above deck based on Table 5.5-4 for Residential. U-value: 0.048 Reflectivity = 0.3
Floors	ASHRAE 90.1-2007 Appendix A Table A5.2, Mass with R-10.4 c.i., U-value: 0.074	ASHRAE 90.1-2007 Table 5.5-4, Steel-Joist with R-30, U-value: 0.038
Electrical Systems		
Lighting Power Density	Dwelling Units: 1.1 W/ft^2 Amenity Spaces: 0.7 W/ft^2 Garage: 0.13 W/ft^2	Dwelling Units: 1.1 W/ft^2 Amenity Spaces: 0.7 W/ft^2 Garage: 0.30W/ft^2
Equipment Power Density (Unregulated load)	Residential: 0.5 W/ft^2 Process Lighting	Residential: 0.5 W/ft^2 Process Lighting
Site Lighting	Exterior Lighting: 7 kW	Exterior Lighting: 7 kW
Occupancy Density		
Occupancy	Residential: # Bedrooms +1/person Amenity: 20 ft^2/person to 200 ft^2/person	Residential: # Bedrooms +1/person Amenity: 20 ft^2/person to 200 ft^2/person

<table>
<tr><td colspan="3">Schedules</td></tr>
<tr><td>Occupancy</td><td>Residential: See Typical Occupancy Schedule
Amenity Area: 8am-5pm 100% Occupied</td><td>Residential: See Typical Occupancy Schedule
Amenity Area: 8am-5pm 100% Occupied</td></tr>
<tr><td>Lighting, Equipment</td><td>Residential: See Typical Lighting and Equipment Schedule
Amenity Area: 8am-5pm 100% Full Load</td><td>Residential: See Typical Lighting and Equipment Schedule
Amenity Area: 8am-5pm 100% Full Load</td></tr>
<tr><td>HVAC</td><td>All Fans operate continuously during occupied hours, compressors cycle on/off. Fans cycle on/off during unoccupied hours.</td><td>All Fans operate continuously during occupied hours, compressors cycle on/off. Fans cycle on/off during unoccupied hours.</td></tr>
<tr><td colspan="3">Mechanical Systems</td></tr>
<tr><td>Efficiencies</td><td>Cooling
Residential System #1 = 13 SEER
Amenity System #2 = 14 SEER
Corridor System #3 = 12 EER

Heating
Residential System #1 = 7.7 HSPF and 1 COP
Amenity System #2 = 8.1 HSPF and 1 COP
Corridor System #3 = 80%</td><td>Cooling
System #1 = 9.1 EER PTHP
System #2 =
<table><tr><td>System</td><td>Cooling Efficiency</td></tr><tr><td>AH-C01</td><td>11 EER</td></tr><tr><td>AH-C02</td><td>13 SEER</td></tr><tr><td>AH-C03</td><td>13 SEER</td></tr><tr><td>AH-C04</td><td>11 EER</td></tr><tr><td>AH-C05</td><td>13 SEER</td></tr><tr><td>AH-C06</td><td>13 SEER</td></tr><tr><td>AH-C07</td><td>13 SEER</td></tr></table>System #3 = 9.3 EER PTAC

Heating
System #1 = 2.81 COP PTHP
System #2 =
<table><tr><td>System</td><td>Heating Efficiency</td></tr><tr><td>AH-C01</td><td>3.3 COP</td></tr><tr><td>AH-C02</td><td>7.7 HSPF</td></tr><tr><td>AH-C03</td><td>7.7 HSPF</td></tr><tr><td>AH-C04</td><td>3.3 COP</td></tr><tr><td>AH-C05</td><td>7.7 HSPF</td></tr><tr><td>AH-C06</td><td>7.7 HSPF</td></tr><tr><td>AH-C07</td><td>7.7 HSPF</td></tr></table>System #3 = 80% Boiler, with a 19 W/gpm pump. Return water temperature is 130°F. Water reset based on G3.1.3.4</td></tr>
<tr><td colspan="3">Water Heating Equipment</td></tr>
<tr><td>Efficiencies</td><td>40 gallon = 0.92 EF
50 gallon = 0.91 EF</td><td>40 gallon = 0.88 EF
50 gallon = 0.86 EF</td></tr>
</table>

General Information

Simulation Program Name and Version ..... **Hourly Analysis Program v4.60**
Simulation Weather File Name ..... **Washington, Dist. of Columbia (TMY)**

Building Designations

Proposed Building ..... **[P] - Propsed**
Baseline - 0 degrees ..... **[B000] - Baseline**
Baseline - 90 degrees ..... **[B090] - Baseline**
Baseline - 180 degrees ..... **[B180] - Baseline**
Baseline - 270 degrees ..... **[B270] - Baseline**

Floor Areas and Window-to-Wall Ratios

	Proposed Design	Baseline
Total Conditioned Floor Area (ft²)	399,232	399,232
Total Floor Area (ft²)	399,232	399,232
Window to Wall Ratio	31 %	31 %
Gross Wall Area (ft²)	136,817	136,817
Vertical Window Area (ft²)	42,216	42,216

Advisory Messages

	Proposed Building	Baseline Building (0 deg. rotation)	Difference
Number of hours heating loads not met	0	0	0
Number of hours cooling loads not met	0	0	0

Energy Type Summary

Energy Type	Utility Rate Description	Units of Energy	Units of Demand
Electric	Maryland 2010	kWh	kW
Natural Gas	EIA Maryland 2010	MCF	MBH

Energy Units:
1 kBTU = 1,000 BTU
1 kWh = 3.412 kBTU
1 MCF = 1,000.000 kBTU

Demand Units:
1 MBH = 1,000 BTU/h
1 kW = 3.412 MBH

Baseline Performance - Performance Rating Method Compliance

End Use	Process	Baseline Design Energy Type	Units of Annual Energy & Peak Demand	Baseline (0 deg rotation)	Baseline (90 deg rotation)	Baseline (180 deg rotation)	Baseline (270 deg rotation)	Baseline Design
Interior Lighting	No	Electric	Energy kWh	596,490	596,490	596,490	596,490	596,490
			Demand kW	73.4	73.4	73.4	73.4	73.4
Space Heating	No	Electric	Energy kWh	256,885	249,571	236,027	245,726	247,052
			Demand kW	475.6	457.8	447.0	455.6	459.0
Space Heating	No	Natural Gas	Energy MCF	92	93	93	92	93
			Demand MBH	189.0	189.2	187.2	187.2	188.1
Space Cooling	No	Electric	Energy kWh	364,896	366,640	386,060	368,800	371,599
			Demand kW	275.3	263.0	273.5	269.2	270.3
Pumps	No	Electric	Energy kWh	1,064	1,067	1,065	1,065	1,065
			Demand kW	0.3	0.3	0.3	0.3	0.3
Heat Rejection	No	Electric	Energy kWh	0	0	0	0	0
			Demand kW	0.0	0.0	0.0	0.0	0.0
Fans - Interior	No	Electric	Energy kWh	587,998	584,118	615,641	598,738	596,624

			Demand kW	67.1	66.7	70.3	68.3	68.1
Receptacle Equipment	Yes	Electric	Energy kWh	407,839	407,839	407,839	407,839	407,839
			Demand kW	178.0	178.0	178.0	178.0	178.0
Site Lighting	No	Electric	Energy kWh	28,105	28,105	28,105	28,105	28,105
			Demand kW	7.0	7.0	7.0	7.0	7.0
Refrigerator	Yes	Electric	Energy kWh	193,758	193,758	193,758	193,758	193,758
			Demand kW	57.0	57.0	57.0	57.0	57.0
Dishwasher	Yes	Electric	Energy kWh	75,299	75,299	75,299	75,299	75,299
			Demand kW	22.1	22.1	22.1	22.1	22.1
Clothes Washer	Yes	Electric	Energy kWh	29,691	29,691	29,691	29,691	29,691
			Demand kW	8.7	8.7	8.7	8.7	8.7
Cooking (Electric)	Yes	Electric	Energy kWh	221,001	221,001	221,001	221,001	221,001
			Demand kW	65.0	65.0	65.0	65.0	65.0
Clothes Dryer	Yes	Electric	Energy kWh	228,041	228,041	228,041	228,041	228,041
			Demand kW	67.1	67.1	67.1	67.1	67.1
Elevator	No	Electric	Energy kWh	35,040	35,040	35,040	35,040	35,040
			Demand kW	4.0	4.0	4.0	4.0	4.0
Hot Water Heater	No	Electric	Energy kWh	780,922	780,922	780,922	780,922	780,922
			Demand kW	142.0	142.0	142.0	142.0	142.0
Unconditioned Lighting	No	Electric	Energy kWh	278,568	278,568	278,568	278,568	278,568
			Demand kW	31.8	31.8	31.8	31.8	31.8
Unconditioned Loads	Yes	Electric	Energy kWh	5,429	5,429	5,429	5,429	5,429
			Demand kW	0.6	0.6	0.6	0.6	0.6
Baseline Energy Totals	Total Annual Energy Use kBTU			14,050,969	14,019,379	14,146,534	14,062,733	14,069,904
	Annual Process Energy kBTU							3,961,531
	Process Energy Modeling Compliance							Y

(1) This form determines compliance using cost calculations from Section 1.9. Process Energy Costs should be modeled to accurately reflect the proposed building. Process Energy must be the same in the baseline and proposed cases, unless an exceptional calculation is used. Process energy costs must be at least 25% of the total baseline energy costs. Any exceptions must be supported by a narrative and/or other supporting doucmentation.
(2) In this project Process Energy is 28% of total baseline energy cost.

Baseline Energy Costs

Energy Type	Baseline Cost (0 deg rotation) ($)	Baseline Cost (90 deg rotation) ($)	Baseline Cost (180 deg rotation) ($)	Baseline Cost (270 deg rotation) ($)	Baseline Building Performance ($)
Electric	585,835	584,482	589,837	586,334	586,622
Natural Gas	1,149	1,157	1,152	1,148	1,152
Total Baseline Costs	**586,984**	**585,639**	**590,989**	**587,482**	**587,774**

Performance Rating Table - Performance Rating Method Compliance

End Use	Process ?	Baseline Building Units	Baseline Building Results	Proposed Design Energy Type	Proposed Design Units	Proposed Building Results	Percent Savings
Interior Lighting	No	Energy kWh	596,490	Electric	Energy kWh	596,490	0 %
		Demand kW	73.4		Demand kW	73.4	0 %
Space Heating	No	Energy kWh	247,052	Electric	Energy kWh	182,554	26 %
		Demand kW	459.0		Demand kW	357.3	22 %
Space Heating	No	Energy MCF	93	Natural Gas	Energy MCF	74	20 %
		Demand MBH	188.1		Demand MBH	176.5	6 %
Space Cooling	No	Energy kWh	371,599	Electric	Energy kWh	310,020	17 %
		Demand kW	270.3		Demand kW	221.1	18 %
Pumps	No	Energy kWh	1,065	Electric	Energy kWh	0	100 %
		Demand kW	0.3		Demand kW	0.0	100 %

Heat Rejection	No	Energy kWh	0	Electric	Energy kWh	0	n/a
		Demand kW	0.0		Demand kW	0.0	n/a
Fans - Interior	No	Energy kWh	596,624	Electric	Energy kWh	417,100	30 %
		Demand kW	68.1		Demand kW	47.6	30 %
Receptacle Equipment	Yes	Energy kWh	407,839	Electric	Energy kWh	407,839	0 %
		Demand kW	178.0		Demand kW	178.0	0 %
Site Lighting	No	Energy kWh	28,105	Electric	Energy kWh	28,105	0 %
		Demand kW	7.0		Demand kW	7.0	0 %
Refrigerator	Yes	Energy kWh	193,758	Electric	Energy kWh	154,884	20 %
		Demand kW	57.0		Demand kW	45.5	20 %
Dishwasher	Yes	Energy kWh	75,299	Electric	Energy kWh	59,995	20 %
		Demand kW	22.1		Demand kW	17.6	20 %
Clothes Washer	Yes	Energy kWh	29,691	Electric	Energy kWh	20,814	30 %
		Demand kW	8.7		Demand kW	6.1	30 %
Cooking (Electric)	Yes	Energy kWh	221,001	Electric	Energy kWh	221,001	0 %
		Demand kW	65.0		Demand kW	65.0	0 %
Clothes Dryer	Yes	Energy kWh	228,041	Electric	Energy kWh	228,041	0 %
		Demand kW	67.1		Demand kW	67.1	0 %
Elevator	No	Energy kWh	35,040	Electric	Energy kWh	35,040	0 %
		Demand kW	4.0		Demand kW	4.0	0 %
Hot Water Heater	No	Energy kWh	780,922	Electric	Energy kWh	545,259	30 %
		Demand kW	142.0		Demand kW	99.1	30 %
Unconditioned Lighting	No	Energy kWh	278,568	Electric	Energy kWh	149,796	46 %
		Demand kW	31.8		Demand kW	17.1	46 %
Unconditioned Loads	Yes	Energy kWh	5,429	Electric	Energy kWh	5,429	0 %
		Demand kW	0.6		Demand kW	0.6	0 %
Energy Totals	Baseline Total Energy Use (kBTU)		14,069,904	Proposed Total Energy Use (kBTU)		11,546,218	18 %
	Baseline Annual Process Energy (kBTU)		3,961,531	Proposed Annual Process Energy (kBTU)		3,746,385	5 %

Energy Cost and Consumption by Energy Type - Performance Rating Method Compliance

	Proposed Design		Baseline Design	
Energy Type	**Energy Use**	**Cost ($)**	**Energy Use**	**Cost ($)**
Electric	3,362,369 kWh	481,491	4,096,523 kWh	586,622
Natural Gas	74 MCF	918	93 MCF	1,152
Subtotal (Model Outputs)	**11,546,218 kBTU**	**482,410**	**14,069,904 kBTU**	**587,774**
	Energy Generated	**Renewable Energy Cost Savings ($)**		
Total On Site Renewable Energy				
	Energy Savings	**Cost Savings ($)**		
Exceptional Calculation Totals				
	Energy Use	**Cost ($)**		
Net Proposed Design Total	**11,546,218 kBTU**	**482,410**		
	Percent Savings		**Energy Use Intensity**	
	Energy	**Cost**	**Proposed Design (kBTU/ft²)**	**Baseline Design (kBTU/ft²)**
Summary Data	**17.9 %**	**17.9 %**	**28.92**	**35.24**

LEED 2009 EA Credit 1 Points Reference Table

New Construction % Cost Savings	Existing Building Renovations % Cost Savings	LEED 2009 Points Awarded
12%	8%	1 pt
14%	10%	2 pt
16%	12%	3 pts
18%	14%	4 pts
20%	16%	5 pts
22%	18%	6 pts
24%	20%	7 pts
26%	22%	8 pts
28%	24%	9 pts
30%	26%	10 pts
32%	28%	11 pts
34%	30%	12 pts
36%	32%	13 pts
38%	34%	14 pts
40%	36%	15 pts
42%	38%	16 pts
44%	40%	17 pts
46%	42%	18 pts
48%	44%	19 pts

Attachment I

HANOVER SHADY GROVE
SITE PLAN NO. 820120190
SUPPLEMENTAL NARRATIVE

In response to DRC comments received for Hanover Shady Grove (Site Plan No. 820120190) (the "Project"), Hanover R.S. Limited Partnership ("Hanover") is pleased to submit this supplemental narrative to highlight some of the features of the Project that give rise to the "exceptional design" classification and warrant incentive density credit. Also, for additional discussion of the design features of the Project, including illustrative pictures, please consult the Statement of Justification and supporting materials submitted at Sketch Plan and again at Site Plan and Preliminary Plan.

(f) *Exceptional Design*: Up to 10 points for building or site design whose visual and functional impacts enhance the character of a setting and the purposes delineated in this Section.

1. Provides innovative solutions in response to the immediate context.

- The Project makes great use of the last development opportunity within the Shady Grove Executive Center and, in so doing, provides innovative solutions in response to the immediate context and existing development conditions. The existing conditions of the Shady Grove Executive Center includes an under-utilized parking garage dedicated to one office building and a separate surface parking lot (located on a portion of the Hanover site) dedicated to another office building. As part of the design of the Hanover site, the Project (a) will utilize the excess parking in the existing garage, sharing parking with the office workers and connecting the existing garage to one of the Project's residential buildings via a two-level resident skybridge; and (b) will relocate the existing surface parking into the basement level of a new, to-be-constructed structured parking garage that will serve the second residential building of the Project. This component of the Project's design exemplifies reuse of existing facilities, reducing to the extent possible the demolition of existing uses and the impact of entirely new construction. This allows Hanover to deliver a compact and efficient infill site, consistent with the stated goals of the Master Plan.

2. Creates a sense of place and serves as a landmark.

- There elements of the Project create a sense of place for residents and visitors:
  - The centrally located 15,000 SF civic green anchors the Project as the landmark gathering place for the residential community.
  - A logia has been incorporated in the design of Building 1 that creates a visual connection between the civic green and the private outdoor amenity space in the courtyard of Building 1. This creates a link between tenants enjoying

private amenities and visitors and residents using the civic green as a public amenity.

- To generate residential activity at street level, several units have entrances and stoops adjacent to streets and sidewalks.

Overall, these three components of the Project – the civic green, the logia, and street level unit entrances - ensure that tenants and visitors will experience the Project as a residential community.

3. Enhances the public realm in a distinct and original manner.

- The design of the Project protects and enhances almost all existing on-site open space within the Executive Center (currently enjoyed by the office workers), but it also the civic green that will be available to the public. This new outdoor amenity space will replace an existing but vacant and dilapidated drive-through bank. The civic green will feature specialty paving and hardscape, outdoor seating areas, flowering and ornamental trees, an open lawn, and publicly-accessible bicycle parking, all of which will combine to make the space inviting and attractive to residents, employees of the Executive Center, and visitors to the community. In addition, the civic green will be adjacent to an existing approximately 1.2 acre forested area that will be preserved as part of the Project.

4. Introduces new materials, forms or building methods.

- In terms of architecture, the design of the Project features high-quality building materials (including stacked stone facades) and unique design solutions intended to activate the streetscape (including stoops and walk-out units, numerous balconies, and ground-level amenity space). The Project also features structured parking, enclosed corridors, elevators, and similar features that separate it from much of the existing rental product in the marketplace. The project will also provide 8 units that meet ASHTA standards for accessibility. This will provide quality housing opportunities for an underserved sector of the population. Finally, as discussed below, the Project includes best-in-class finishes and amenity spaces. Through this design, the Project will serve as a landmark luxury housing project in the midst of a mixed-use environment, all within walking distance from a myriad of transit, employment, and entertainment options.

5. Uses design solutions to make compact, infill development living, working and shopping environments more pleasurable and desirable.

- Hanover has approached the design of the Project thoughtfully, such that it serves as the final piece of the development puzzle in an otherwise built-out office complex. By bringing a mixed-use component to the Shady Grove Executive Center, Hanover furthers the goals of the Great Seneca Science Corridor Master Plan (the "Master Plan"), which specifically recommends mixed-use infill for the Executive Center and which encourages residential use for the Hanover site itself. Hanover designed the Project with these goals in mind, in terms of scale/integration, placement, and architecture.

  The Project fits well within the existing fabric of the Executive Center, as the proposed residential buildings are of similar height and bulk as the existing office buildings in the Executive Center. In addition, the residential buildings will be integrated with existing development through shared infrastructures and pedestrian and vehicular circulation networks. This results in a compact, infill development that promotes a live-work-play atmosphere in line with the tenets of new urbanism and smart growth.

6. Integrates low-impact development methods into the overall design of the site and building.

- Hanover has exceeded County requirements with respect to sustainability. Though the County regulations would only require one of the two buildings that comprise the Project to be LEED certified (as only one of the two buildings is five-stories or more), Hanover has elected to pursue and obtain LEED certification (via the LEED for Homes program) for *both* buildings. Please see the attached draft LEED scorecard for a detailed projection of Hanover's proposed sustainability strategies.