



**Site Plan, 820110140: Anselmo Property**



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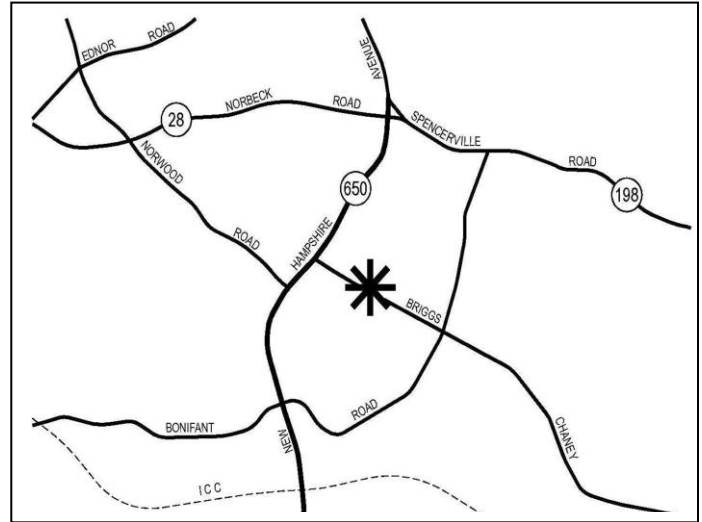
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**description**

- A. Site Plan 820110140 Anselmo Property**  
38 dwelling units (including 12.5% MPDUs), at the southern terminus of Rainbow Drive on the north side of Briggs Chaney Road, 42.28 acres, RE-1 Zone, Cloverly Planning Area, Upper Paint Branch Environmental Overlay Zone.

*Staff recommendation: Approval, with conditions*



**summary**

The site plan proposes 38 residential units including 33 one-family detached, 3 one-family attached (townhomes) and 2 one-family semi-detached. Moderately Priced Dwelling Units (MDPU's) must be provided in accordance with Chapter 25A of the Zoning Ordinance. The three townhomes and two semi-detached houses constitute the 12.5% minimum number of MPDU's that are required under the law. No density bonus is being achieved for this proposal. The alignment of the roads leading into this site were approved as part of the preliminary plan as were certain hardscape features that affected the impervious coverage, including sidewalks, driveways and frontage improvements. The site plan incorporates all of the decisions made with respect to these features at the preliminary plan stage and is substantially unchanged from the preliminary plan layout except to address certain pavement features.

Staff has received only one phone call from a neighbor on this application expressing opposition due to a perceived negative impact by this development on local home values and quality of life. The applicant was able to respond to one of the neighbor's issue by expanding the width of a common open space strip to provided additional screening and create a wider setback.

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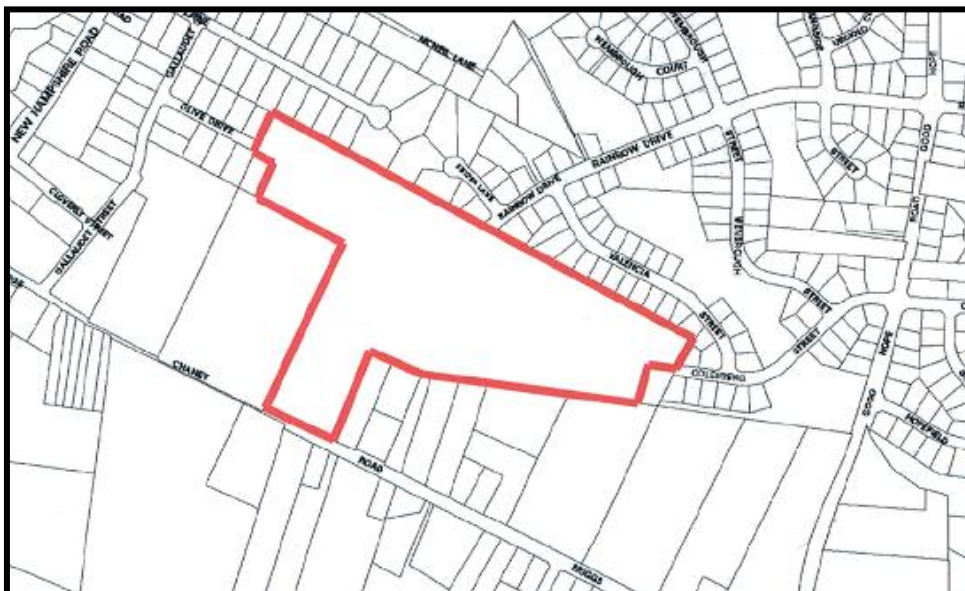
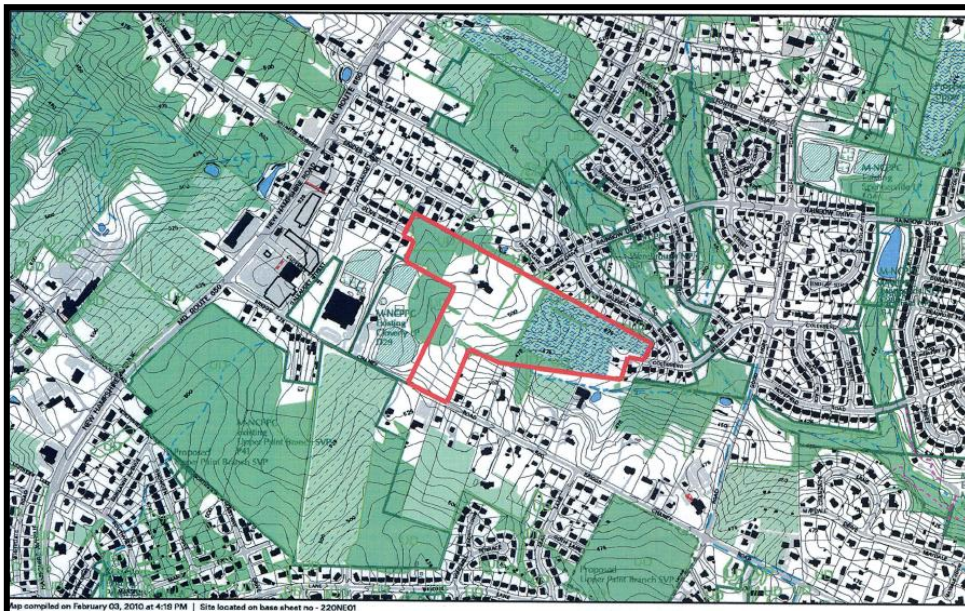
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# SECTION 1: CONTEXT AND PROPOSAL

## SITE DESCRIPTION

### Vicinity

The "Subject Property" is located at 1010 Briggs Chaney Road, Silver Spring, MD in the Cloverly Planning Area and in the Upper Paint Branch Environmental Overlay Zone. The Property fronts on Briggs Chaney Road, a two-lane arterial with a minimum right-of-way width of 80 feet. It is located immediately east and north of the M-NCPPC's Cloverly Park. The Cloverly Elementary School lies to the west of the Park and the Cloverly Shopping Center is to the west of the school at the intersection of Briggs Chaney Road and New Hampshire Avenue. One-family detached residential uses surround the Property to the north, west and south.

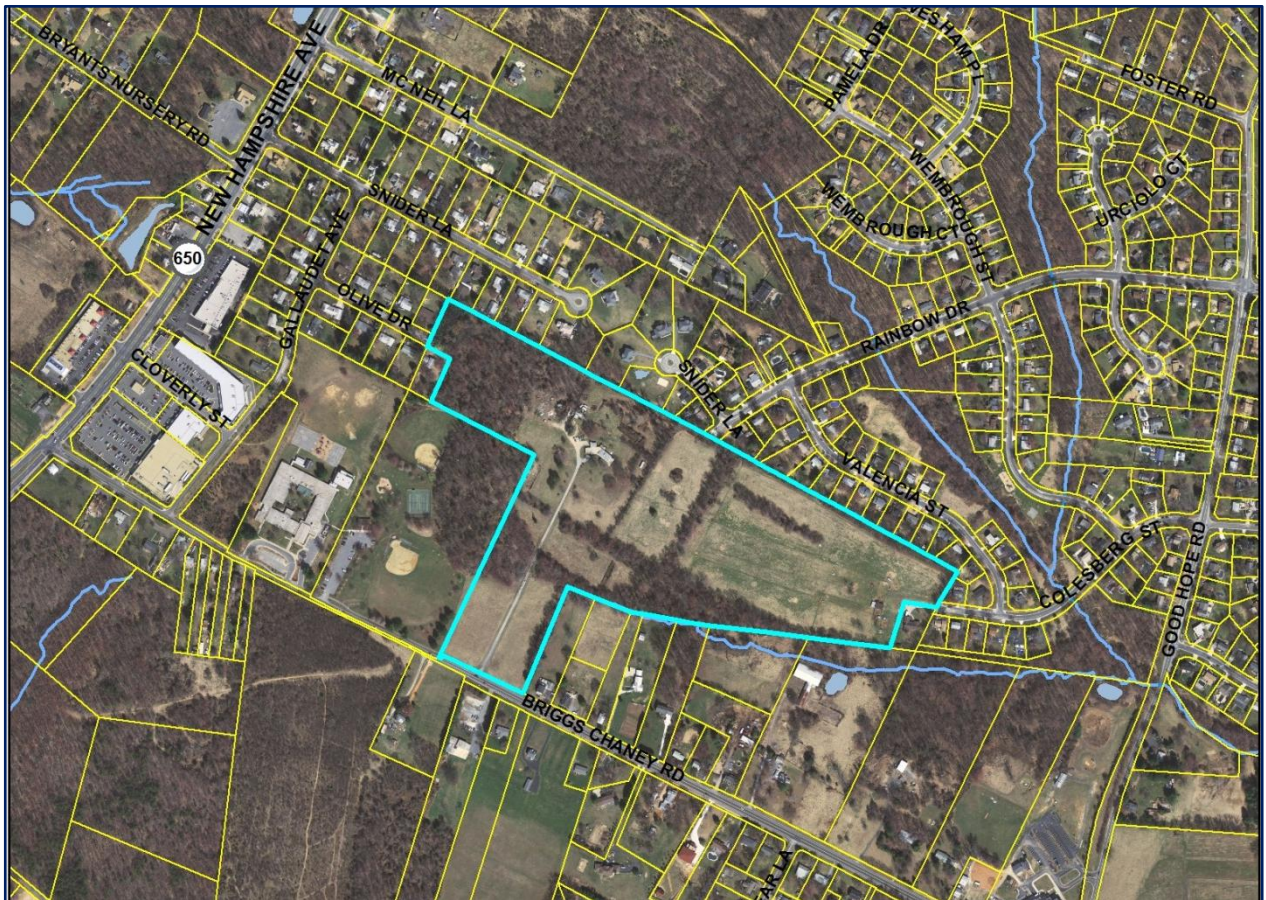


## Site Analysis

The subject property "Subject Property" or "Property" is identified as an unplatted parcel, P183, on Tax Map JS 61. It is 42.28 acres in size and is zoned RE-1. It is located in the Cloverly Planning Area and is in the Upper Paint Branch Environmental Overlay Zone where imperviousness for new development is limited to 8%.

A Use III-P stream originates on, and bisects, the Property and is a headwater stream to the Paint Branch stream system. There is forest on the Property that is generally located in the southern portion of the site within the stream valley buffer. There is also another area of forest in the western portion of the Property at the terminus of Olive Street. The remainder of the property is in open field, and there is an existing one-family residential structure in the center of the site with a driveway to Briggs Chaney Road.

Three roads currently terminate at the property boundary. Rainbow Drive, a master planned primary residential street with a 70 foot right-of-way, terminates at the northern boundary. Olive Drive, a secondary residential street with a 60 foot right-of-way, terminates at the western boundary of the Property. Colesberg Street is also a secondary street, and it terminates along the eastern boundary. It is apparent that all three roads were planned to extend onto the Subject Property and perhaps intersect.



## **PROJECT DESCRIPTION**

### **Previous Approvals**

On February 2, 2009, the Planning Board considered a non-binding pre-preliminary plan for the same Property showing 51 lots using the MPDU development options with a density bonus.

On December 9<sup>th</sup>, 2010, the Planning Board approved with conditions **Preliminary Plan 120100160** for the Anselmo Property (Planning Board Resolution date 03/31/2011) for 38 lots (including 13.2 percent MPDUs) on 42.28 acres. A Preliminary Forest Conservation Plan, including a Variance for impacts and removal of subject trees, and Special Protection Area Preliminary Water Quality Plan were also approved by the Planning Board at that hearing.

### **Proposal**

The application proposes 38 residential units including 33 one-family detached, 3 one-family attached (townhomes), and 2 one-family semi-detached. Because the application proposes twenty or more units, Moderately Priced Dwelling Units (MDPU's) must be provided in accordance with Chapter 25A of the Zoning Ordinance. The three townhomes and two semi-detached houses constitute the 12.5% percent minimum number of MPDU's that are required. The application is developing under the optional method for MPDU developments which allows for a variation in building types and lot sizes. No density bonus is being achieved for this proposal.

### **Community Outreach**

The applicant has met all signage, noticing, and meeting requirements. A Pre-Submission Meeting was held on April 5<sup>th</sup>, 2011 at Cloverly Elementary School. The applicant received and addressed community questions during the Pre-Submission Meeting. Staff fielded one phone call from the property owner (Mr. Weidner) in the southwest corner of the intersection of Rainbow Drive and Snider Lane who was concerned about the development as a whole and his perception that it would negatively affect his home value and the quality of his neighborhood. Staff asked if there was something specific about the plan that directly affected his property, and he suggested that the proximity of the proposed lot closest to his rear yard would be too close. Staff asked the applicant to increase the width of the strip of common open space between his lot and the proposed lot to allow additional plantings and setback to any proposed structure. The common space strip was widened from 12 feet to 20 feet and 4 additional white spruce trees are proposed in the Landscape Plan for this immediate area. The intervening strip will be planted with seven white spruce trees, three red oaks, and three cedars to provide screening and to widen the existing overstory. No other comments were received from the neighbors.

## SECTION 2: SITE PLAN REVIEW

### 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.*

Neither a development plan, diagrammatic plan nor a schematic development plan was required for the subject site.

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.*

As demonstrated in the Data Table below, the Site Plan meets all of the requirements of the RE-1 Zone under the optional method of development with MPDUs. The unit types and densities proposed are allowed in the RE-1 Zone. The Site Plan meets the purpose of the zone by providing single family housing with MPDUs integrated within the community, offering housing to various income groups.

The proposed development meets the density requirements of the zone and recommendations in the Sector Plan. The overall density, which is proposed at 0.9 units per acre for the 42.17-acre site, is below the maximum density of 1.22 units per acre allowed by the Zoning Ordinance. The reduced density was recommended in Pre-Preliminary Plan 720080240 in order to comply with the Upper Paint Branch Special Protection Area, which limits impervious surfaces to 8 percent of the gross tract area.

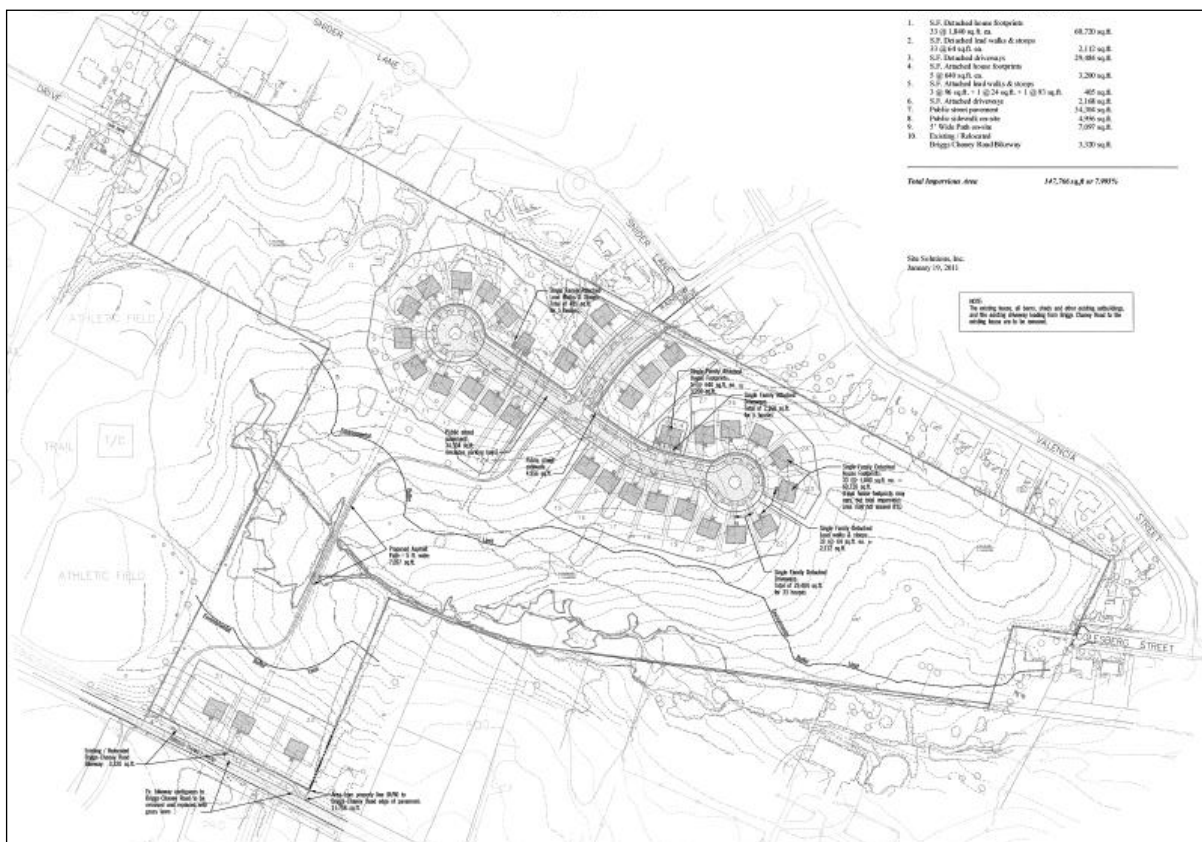
Data Table for Zone RE-1, Development with MPDUs

|   | Zoning Ordinance Permitted/Required | Proposed for Approval with 820110140 |
|---|-------------------------------------|--------------------------------------|
| <b>Site Area (Acres)</b>                            |                                     |                                      |
| Gross Tract Area                                    | n/a                                 | 42.17                                |
| <b>Density [59-C-1.622]</b>                         |                                     |                                      |
| Maximum Residential Density (du/acre) [59-C-1.622]  | 1.22                                | 0.9                                  |
| MPDUs [Chapter 25A]                                 | 12.50%                              | 13.20%                               |
| <b>Minimum Lot Size [59-C-1.625]</b>                |                                     |                                      |
| One Family Detached                                 | 10,000                              | 10,000                               |
| One Family Semidetached                             | 5,000                               | 5,000                                |
| Townhouse   | n/a                                 | 1,295                                |
| <b>Unit Mix [59-C-1.62.1]</b>                       |                                     |                                      |
| One Family Detached                                 | >70%                                | 86.80%                               |
| One Family semi-detached/townhouse                  | <30%                                | 13.20%                               |
| <b>Unit Type</b>                                    |                                     |                                      |
| One Family Detached                                 | n/a                                 | 33                                   |
| One Family semi-detached                            | n/a                                 | 2                                    |
| Townhome  | n/a                                 | 3                                    |
| <b>Minimum Green or Amenity Area [59-C-1.627]</b>   |                                     |                                      |
| Community Wide (% of Gross Tract Area)              | n/a                                 | 86.20%                               |
| For each semi-detached unit (sq ft)                 | 2,000                               | 10,000                               |
| <b>Minimum Building Setbacks (ft.) [ 59-C-1.62]</b> |                                     |                                      |
| From any street                                     | 35                                  | 35                                   |
| Rear yard   | 35                                  | 35                                   |
| <b>Accessory Structure Setbacks (ft.)</b>           |                                     |                                      |
| Rear yard   | 10                                  |                                      |
| Side Yard   | 15                                  |                                      |
| <b>Minimum Lot Width at Street</b>                  |                                     |                                      |
| Single Family Detached                              | 25                                  |                                      |
| <b>Maximum Building Height (ft.)</b>                |                                     |                                      |
| Overall   | 40                                  | 40                                   |
| <b>Maximum Impervious Coverage</b>                  |                                     |                                      |
| Upper Paint Branch S.P.A.                           | 8%                                  | 8%                                   |

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

### Location of Buildings and Structures

The locations of the proposed buildings and structures are adequate, safe, and efficient. The Site Plan proposes 38 residential dwelling units, 33 as one family detached, and 5 MPDUs (13.2 percent), two as semi-detached units and three as townhouses. The units are located in two clusters separated by a forested stream valley. The location of the units adequately avoids environmentally sensitive areas and existing utility easements on the property, and efficiently follows the street layout supported by the Planning Board at the time of pre-preliminary plan and preliminary plan reviews. The proposal would extend Rainbow Drive south into the property, where it would intersect with proposed Road "A". 35 of the 38 units would be constructed along these two proposed road segments, including all 5 of the MPDUs. The street and lot configuration create an efficient community where most of the homes face each other on the street, and the location of the MPDU's in two separate groups help fully integrate these units into the community. Three of the one family detached units are proposed to be built fronting Briggs Chaney Road as supported by the Planning Board at the time of the preliminary plan. The location of these three units continues the pattern of other detached homes already located along Briggs Chaney Road.





### Open Space

The open spaces provided are adequate, safe, and efficient. The RE-1 Zone does not have an open space or green area requirement, however; the property is located within the Upper Paint Branch Special Protection Area which restricts impervious surfaces to 8 percent of total gross tract area. To meet this goal, the proposed plan has a total green area of 86.2 percent (approximately 36 acres) including open meadow, and protected forested environmental areas. In addition to the environmental benefits to the Upper Paint Branch Watershed, this green area will provide future residents space to enjoy a range of passive recreational activities.

### Landscaping and Lighting

The landscaping, with an emphasis on native species is adequate, safe, and efficient. The landscape plan achieves several objectives. It provides an adequate buffer and screening from the adjacent one-family detached community to the north of the proposed development. The landscaping also helps enhance the area around the proposed MPDU's, the Open Play Area and the 5 foot wide asphalt path. The plant material in these areas includes a mix of deciduous and evergreen trees and shrubs.

Additionally, the landscaping provides canopy coverage and shade for roads, sidewalks and open spaces. Trees line all the streets and smaller plant material such as herbaceous plants, shrubs, and ornamental trees, help define the provided amenities. The Open Play Area is surrounded by a variety of plant material that adds interest and delineates the space but does not limit views into the area.

As proposed, the lighting consists of pole mounted light fixtures with a maximum height of 12 feet located along all public roads. Lights of this scale are residential in character and maintain compatibility with the neighborhood. The proposed lighting will create enough visibility to provide safety but not so much as to cause glare on the adjacent roads or properties. As conditioned, the lighting recommended by Staff is adequate, safe and efficient.

### Recreation Facilities

The recreation facilities provided are safe, adequate, and efficient. The recreation requirements for the RE-1 Zone requires 2,000 square feet of open recreation area for each semi-detached or townhouse unit permitted. The applicant proposes an internal pedestrian system including sidewalks and a 5 foot wide asphalt path traversing the Stream Valley Buffer in the location where a driveway currently exists. A 10,000 square foot open play area will also be constructed near the center of the community, with access to the roads, sidewalks and proposed asphalt path. Although this application does not need off-site recreation credits, the site is located adjacent to Cloverly Park and near Cloverly Elementary School. Cloverly Park has available active recreational amenities including two baseball fields, two tennis courts and a playground for children. The recreational analysis performed for this proposed plan shows the site as having adequate on-site recreational amenities to support the proposed number and type of units which satisfy the 1992 M-NCPPC Recreation Guidelines.

Recreation Facilities Tables

| Demand                |                 | D1     | D2       | D3       | D4       | D5      |
|-----------------------|-----------------|--------|----------|----------|----------|---------|
| Housing Type          | Number of Units | Tots   | Children | Teens    | Adults   | Seniors |
|                       |                 | 0 to 4 | 5 to 11  | 12 to 17 | 18 to 64 | 65+     |
| SFD I (20,000+)       | 2               | 0.20   | 0.40     | 0.44     | 1.70     | 0.16    |
| SFD II (7,000-19,999) | 31              | 4.03   | 7.44     | 7.75     | 32.86    | 3.41    |
| SFD III (<7,000)      | 0               | 0.00   | 0.00     | 0.00     | 0.00     | 0.00    |
| TH                    | 5               | 0.85   | 1.10     | 0.90     | 6.45     | 0.35    |
| Garden (4 or less)    | 0               | 0.00   | 0.00     | 0.00     | 0.00     | 0.00    |
| Hi-Rise (5 or more)   | 0               | 0.00   | 0.00     | 0.00     | 0.00     | 0.00    |
|                       |                 | 5.08   | 8.94     | 9.09     | 41.01    | 3.92    |

| On-Site Supply      |                   | D1     | D2       | D3       | D4       | D5      |
|---------------------|-------------------|--------|----------|----------|----------|---------|
| Recreation Facility | Quantity Provided | Tots   | Children | Teens    | Adults   | Seniors |
|                     |                   | 0 to 4 | 5 to 11  | 12 to 17 | 18 to 64 | 65+     |
| Open Play Area I    | 1                 | 6.00   | 9.00     | 12.00    | 30.00    | 2.00    |
| Pedestrian System   | 1                 | 0.51   | 1.79     | 1.82     | 18.45    | 1.76    |
| total:              |                   | 6.51   | 10.79    | 13.82    | 48.45    | 3.76    |

| Adequacy of Facilities |                     | D1    | D2           | D3    | D4    | D5         |
|------------------------|---------------------|-------|--------------|-------|-------|------------|
| a.                     | Gross Total Supply  | 6.51  | 10.79        | 13.82 | 48.45 | 3.76       |
| b.                     | 35% of Total Supply | 2.27  | 3.77         | 4.83  | 16.95 | 1.31       |
| c.                     | Max Off-Site Supply | 0     | 0            | 0     | 0     | 0          |
| d.                     | Total Supply        | 6.51  | 10.79        | 13.82 | 48.45 | 3.76       |
| e.                     | 90% Demand          | 4.58  | 8.05         | 8.19  | 36.91 | 3.53       |
| f.                     | Adequate?           | yes   | yes          | yes   | yes   | yes        |
| g.                     | Less Than 50 Units  | 68.04 | total demand |       | 61.24 | 90% demand |
| h.                     | Adequate Total?     | yes   |              |       |       |            |
| i.                     | 80% Demand          | 4.07  | 7.16         | 7.28  | 32.81 | 3.14       |
| j.                     | Adequate Individual | yes   | yes          | yes   | yes   | yes        |

### Pedestrian and Vehicular Circulation

The pedestrian and vehicular circulation systems are safe, adequate, and efficient. Access to the site will be provided through an extension of Rainbow Drive into the community. A new public east-west Road "A" will also be constructed, with two cul-de-sacs giving the proposed community a barbell shape. The proposed roadways and rights-of-way are adequate to handle the volume of traffic anticipated to be generated by the new dwelling units. Additional interconnectivity was discussed as part of the previous Planning Board reviews, but it was not supported in order to comply with the impervious surface limitations placed on the property by the Upper Paint Branch Special Protection Area and to meet other Master Plan recommendations for the termination of Rainbow Drive within this property.

Pedestrian circulation within the community is provided by sidewalks that will line both sides of Rainbow Drive, and a sidewalk that will line the north side of Road "A". An existing bicycle trail extends across the southern border of the site along Briggs Chaney Road. A new 5 foot wide asphalt path is proposed that would connect the bicycle trail along Briggs Chaney Road with Rainbow Drive, Road "A", and the open play area. The proposed sidewalks, paved path and bicycle trail will adequately connect the main portion of the community to the adjacent Cloverly Park and nearby Cloverly Elementary School.

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

The structures and uses proposed are compatible with other uses and site plans, and with existing and proposed adjacent development. The proposed 38 lots on 42.17 acres of land provide an average density of 0.9 dwellings per acre, which is less than the 1.22 units per acre allowed with the current zoning. 36.35 acres of open space are being proposed, providing a buffer between the new development with Cloverly Park, as well as existing homes along Valencia Street, Colesberg Street, Snider Lane and Olive Drive.

The project proposes three single family detached units be placed directly on Briggs Chaney Road, which is consistent in orientation with other single family detached units which front along that section of Briggs Chaney Road. The remaining 35 dwelling units, including all 5 MPDUs will be placed in a barbell shaped street pattern that connects to the existing Rainbow drive and adjacent subdivisions.

The MPDU's are being provided in two groups, one with 2 semi-detached units, and one with 3 townhouse units. Both of these structures will be of a similar scale and orientation as the other single family detached units proposed to front along street "A". The center townhouse unit provided in the plan has a proposed lot size of 1,295 square feet, however, minimum lot sizes are not directly expressed for townhouses in the Code in the RE-1 optional method with MPDUs and are established with the Site Plan. This small lot size is adequate because the community

provides a total of 86.2 percent green space, including open spaces around the proposed townhouse lots, and the proposed lot is very near the proposed open play area and community path.

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.*

#### Natural Resource Inventory/Forest Stand Delineation

The Natural Resource Inventory/Forest Stand Delineation (NRI/FSD) #420100250) for this property was approved on November 3, 2009. The NRI/FSD identifies the environmental constraints and forest resources on the subject property. A stream, three wetland areas, and associated environmental buffer lie in the south-central portion of the site. The 10.26-acre environmental buffer includes some field cover, tree cover, and 3.45 acres of forest cover.

There are 43 trees on the site outside the environmental buffer which are 24 inches or greater DBH. The site's topography is gently sloping, with minimal steep slopes along the stream banks and in the eastern part of the site adjacent to an offsite driveway near Colesberg Street. There is an existing gravel driveway that crosses the stream and the environmental buffer. A pedestrian path is proposed in the general location of the existing driveway.

#### Environmental Buffers

A stream, wetlands, and associated environmental buffer are located on the south-central portion of the property. The applicant proposes to construct a path through the property that will provide a pedestrian connection between the existing residential areas to the north of the site and Briggs Chaney Road, as well as connect the two separate residential portions of this proposed community. The proposed path will generally follow the course of the existing gravel driveway, as it traverses the environmental buffer and crosses the onsite stream. The entire environmental buffer will be protected with a Category I conservation easement. The applicant will need to modify the standard conservation easement to allow for the proposed path within the easement area.

#### Final Forest Conservation Plan

As required by the County Forest Conservation Law (Section 22A of the County code), a Final Forest Conservation Plan (FCP) for the project was submitted with the Site Plan. The Final Forest Conservation Plan proposes to clear approximately 0.46 acres of existing forest. This is consistent with the approved PFCP. This area of isolated forest is a separate stand located in the north-central portion of the property. It currently resembles an overgrown hedgerow located between open fields. This forest does not contain any environmentally sensitive features, and has been classified as low priority forest. The remaining 8.66 acres of forest will be retained. There is a 0.92-acre reforestation requirement that is proposed to be met by forest planting in

the environmental buffer. The remaining area of the environmental buffer that is currently unforested will also be planted in forest. This is consistent with the Planning Board's Environmental Guidelines. The guidelines recommend that a development site in a SPA should reforest the entire environmental buffer that occurs onsite, even if the reforestation exceeds the development's forest planting requirements under the Forest Conservation Law. Credits associated with the excess planting area may be created and sold to others to meet their offsite requirements.

As part of the Final Forest Conservation Plan, the applicant will be retaining existing forest, as well as planting forest within the unforested environmental buffer. In addition to the 0.92 acre forest planting required per the Forest Conservation Law, the applicant proposes to reforest 4.94 acres of unforested environmental buffer. This is consistent with the Planning Board's Environmental Guidelines (M-NCPPC 2000). The guidelines recommend that a development site in a SPA should reforest the entire environmental buffer that is on-site, even if the reforestation exceeds the development's forest planting requirements under the Forest Conservation Law. Credits associated with the excess planting area may be created and sold to others to meet their offsite requirements.

#### Forest Conservation Variance

A Forest Conservation Variance for the removal of seven trees 30-inches and greater was granted as part of the approval of the Preliminary Plan and Preliminary Forest Conservation Plan. The seven trees proposed for removal are # 1, 17, 118, 136, 767, 768, and 769 (Table 1). Tree 17 is located within existing forest that is proposed to be removed. Additional mitigation for the removal of these trees was not required because it was determined that compensation for the loss of these trees would be included in the additional reforestation within the environmental buffer proposed as part of the SPA requirements.

Table 1. Specimen Trees to be Removed

| Tree No. | Common Name  | Botanical Name               | D.B.H.  | C.R.Z. Radius | Tree Condition | Location                        |
|----------|--------------|------------------------------|---------|---------------|----------------|---------------------------------|
| 1        | Red Oak      | <i>Quercus rubra</i>         | 40 inch | 60 feet       | Fair           | Lot/Street                      |
| 17       | Black Cherry | <i>Prunus serotina</i>       | 30 inch | 45 feet       | Poor           | Lot/Street                      |
| 118      | Black Cherry | <i>Prunus serotina</i>       | 30 inch | 45 feet       | Poor           | Lot and public utility easement |
| 136      | Sycamore     | <i>Platanus occidentalis</i> | 36 inch | 54 feet       | Fair           | Lot                             |
| 767      | Red Maple    | <i>Acer rubrum</i>           | 41 inch | 61.5 feet     | Good           | Lot/Street/utilities            |
| 768      | Red Maple    | <i>Acer rubrum</i>           | 38 inch | 57 feet       | Good           | Lot                             |
| 769      | Red Maple    | <i>Acer rubrum</i>           | 33 inch | 49.5 feet     | Good           | Lot                             |

Staff finds that, provided staff’s recommended conditions of approval are adopted, the proposed project is in compliance with the Montgomery County Environmental Guidelines and the Forest Conservation Law.

Site Imperviousness

Impervious surface restrictions for development projects in the Upper Paint Branch SPA are set forth in the Environmental Overlay Zone for the Upper Paint Branch SPA (Section 59-C-18.152). The Environmental Overlay Zone has an 8 percent imperviousness limit for new projects or redevelopment projects with current imperviousness at or below 8 percent. The proposed development will result in an imperviousness of 8.0 percent. .

Montgomery County Department of Permitting Service Special Protection Area Review Elements

Montgomery County Department of Permitting Services has reviewed and conditionally approved the elements of the SPA Final Water Quality Plan under its purview. These elements include site performance goals, stormwater management, sediment and erosion control, and monitoring of Best Management Practices.

- Site Performance Goals

As part of the water quality plan, the following performance goals were established for the site: stream/aquatic life habitat protection, maintain stream base flow and maintain groundwater recharge, protect seeps, streams and wetlands, maintain natural on-site stream channels,

minimize storm flow increases, identify and protect stream banks prone to erosion and slumping, minimize increases to ambient water temperature, minimize sediment loading, minimize nutrient loadings, and control insecticides, pesticides and toxic substances.

- Stormwater Management Concept

The use of various Environmental Site Design (ESD) practices including micro-bio retention, bio-swales, grassed swales, landscape infiltration areas, dry wells, rooftop disconnections, rain gardens, and sheet flow to conservation will provide channel protection and water quality control.

- Sediment and Erosion Control

Redundant sediment control measures are to be used where practical, and the total storage volume for sediment traps shall be 125 percent of the normally required volume. Primary sediment and erosion control for this project will be provided via earth dikes and a sediment trap or basin. The use of silt fence alone will not be allowed as a perimeter control measure. DPS is requiring the use of super silt fence around small areas of disturbance. Since the site is in the Upper Paint Branch Special Protection Area (SPA), development of the property is subject to the Special Protection Area Law and a water quality plan is required. MCDPS reviewed and approved the Final Water Quality Plan on November 18<sup>th</sup>, 2011. The Planning Board's responsibility is to determine if the environmental guidelines for special protection areas, forest conservation requirements, and site imperviousness requirements are satisfied by the Final Water Quality Plan.

The Final Water Quality Plan sufficiently protects all of the sensitive environmental features under the Planning Board's review and is recommended for approval.

## **RECOMMENDATION AND CONDITIONS**

### **Conformance with Previous Approvals**

1. Preliminary Plan Conformance

The proposed development must comply with the conditions of approval for Preliminary Plan No. 120100160.

### **Environment**

2. Forest Conservation and Tree Save

The proposed development must comply with the conditions of approval for the Final Forest Conservation Plan dated, January 11, 2012. The Applicant must satisfy all conditions prior to the

recording of a plat(s) or to the issuance of sediment and erosions control permits by the Montgomery County Department of Permitting Services.

- a) Compliance with the conditions of approval of the Final Forest Conservation Plan. The applicant must satisfy all conditions prior to Montgomery County Department of Permitting Services (MCDPS) issuance of sediment and erosion control permit(s), as appropriate.
- b) Inspections must occur consistent with Section 22A.00.01.10 of the Forest Conservation Regulations.
- c) The Final Sediment Control Plan must be consistent with the final limits of disturbance as approved by the M-NCPPC staff.
- d) Applicant must place a Category I conservation easement over all areas of forest retention, forest planting, and environmental buffers, including proposed and future forest banking areas, as shown on the approved Final Forest Conservation Plan. Conservation easements must be shown on the record plats.

3. Final Water Quality Plan

The proposed development is subject to the Final Water Quality Plan approval conditions dated November 18<sup>th</sup>, 2011 unless amended and approved by the Montgomery County Department of Permitting Services.

- a) Prior to recording of plat, applicant must enter into an agreement with the Planning Board to limit impervious surfaces to no more than 8.0 percent, which shall include the impervious surfaces in the entire gross tract area, including the property and the land area between the right-of-way/property line and the edge of the pavement of Briggs Chaney Road along the property frontage.
- b) Prior to release of building permit, applicant must demonstrate conformance to the impervious surface limit. Any modifications which increase imperviousness beyond 8.0 percent will require Planning Board approval.
- c) Applicant must conform to the conditions as stated in the Montgomery County Department of Permitting Service (MCDPS) Final Water Quality Plan approval letter dated November 18, 2011, unless otherwise amended.

**Parks, Open Space, & Recreation**

4. Common Open Space Covenant

- a) Record plats shall reference the Common Open Space Covenant recorded at Liber 28045 Folio 578 (“Covenant”). Applicant shall provide verification to M-NCPPC staff prior to issuance of the 29th building permit that Applicant’s recorded Homeowners Association Documents incorporate by reference the Covenant.

5. Recreation Facilities



- a) The Applicant shall meet the square footage requirements for all of the applicable proposed recreational elements and demonstrate that each element is in conformance with the approved M-NCPPC Recreation Guidelines.
- b) The Applicant shall provide the following recreation facilities: an open play area as shown on the Site Plan, a pedestrian system, and a 5 foot asphalt path through the Stream Valley Buffer to connect the internal street system to Briggs Chaney Road, public transit, the Cloverly Park, Cloverly Elementary and local shopping.

## **Transportation & Circulation**

### 6. Transportation

- a) The development is limited to 38 one family units (33 detached, 2 semi-detached, 3 townhouse) unless amended.

### 7. Pedestrian Circulation

- a) Provide a 5 foot wide asphalt path through the Stream Valley Buffer connecting proposed street "A" with the bikeway along Briggs Chaney Road, sidewalk on the north side only of the new internal street and on both sides of the Rainbow Drive extension into the site.

## Density & Housing

8. Moderately Priced Dwelling Units (MPDUs)
  - a) The proposed development must provide a minimum of 12.5 percent of the total number of units as MPDUs on-site, consistent with the requirements of Chapter 25A.
  - b) The MPDU agreement to build shall be executed prior to the release of any building permits.
  - c) All of the required MPDUs shall be provided on-site and in the location shown on the Site Plan.

## Site Plan

9. Site Design
  - a) Provide for 12 visitor parking spaces within the street right-of-way.
10. Compatibility/Architecture
  - a) All units including MPDUs must have masonry elements on the front facades. The front of the MPDUs must be designed and finished with architectural elements comparable to those found on other market rate units within the local neighborhood.
11. Lighting
  - a) The lighting distribution and photometric plan with summary report and tabulations must conform to IESNA standards for residential development.
  - b) All on-site down-light fixtures must be full cut-off fixtures.
  - c) Deflectors shall be installed on all fixtures causing potential glare or excess illumination, specifically on the perimeter fixtures abutting the adjacent residential properties.
  - d) Illumination levels shall not exceed 0.5 footcandles (fc) at any property line abutting county roads and residential properties.
  - e) The height of the light poles shall not exceed 12 feet including the mounting base.
12. Performance Bond

The Applicant shall provide a performance bond in accordance with Section 59-D-3.5(d) of the Montgomery County Zoning Ordinance with the following provisions:

  - a) The amount of the Performance Bond shall include plant material, on-site lighting, recreational facilities, and the 5 foot asphalt path through the Stream Valley Buffer. Bonds to be posted prior to issuance of first building permit within each relevant phase of development and shall be tied to the development program.
  - b) Provide a cost estimate of the materials and facilities, which, upon staff approval, will establish the initial bond amount.
  - c) Completion of plantings by phase, to be followed by inspection and bond reduction. Inspection approval starts the 1 year maintenance period and bond release occurs at the expiration of the one year maintenance period.

- d) Provide a Site Plan Surety and Maintenance Agreement that outlines the responsibilities of the Applicant and incorporates the cost estimate. Agreement to be executed prior to issuance of the first building permit.

### 13. Development Program

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

- a) 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 tree-save areas and protection devices.
- b) Street lamps and sidewalks must be installed within six months after street construction is completed. Street tree planting may wait until the next growing season.
- c) The development program must provide phasing for installation of on-site landscaping and lighting.
- d) Community-wide pedestrian pathways, including the five foot asphalt path through the Stream Valley Buffer, must be completed prior to issuance of the 29<sup>th</sup> building permit, which represents 75 percent of the 38 dwelling units on this project.
- e) Provide each section of the development with necessary roads.
- f) The development program must provide phasing of dedications, stormwater management, sediment and erosion control, afforestation, trip mitigation, and other features.

### 14. Certified Site Plan

Prior to approval of the Certified Site Plan the following revisions must be made and information provided subject to Staff review and approval:

- a) Include the final forest conservation approval, stormwater management concept approval, development program, inspection schedule, and site plan resolution on the approval or cover sheet.
- b) Add a note to the site plan stating that “M-NCPPC staff must inspect all tree-save areas and protection devices prior to clearing and grading”.
- c) Modify data table to reflect development standards enumerated in the staff report.
- d) Ensure consistency off all details and layout between site plan and landscape plan.

## **APPENDICES**

- A. Site Plan
- B. Impervious Area Exhibit
- C. Water Quality Plan Letter



**PLANT LIST - STREET TREES**

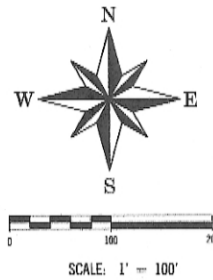
| REF # | SYMBOL NAME       | COMMON NAME       | SIZE*               | QUANTITY | REMARKS          |
|-------|-------------------|-------------------|---------------------|----------|------------------|
| 1     | Red Oak           | Red Oak           | 2'-1/2" DBH, 20' H. | 8        | 8 @ 3.0' SPACING |
| 2     | White Oak         | White Oak         | 2'-1/2" DBH, 20' H. | 6        | 6 @ 3.0' SPACING |
| 3     | Red Maple         | Red Maple         | 1'-1/2" DBH, 10' H. | 3        | 3 @ 3.0' SPACING |
| 4     | White Maple       | White Maple       | 1'-1/2" DBH, 10' H. | 3        | 3 @ 3.0' SPACING |
| 5     | Flowering Dogwood | Flowering Dogwood | 1'-1/2" DBH, 10' H. | 3        | 3 @ 3.0' SPACING |
| 6     | Redbud            | Redbud            | 1'-1/2" DBH, 10' H. | 3        | 3 @ 3.0' SPACING |
| 7     | Black Gum         | Black Gum         | 1'-1/2" DBH, 10' H. | 3        | 3 @ 3.0' SPACING |
| 8     | Black Locust      | Black Locust      | 1'-1/2" DBH, 10' H. | 3        | 3 @ 3.0' SPACING |
| 9     | Black Walnut      | Black Walnut      | 1'-1/2" DBH, 10' H. | 3        | 3 @ 3.0' SPACING |
| 10    | White Birch       | White Birch       | 1'-1/2" DBH, 10' H. | 3        | 3 @ 3.0' SPACING |
| 11    | White Pine        | White Pine        | 1'-1/2" DBH, 10' H. | 3        | 3 @ 3.0' SPACING |

\* = Symbol for proposed street lights in public right-of-way

**PLAN NOTES**

| STANDARD   | REQUIRED / PERMITTED       | PROPOSED                 |
|--|----------------------------|--------------------------|
| Minimum Tract Area   | Not specified              | 42.16979 Acres           |
| Density*   | 1.22 DU / Ac. Max. (51 DU) | 0.90 DU / Ac. (38 DU)    |
| One-family attached units  | 30% Max. (15 units)        | 13.2% (5 units)          |
| Moderately Priced Dwelling Units   | 12.5% required             | 5 DU (13.2%)             |
| Setback from street for detached dwelling  | 35 ft. Min.                | 35 ft. Min.              |
| Yard requirement for a side or rear yard that abuts a lot not developed under provisions of Sect. 59-C-1.6 (Mont. Co. Zoning Ord.) | 35 ft. Min.                | 35 ft. Min.              |
| Net lot area for S.F.  | 10,000 sq. ft. Min.        | 10,000 sq. ft. Min.      |
| Detached   | 25 ft. Min.                | 25 ft. Min.              |
| Lot width at proposed street line for S.F.   | 25 ft. Min.                | 25 ft. Min.              |
| Building height  | 3 stories or 40 ft. Max.   | 3 stories or 40 ft. Max. |
| Imperious Area (Upper Part Branch Environmental Overlay Zone)  | 8% of tract Max.           | 8% Max.                  |

\* Density: This property to be developed under the provisions of Sect. 59-C-1.6, Montgomery County Zoning Ordinance, "Development including moderately priced dwelling units".



**ANSELMO PROPERTY IMPERVIOUS AREA CALCULATIONS  
SITE PLAN**

|   |                                  |
|---|----------------------------------|
| Gross Tract Area:   | 1,836,916 sq. ft. (42.16979 Ac.) |
| Area from property line to<br>Briggs-Chaney Road edge of pavement | 11,758 sq. ft.                   |
| Gross Area for impervious area calculation                        | 1,848,674 sq. ft.                |
| <b>Maximum Permitted Impervious Area (8%)</b>                     | <b>147,893 sq. ft.</b>           |

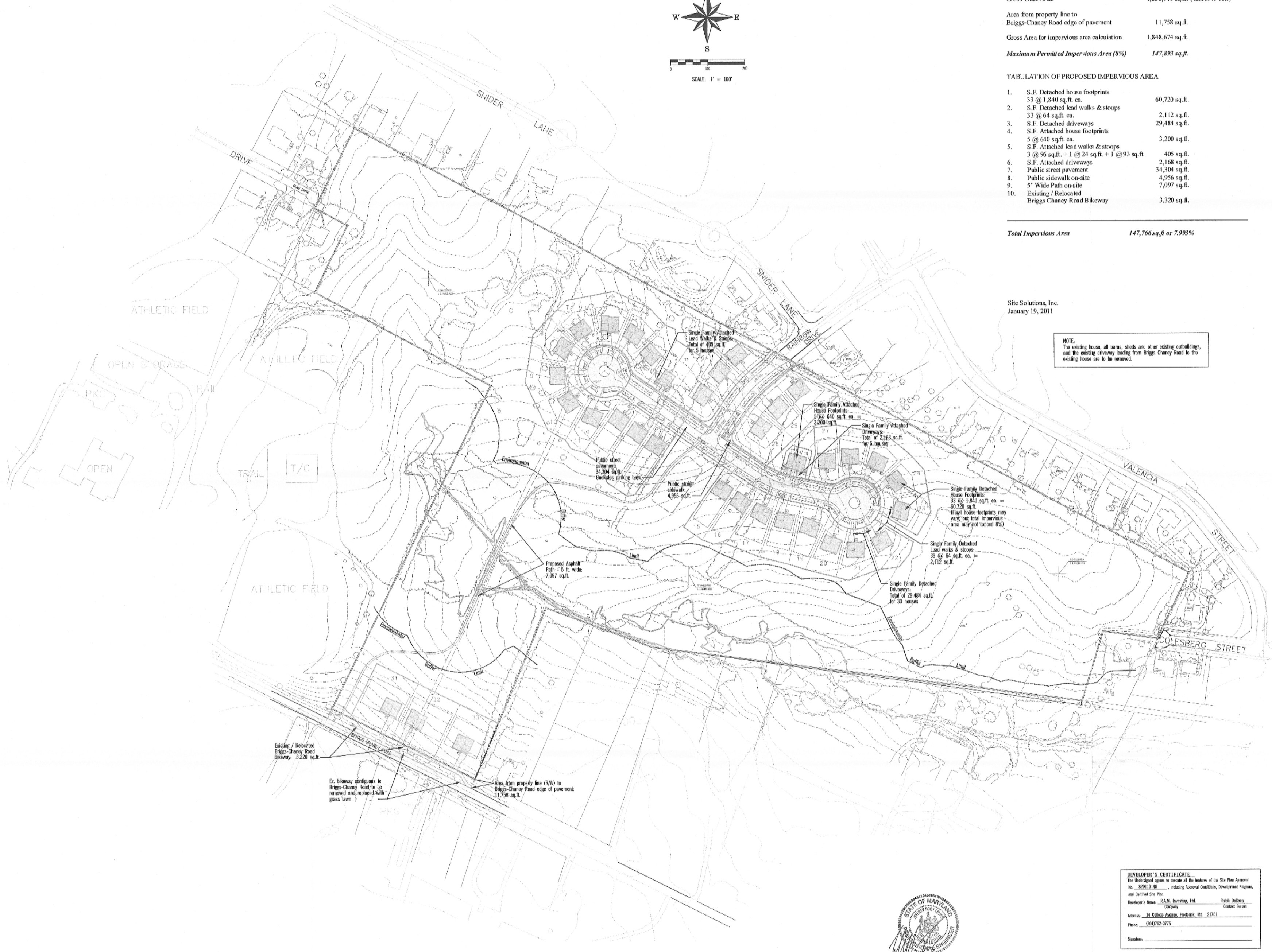
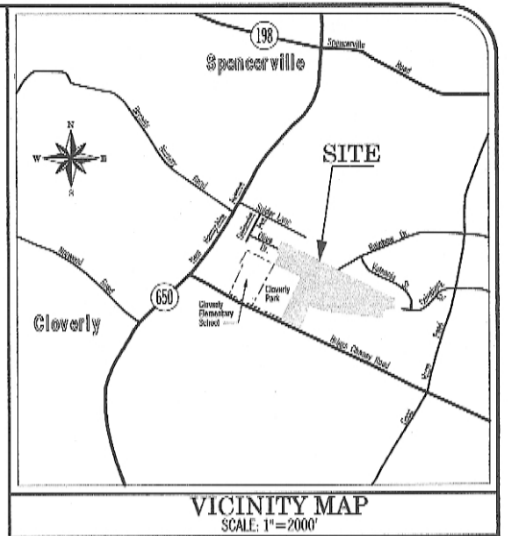
**TABULATION OF PROPOSED IMPERVIOUS AREA**

|     |   |                |
|-----|---|----------------|
| 1.  | S.F. Detached house footprints<br>33 @ 1,840 sq. ft. ea.                              | 60,720 sq. ft. |
| 2.  | S.F. Detached lead walks & stoops<br>33 @ 64 sq. ft. ea.                              | 2,112 sq. ft.  |
| 3.  | S.F. Detached driveways<br>5 @ 640 sq. ft. ea.  | 3,200 sq. ft.  |
| 4.  | S.F. Attached house footprints<br>3 @ 96 sq. ft. + 1 @ 24 sq. ft. + 1 @ 93 sq. ft.    | 405 sq. ft.    |
| 5.  | S.F. Attached lead walks & stoops<br>3 @ 96 sq. ft. + 1 @ 24 sq. ft. + 1 @ 93 sq. ft. | 405 sq. ft.    |
| 6.  | S.F. Attached driveways   | 2,168 sq. ft.  |
| 7.  | Public street pavement  | 34,304 sq. ft. |
| 8.  | Public sidewalk on-site   | 4,956 sq. ft.  |
| 9.  | 5' Wide Path on-site  | 7,097 sq. ft.  |
| 10. | Existing / Relocated<br>Briggs Chaney Road Bikeway                                    | 3,320 sq. ft.  |

**Total Impervious Area 147,766 sq. ft. or 7.993%**

Site Solutions, Inc.  
January 19, 2011

**NOTE:**  
The existing house, all barns, sheds and other existing outbuildings, and the existing driveway leading from Briggs Chaney Road to the existing house are to be removed.



**SITE SOLUTIONS, INC.**  
20410 Observation Drive Suite 200  
Germantown, Maryland 20876-4000  
(301) 540-7990 Fax (301) 640-7991  
Planning Landscape Architects  
Engineering Surveying

| NO. | REVISION | DATE |
|-----|----------|------|
|     |          |      |
|     |          |      |
|     |          |      |

APPLICANT:  
**R.A.M. Investing, Ltd.**  
14 Collogo Avenue  
Frederick, Md. 21701

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 19156, Expiration 06-02-2013.



**DEVELOPER'S CERTIFICATE**  
The undersigned agrees to execute all the features of the Site Plan Appraisal No. 820110140, including Approved Conditions, Development Program, and Certified Site Plan.  
Developer's Name: **R.A.M. Investing, Ltd.** Rajah DeGena, Company Contact Person  
Address: **14 Collogo Avenue, Frederick, MD 21701**  
Phone: **(301) 762-0775**  
Signature: \_\_\_\_\_

**M-NCPPC APPROVAL STAMP**  
Certified Site Plan  
File No. **820110140**  
Montgomery County Planning Board  
Chair or Designee: \_\_\_\_\_ Date: \_\_\_\_\_  
**MONTGOMERY COUNTY PLANNING DEPARTMENT**  
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

820110140

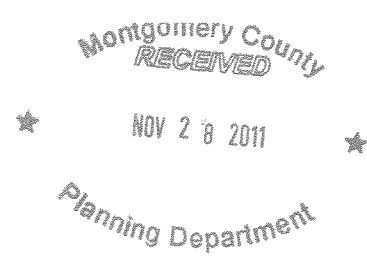
**IMPERVIOUS AREA EXHIBIT  
ANSELMO PROPERTY  
COLESVILLE ELECTION DISTRICT #5  
MONTGOMERY COUNTY, MARYLAND**

Montgomery County APPROVAL STAMP  
OCT 21 2011  
Professional Engineer

|           |            |
|-----------|------------|
| DATE      | 10/18/2011 |
| PROJ. NO. | 1562       |

1" = 100'  
8 of 9

SITE SOLUTIONS, INC. IMPERVIOUS AREA EXHIBIT



DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett  
County Executive

November 18, 2011

Diane R. Schwartz Jones  
Director

Mr. Jeffrey Lewis  
Site Solutions, Inc.  
20410 Observation Drive, Suite 205  
Germantown, MD 20876

Re: **Final Water Quality Plan for Anselmo Property**  
SM File #: 236988  
Tract Size/Zone: 42.2 acres / RE-1  
Total Concept Area: 42.2 acres  
Watershed: Upper Paint Branch SPA

**SPECIAL PROTECTION AREA**

Dear Mr. Lewis:

Based on a review by the Department of Permitting Services, the Final Water Quality Plan (PWQP) for the above mentioned site is conditionally approved. This approval is for the elements of the Preliminary Water Quality Plan of which DPS has lead agency responsibility, and does not include limits on imperviousness or stream buffer encroachments.

**Site Description:** The site is located at the intersection of Briggs Chaney Road and Rainbow Drive in Silver Spring, MD. This site is located within the Left Fork of the Upper Paint Branch watershed and is within the Upper Paint Branch Special Protection Area (SPA). The project proposes to subdivide the property to create 35 single family lots.

**Stormwater Management:** The stormwater management requirements for this project are proposed to be met via the use of various ESD practices, which will include micro bio retention, bio swales, grassed swales, landscape infiltration areas, dry wells, rooftop disconnection, raingardens, and sheet flow to conservation areas. In addition, all disturbed areas must be tilled and topsoiled per the Montgomery County topsoil specifications prior to final vegetative stabilization.

**Sediment Control:** Redundant sediment control measures are to be used throughout the site where practical. The total storage volume for traps shall be 125% of the normally required volume. All sediment traps must be equipped with dewatering devices. Also, due to the sensitive nature of the watershed, the use of flocculants, compost material or other measures to increase the effectiveness of sediment removal may be required in the detailed sediment control plan. The following features are to be incorporated into the detailed sediment control plan:

1. Silt fence alone will not be allowed as a perimeter control. The use of super silt fence will be acceptable for small areas of disturbance.

255 Rockville Pike, 2nd Floor • Rockville, Maryland 20850 • 240-777-6300 • 240-777-6256 TTY  
www.montgomerycountymd.gov

2. Primary control for construction of this project will be provided via earth dikes and a sediment trap or basin.

**Performance Goals:** A pre application meeting was held on October 19, 2009, and the minutes of this meeting were approved on November 17, 2009. The performance goals for this project that were established at the pre-application meeting as follows:

1. Stream/Aquatic life habitat protection – This will be accomplished through clustering the development to avoid the existing stream buffer area. In addition, a walkway is proposed that will mostly utilize an existing driveway, including an existing stream crossing, thereby not requiring a new crossing.
2. Maintain stream base flow and maintain groundwater recharge – The proposed ESD practices are intended to provide recharge within the developed area. Full compliance with ESD requirements will be met for the project. The topsoil requirement will be an additional means of encouraging groundwater recharge.
3. Protect seeps, streams and wetlands – The existing stream valley buffer will remain undisturbed, and the ESD practices will encourage recharge.
4. Maintain natural onsite stream channels – The existing stream channel and its associated buffer will remain undisturbed during construction, with the possible exception of the existing culvert crossing for the existing driveway, which may require some modification if that is deemed necessary.
5. Minimize storm flow increases – Full compliance with ESD requirements is designed to reduce storm flow increases. In addition, the development is limited to a total of 8% imperviousness.
6. Identify and protect stream banks prone to erosion and slumping – The existing stream channel will be reviewed during the approval process to determine if there are areas that may need stabilization. In addition, the existing stream valley buffer will be reforested, which should serve to enhance the effects of the buffer and improve stream flow characteristics.
7. Minimize increases to ambient water temperature – Full adherence to the ESD criteria, along with reforestation of the existing stream buffer, should provide thermal benefit by encouraging groundwater recharge and shading.
8. Minimize sediment loading. Use super silt fence at a minimum and stage construction to allow for quick stabilization. Sediment traps will be sized to provide 125% of the required treatment volume. Disturbed areas will be stabilized as early as practical.
9. Minimize nutrient loadings – Strict adherence to the topsoiling requirement should allow for healthier vegetation without the use of excess fertilizers. Existing topsoil on site will be stockpiled for use within the development. Use of ESD techniques throughout the development will also encourage recharge and limit the amount of nutrient runoff from the project.
10. Control insecticides, pesticides and toxic substances – Use of ESD techniques throughout the development will help to discourage runoff from conveying substances to the stream system.

**Monitoring:** The monitoring must be in accordance with the BMP monitoring protocols which have been established by the Department of Permitting Services (DPS) and Department of Environmental Protection (DEP), and as described in DEP's BMP Monitoring Requirements Attachment dated January 14, 2011.

Prior to the start of any monitoring activity, a meeting must be held on site with DEP, DPS, and those responsible for conducting the monitoring to establish the monitoring parameters. **One year of pre-construction monitoring must be completed prior to the issuance of a sediment control permit.** This pre-construction monitoring must be conducted as directed by DEP. Please contact Mr. Keith Van Ness at 240-777-7726 to discuss the location and type of pre-construction monitoring that will be required for this project.

**Conditions of Approval:** The following conditions must be addressed in the submission of the Final Water Quality Plan (FWQP). This list may not be all inclusive and may change based on available information at the time of the subsequent plan reviews:

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. Because this development relies on ESD practices, use of the Montgomery County "Residential Land Transfer Sediment Control Maintenance Agreement" will not be allowed for this project. If any lots are sold to a developer, that developer will be required to obtain a sediment control permit via submission of engineered sediment control plans.

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 Water Quality Plan requirements.

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:dpm:CN236988

cc: C. Conlon (MNCPPC-DR)  
M. Pfefferle (MNCPPC-EP)  
W.Green (MCDEP)  
M. Etheridge  
SM File # 236988

ESD Acres: 42.2  
Structural Acres: 0.0  
Waived Acres: 0.0  
Recharge is provided



**Attachment to the Preliminary Water Quality Plan for the Anselmo Property  
Description of BMP Monitoring Requirements**

SM # 236988

Date: January 14, 2011

The purpose of this attachment is to add specificity to the standard monitoring requirements and procedures contained in the BMP monitoring protocols. Some supplemental QA/QC, data analysis, reporting, submission and record keeping tasks will be explained.

This BMP monitoring, analysis and reporting is being done to address whether the SPA performance goals are met. Monitoring efforts and reports must employ scientific approaches in an attempt to determine effectiveness of BMPs and Environmental Site Design (ESD) at mitigating impacts associated with land development.

All monitoring locations will be determined in conjunction with DPS and DEP. Prior to initiation of monitoring, consultants must contact DEP and DPS to review monitoring locations, procedures, and requirements. Monitoring is to be done according to DEP BMP Monitoring Protocols and/or methods and protocols approved by DEP. DEP BMP Monitoring protocols are available at the DEP website: <http://www.montgomerycountymd.gov/content/dep/downloads/bmpprotocols.pdf>

Consistent methods are to be used so results can be compared with other SPA BMP monitoring projects. Thorough and careful analysis of data is required. Methods and assumptions should be detailed. Annual reports must adhere to the format and contain all required components in the order detailed in the SPA BMP Monitoring Report Checklist, also available online: <http://www.montgomerycountymd.gov/content/dep/downloads/bmpchecklist.pdf>

**Monitoring Requirements**

1. Four groundwater monitoring wells with continuous level loggers are to be maintained for one year pre-construction, throughout the construction period, and at the completion of construction for five years. Well installation logs are to be submitted within one week of installation to DEP. Each groundwater well is to be surveyed to determine exact elevation. Groundwater levels are to be reported as actual elevations (surface elevation-depth to water). Groundwater elevations will be collected continuously using level loggers in 30 minute intervals. Loggers will be downloaded quarterly.

Data should be analyzed to determine the effectiveness of site design and stormwater management in maintaining groundwater levels. Baseline data from the pre-construction period should be compared to future results to include the effect of site design and BMPs on stormwater infiltration. Graphs should be provided to support conclusions. Data on local rainfall should also be considered in the analysis. Well permit numbers as issued by MDE must accompany reports.

2. Water chemistry sampling is required quarterly at all the groundwater wells for one year pre-construction and five years post-construction. Parameters include: nitrate, nitrite, TKN, ortho-phosphorus, total phosphorus, cadmium, copper, lead, and zinc. See Table 1 (excluding total suspended solids) for relevant methods, detection limits and holding times. Lab proposals should be submitted to DEP for review.
3. This component of the monitoring is required to evaluate how groundwater nutrient and metal levels are affected by development and infiltration efforts on this former

farm. Results will be compared among wells and also over time to evaluate how groundwater nutrient levels are impacted by development.

**Table 1. Required Pollutant Parameters, Lab Methods and Detection Limits**

| <b>Parameter</b>              | <b>Method</b>              | <b>Detection Limit</b> | <b>Maximum Holding Times</b> |
|-------------------------------|----------------------------|------------------------|------------------------------|
| Nitrate                       | EPA 353.2<br>SM 4500 NO3-H | 0.02 mg/L as N         | 48 hrs                       |
| Nitrite                       | EPA 353.2<br>SM 4500 NO2-B | 0.02 mg/L as N         | 48 hrs                       |
| Total Kjeldahl Nitrogen (TKN) | EPA 351.3<br>SM 4500 NH3-C | 0.08 mg/L as N         | 28 days                      |
| Orthophosphorus               | EPA 365.3                  | 0.01 mg/L              | 48 hrs                       |
| Total Phosphorus              | EPA 365.3                  | 0.01 mg/L              | 28 days                      |
| Total Cadmium                 | EPA 200.8                  | 0.5 µg/L               | 6 months                     |
| Total Copper                  | EPA 200.8                  | 1.2 µg/L               | 6 months                     |
| Total Lead                    | EPA 200.8                  | 0.4 µg/L               | 6 months                     |
| Total Zinc                    | EPA 200.8                  | 3.4 µg/L               | 6months                      |
| Total Suspended Solids        | SM 2540D                   | 1.0 mg/L               | 7 days                       |

4. Temperature monitoring will be required to determine the effectiveness of site design and ESD at mitigating thermal impacts. This monitoring will require the deployment of up to four continuous temperature loggers equipped with external temperature probes. The monitoring period will remain fixed from 1 June ending 30 September for each year of monitoring. Monitoring is to for one year pre-construction, during construction and for five years post construction. Data loggers shall be set to record temperature at 15 minute intervals. Loggers must undergo accuracy checks, calibration, and battery check/replacements per manufacturer specifications prior to deployment. Monitoring results will be evaluated over time and among data loggers. Locations will be determined in conjunction with DPS and DEP
5. Three stream channel profiles will be surveyed to monitor changes in stream morphology. Surveys are to be completed within one year prior to construction, annually throughout construction, and for five years after completion of construction. Surveys will be done in the second quarter annually. Preconstruction data will be compared to data obtained in subsequent periods to evaluate the effectiveness of BMPs in maintaining channel stability. Stream channel assessments will include longitudinal profiles, cross sections and pebble count. Embeddedness will be done quarterly and within 24 hours of a runoff producing storm. All stream measurements are to follow Montgomery County DEP methods. Locations will be selected in conjunction with DPS and DEP.
6. One crest gage will be located at the most downstream portion of the Left Fork of Paint Branch within the property boundary (as determined by DEP). The crest gage will be used to measure peak flow elevations from different storm events and used to determine stream response to these different storm events. Careful comparison to rainfall data is essential. Rain data from monitored storm events must be characterized. The crest gage is to be checked and maintained regularly. Crest elevations will be measured within 24 hours after a runoff-producing precipitation event. After the measurement, the crest gage will be cleaned and ready for the next runoff producing event. Data collection will occur one year before construction, during construction and continuing five years post construction

7. Two continuous flow meter loggers are to be maintained at the two outfall pipes on the property. Data collection on the outfall pipe from the offsite (Sniders Estates) pond will begin for one year before construction. It will recommence during the post construction period for up to five years following issuance of the post construction monitoring bond. Flow must be characterized for individual storm events.
8. Local rain data must be used in the analysis for the BMP monitoring of the Anselmo Property. A rain gage must be installed and maintained on the property. The rain gage should be installed on a portion of the property that will not be impacted by construction, vegetative cover, or other instructions and according to DEP and manufacturer specifications. Rain data is to be recorded in five-minute intervals in Eastern Standard Time (i.e., no daylight savings time adjustment).
9. An assessment of the condition of the wetlands will be required prior to construction, throughout the construction period, and up to five years post-construction. Monitoring of conditions, setting, and faunal usage of on site wetlands is required to demonstrate that seeps, springs, and wetlands areas are protected per SPA performance Goal. Locations will be determined in conjunction with DEP. Monitoring will utilize protocols and data sheet provided by DEP. Photodocumentation will accompany assessment to document condition over time.
10. Photo documentation is required in conjunction with cross-section and embeddedness monitoring (Item 4) and wetland monitoring (Item 8), and condition of the headwater stream/wetland complex associated with the existing driveway / proposed bike path. DEP protocols are to be followed for photo documentation of cross sections. This includes capturing the: a) Downstream View, b) Upstream View, c) Left Bank View, and d) Right Bank View. Leave measuring tape stretched across the cross-section as part of the photo documentation. The upstream and downstream view at the midpoint of the 75 meter stream segment must also be captured. Photos of the measured embeddedness must also be captured and established to demonstrate change over time.
11. The wetland monitoring photo documentation should clearly show wetland condition and setting throughout the duration of monitoring. This will include any reforestation efforts to the buffer area. Photos will be captured at maximum width and maximum length. Fauna observed in pools should also be photographed.

Additional photos not specified may be used in conjunction with data analysis and documentation of performance goal fulfillment. All photos need to be taken at the same aspect so that change can be tracked over time. A length of rebar is to be driven in the ground to monument the location that all photos are taken from. Photo documentation must occur throughout the entirety of the monitoring project (i.e., minimum one year baseline, throughout the construction period, and five years post construction).

12. The largest active sediment basin (or approved substitute structure) will be monitored for total suspended solids (TSS) removal efficiency with automated samplers during construction. Exact locations will be determined by DEP and DPS. All influent and effluent from storm events must be collected to calculate loadings. Sampling will be conducted quarterly; flow-weighted composite samples must be collected. The detection limit is 1 mg/L (Table 1).

A minimum dry period of 48 hours is required prior to a monitoring event. Storms are to have one half inch (0.5") or more of rainfall in a 24 hour period to qualify for this requirement. Each storm sampled must be characterized for duration and total rainfall and antecedent dry time. The storm frequency (return interval) should be reported using the National Oceanic and Atmospheric Administration (NOAA) Precipitation Frequency Data Server ([http://dipper.nws.noaa.gov/hdsc/pfds/orb/md\\_pfds.html](http://dipper.nws.noaa.gov/hdsc/pfds/orb/md_pfds.html)). Enter the coordinates of the project to obtain the return interval. Results are to be

examined to determine the deficiency of the structure and percent removal of suspended sediments. Comparison over time and in conjunction with structure condition and maintenance activities is to be made while providing graphs to support conclusions.

13. Additional specifications for post construction monitoring will be set during Final Water Quality Plan Approval for each project. Representative Stormwater management (SWM) BMP monitoring for flows, temperature and pollutant removal will be done post construction for up to 5 years on each portion of the site. Detection limits in Table 1 will apply. Not all BMPs will be monitored. If the BMPs are non-structural and cannot be monitored for pollutant removal efficiency, monitoring will be done another way.

### Reporting Requirements

1. BMP monitoring reports must include a table with dates of all major construction activities which take place on the site. For example groundbreaking, clearing, grading, BMP construction & conversion, pond maintenance, etc. Information should refer to specific structures, drainage areas, and portions of the site. Throughout this attachment completion of construction is defined as the release of the sediment and erosion control bond and issuance of a post construction monitoring bond.
2. Results should be examined to determine the efficiency of the structure and percent removal of sediment or pollutants. Data is to be compared to past periods and published results for similar structures. Graphs are needed to support conclusions.
3. Progress reports are to be submitted at the end of each quarter and will follow the format at:  
<http://www.montgomerycountymd.gov/content/dep/downloads/ProgressReportTemplate.doc>
4. A report on pre-construction conditions must be deemed acceptable by DPS and DEP prior to the issuance of a sediment control permit. For subsequent periods a draft annual report on BMP monitoring is due to DEP by **October 31st** of each monitoring year.
5. All reports are to follow the report outline/format checklist at:  
<http://www.montgomerycountymd.gov/content/dep/downloads/bmpchecklist.pdf>
6. BMP monitoring reports are to be delivered with data in an electronic format (excel spreadsheet) to William Green at Montgomery County DEP and also to Mark Etheridge at Montgomery County DPS.

All information submitted to DEP will be public information that DEP may freely copy and distribute. Questions on the monitoring requirements and procedures may be directed to the following personnel:

William Green (DEP)  
240-777-7745  
[william.green@montgomerycountymd.gov](mailto:william.green@montgomerycountymd.gov)  
[mark.etheridge@montgomerycountymd.gov](mailto:mark.etheridge@montgomerycountymd.gov)

Mark Etheridge (DPS)  
240-777-6338